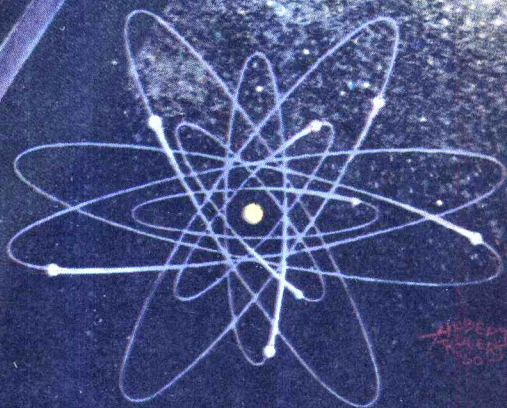


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TOOLS

A tool, generally speaking, is a thing used to aid the accomplishment of a desired end, and Man has been defined as a tool-using animal. The first men broke off a branch to a convenient length, and had a highly valuable tool—one club. It was a high bid, in those days.

Somewhat later, the bow and arrow came into fashion. It differed from the club in important ways—and perhaps the most important was that the bow and the arrow were second-generation tools. A man needed a tool to make that tool; it could no longer be broken off a tree in usable form, but required tool-processing.

The generations of tools have grown, since then; the chain that leads from the picked-up bit of stone and the broken branch to a cyclotron or an electronic computer would require many pages of fine type. But still, each is a tool to make a tool—and the cyclotron and computer alike are tools to make tools. But they work directly on the building and shaping of the mightiest, most ver-

satile tool of all: Knowledge.

In an aberrated world—and whether you accept dianetic terminology or not, most will agree that a world wherein war is the constantly recurrent theme of the millennia of recorded history *is* an aberrated world—defense becomes necessary. When whole nations react to the paranoid cry “They’re all against me!” the most sane must consider “Their behavior is not to be trusted.” And in this particular aberrated world, we’ve reached a stage where the ancient trick of beating plowshares into swords and vice versa is not so simple. It’s the wrong type of alloy-steel.

There was a time when a good general knew the characteristics of all his units personally—and could recognize most of the five thousand men in his Army. That becomes difficult when a five million man Army spreads from the Rhine to Okinawa, and the problem of supplying the necessary 4-40 brass hex nuts for radio equipment is as vital as the

two hundred fifty thousand other separate items of supply, whether for man, K-9, or atomic bomb detonator.

The tools of war today include new items. Directly, there are atom bombs and jet bombers, tanks and super-submarines. The immediate rear area is made up of machine tools and isotope separators, atomic piles and electronically controlled automatic processing equipment. And the strategic rear areas are now being filled with electronic computers and the full panoply of the laboratory. Complexity has built on complexity, until it overwhelms first the individual general, then the General Staff; now the electronic computer is called in to aid the General Staff.

The extent to which the United States, by devoting itself to the furtherance of peaceful science, has captured the lead in that field is hard for us to appreciate. Cyclotrons are now a commercial, catalogue item in the United States. Electronic computing mechanism units are sold on a plug-in basis, so that any commercial laboratory that desires can build up an electronic computer its own purposes require, by simple plug-in assembly of standard units.

But from the broken branch to the electronic computer, the one master tool remains; the thinking human mind. There's more to the job than having the electronic machine available; it must be run by a highly trained human mind.

Now the United States is a very strange land; we operate on the curious proposition that just because it

always has been done in a particular manner, for the last two hundred years, is in itself an excellent indication that we're not doing it the best way. In that time somebody should have worked out an improvement. There's a basic, deep-rooted postulate that anything we want can be done if we just take the trouble to find the trick that does it.

That feeling leads to high research budgets. It leads to the condition that, at the beginning of World War II, which was ended by the bursting of atomic bombs, the United States had all but about five of the world's cyclotrons. Germany had none; France but one.

Today, the United States has practically all the world's computing machines—but the lead is somewhat greater than it was with cyclotrons, because while cyclotrons had no industrial uses, the computing machines do have. And, inevitably, the United States has practically all the trained computermen on the planet.

The importance of that is somewhat easier to understand by analogy. A slide-rule is a handy gadget—and absolutely useless, even to a trained mathematician, until he has been taught the principles of its use. Getting the full, fast use of the slide-rule involves learning to set up the problem in the form most rapidly and readily handled.

All computing machines, from slide-rules to electronic super-computers, suffer the same limitation. The user has to know how.

THE EDITOR.

THE WAITING GAME

BY RANDALL GARRETT

On Earth, many life-forms have found different ways to accomplish a given end. In the Galaxy, intelligences may find differing—and not at all recognizable!—ways to win! Therein may lie Man's danger . . .

Illustrated by Orban

"During the early years of its expansion, the Solar Federation discovered only two races of beings who had mastered the science of interstellar travel: the decadent remnants of the long-dead Grand Empire of Lilaar, and the savagely nonhuman race of the Thassela."

The Biology of Intelligent Races,
by JASIN BRONE, YF 402.

Major Karl Gorman looked gloomily out of the main port of the forward observation deck at the pinhead disk of light far ahead. Sol, and bright blue Earth swinging round it, though the ship was as yet too far away for him to see the planet.

Would it, he wondered, be the same as the rest? The closer he had come to the Federation capitol, the worse it had become, until now, after

Procyon, he was almost sick. He had thought of making the dog-leg jump to Sirius, but had decided against it. He might as well jump right into the middle of the whole mess!

He turned away from the starry view before him and walked back toward the bar, feeling the eyes of the crowd on his uniform.

They weren't all looking at him, of course; a Spacefleet major wasn't that unusual. But a few of them had noticed the tiny silver spearhead on his shoulder, and knew it for what it was.

And men from the Federation Outposts were rare.

Gorman bought his drink and



stared angrily at the hard, dark, blocky face that was reflected in the bar's shining surface. He'd been on the ship for more than three days, now, and this was the first time he had felt the necessity of leaving his cabin. He didn't feel like talking to anyone around him; they just weren't his kind of people.

A low, resonant voice next to him jarred his train of thought, and he turned his head with a jerk.

"Ah, home from the wars, major?" the tall, hairless, pleasantly smiling being beside him asked.

Gorman silenced his biting request to be left alone before it began;

after all, there wasn't any reason not to be civil.

"No, my home is on Ferridel III. This is the first time I've ever been to Earth."

"Not surprising," commented the other. "There aren't very many outpost officers from Earth. After all, two years is a long time to spend just traveling."

Gorman finished his drink and ordered another. "It sure is."

"If I am not being too personal, major, may I ask why you are making the trip?"

Major Gorman looked up at the being's face. He knew what he was, of course; a Lilaarian. But this was the first time he had ever talked to one.

"Not at all. I suffer from a disease known as Utter Boredom. All my life, sir, I have been either fighting or getting ready to fight the Thassela. The war has been going on for more than two hundred years, and, as my home was right in the thick of it, I have been bred and trained in its atmosphere.

"Now, however, the war in my sector is nearly over; it has reduced itself to mopping-up operations on whatever of the Thassela are left. Therefore"—he paused to finish his second drink and order a third by a gesture to the steward—"I, a professional Thassela-killer, having no more Thassela to kill, have nothing to do but kill time."

"Please, major! This talk of . . . ah . . . such things distresses me," the pleasant bass voice admonished.

"Oh." Gorman looked at him. "I . . . I'm sorry. I forgot." He remembered now what he had heard of the Lilaar. Their religion, or something, forbade talk of death.

"You see, your race is not too well represented in my part of the Federation, and it is only in the past few months that I have seen any of your people. In fact, you are the first I have ever spoken to."

"Quite all right. The error was mine. Please go on."

"Oh, there's nothing much more.

I decided to come to Sol and Earth in search of high adventure—pretty girls to be rescued from evil, villains to ki . . . er . . . punish, and all that sort of thing."

"You sound bitter, major," the Lilaarian commented analytically.

"I am, sir, I am. What do I find? I find people tending flower gardens, listening to soft music and admiring fine *objets d'art*, that's what I find!"

"And you find this distasteful?" the other asked, somewhat surprised.

Hastily, Gorman covered his tracks. "Why . . . no-o-o, it's just that it's not what I was looking for, you understand."

He had remembered another thing he had heard about the Lilaar—they were not in the least mechanically or scientifically minded. Instead, they were the masters of the very music and art which he had just been on the verge of denouncing. He decided to change the subject.

"By the way, my name is Gorman, Karl Gorman." He held out his hand, and tried not to show his surprise at the unusual touch of the six-digit hand with the double-opposed thumbs, one on either side.

"Sarth Gell. May I buy you another drink?"

Gorman accepted, then, waxing warm inside, asked a question.

"Sarth, do you mind if I ask you something? As I say, I have always been a fighting man; I never had much time for history. When did the Federation contact your race?"

Sarth Gell leaned back, smoothed

a hand over his hairless skull and said:

"It was some three hundred years ago, in the Year of the Federation 313, to be exact, that one of the exploratory ships first contacted us."

Gorman nodded. "That region is almost straight out beyond Altair, isn't it?"

"Yes. About eleven hundred light-years."

"So?" Gorman raised an eyebrow. "You must be a long way from home, too."

"Oh, no," chuckled Gell. "Not at all. I was born and raised on Tridel of Sirius. I am no more of Lilaar than you are of Earth."

Gorman signaled, and the steward brought more drinks. The conversation went on.

The huge passenger vessel bored on through the emptiness. Or perhaps that isn't the right term. Around? Past? Between, maybe? However she did it, at top speed she could make nearly a thousand light-speeds, although she wasn't doing that now. Her engines cut down and down as she approached Earth, until, finally, at one light, there was the familiar buzzy shiver as the ship passed into a more normal existence, although the accelerator field didn't cut itself out until the velocity dropped far below even that relatively low figure.

When the field cut, Major Gorman didn't even feel it. He was boiled to the ears.

He woke up in the hotel near the

spaceport feeling just as he should feel, and lifted his head from his pillow with the care usually observed in such cases.

That sweet liquor! he thought. *I ought to have more sense than to drink stuff with so much junk in it! I wonder how many of the higher alcohols it's loaded with?*

Edging himself off the bed, he reached into his uniform pocket and got the box of small blue capsules he carried for such emergencies, swallowed one and waited. When it had taken effect, he decided that all he'd need to feel perfect again was enough water to cancel the dehydration brought on by the liquor, and some breakfast to take the dark-brown taste out of his mouth.

The breakfast helped, but by noon he felt ill again. Not from liquor, but from the same thing that had made him so sick all the way from Ferridel.

Oh, Earth was beautiful, all right. All green and parklike, with tall trees, pretty flowers, tinkling fountains, and fairy buildings. All very lovely. And dull as the very devil!

He prowled around the city all the rest of the day, and by nightfall, he was ready to call it quits.

He'd gone into three or four of the establishments that purported to be bars, and found that no one drank anything but the sweet and aromatic synthetics, all of which would have made his stomach uneasy. He'd tried to talk to two or three of the girls, but they didn't seem to want to talk about anything but the soft strains of

some melody or other that whispered through the late afternoon air. If he'd known the phrase, he would **have called** them mid-Victorian, **although they possessed** none of the hypocrisy of that long-forgotten age, and absolutely none of its sense of humor.

It was, he decided, even worse than Procyon; at least he'd been able to buy some decent liquor there.

When he got back to his hotel, Sarth Gell was waiting for him.

"Good evening, Karl, I see you've been out. How do you like our lovely city?"

"Oh, fine, Sarth, just fine," lied Gorman. "Very nice. Of course, I'm used to the Outposts, but I think I'll get used to this pretty quick." But he knew better. He knew he couldn't spend thirty-six years of his life smashing the onslaught of the evilly monstrous Thassela and then settle down to music.

"I'm glad to hear that," Gell smiled. "I wanted to ask you to accompany me to the concert tonight. I have a special seat."

Oh, great, moaned Gorman inwardly, just great! I'm so happy I could simply die!

The concert hall was filled with people, all beautifully dressed to set off the softly shifting pastel colors of the walls and floor. There was no ceiling; just the sighing breeze pushing fluffy little clouds across the face of the planet's one white satellite.

He watched as the great curtains drifted silently away, disclosing the

musicians. Each was seated before the multi-keyed control board at his own panel; one hundred of them poised motionless, waiting for their signal.

Then the control master came out, sat down at the master panel and flexed his fingers.

Gorman looked closer. Six fingers! He hadn't noticed it at this distance, but now he could see that every one of those musicians was a Lilaarian. He glanced sideways at Gell, but his companion was looking straight at the orchestra.

Somewhere, from deep within his brain, a soft murmuring note sounded. It became a chord. It grew louder, and he actually did not realize until it grew fairly loud that it had come, not from his own mind, but from the orchestra before him.

As the music grew louder and wove in and out of itself, it became definitely apparent that the people of Lilaar were really master musicians. The shifting colors of the walls swirled in time to the undulating harmony of the orchestra.

He listened, and, after a little while, the music faded as it had begun, in a single note, dying in his brain.

He waited for the second composition, and was disturbed by Sarth Gell's touch upon his arm. He turned and noticed that everyone else was quietly leaving. Startled, he glanced at his wrist watch. Three hours! And he hadn't even realized it!

The next day, he went to the Great Library and began a search

through the history section. Nothing too new, he decided. Something written back in the late Four or early Five Hundreds, at least a century old.

He finally found what he was looking for, selected two chapters for the reader, and flipped the switch.

"As has been related in previous chapters," it began, *"several nonhuman races of fair intelligence were discovered, but it was not until YF 313 that any race was found which had ever had interstellar travel.*

"In that year, Expedition Ship 983, commanded by Colonel Rupert Forbes, discovered—"

The great ship hung high above the atmosphere of the planet, the engines quiescent. Colonel Forbes waited impatiently for the arrival of the scout ship. When it finally came, he ordered Lieutenant Parlan to report immediately, in person.

"I don't want anything formal, lieutenant," he said. "Just tell me what you found."

"Well, sir, the planet is inhabited all right, and they're almost human." He handed a sheaf of photographs to the colonel and went on. "You can see for yourself. They live in huge cities that look as if at one time they'd been really something, but now they're falling to pieces; they look *old*, old as the mountains—weatherbeaten, if you know what I mean, sir.

"Anyway, these people just live in them, they don't build them. And they don't use any kind of power.

They light the buildings with lamps that burn some kind of oil, and they do their work by hand."

"I see," nodded Colonel Forbes, "backward and ignorant, eh?"

"Yes, sir, in a way. Though they must have had quite a civilization at one time, from the looks of things."

"I think I'll get Philology busy on the language right away, and—"

"A thorough study of the language took the better part of a year, and by that time, several other facts made themselves apparent. First, that the natives had no knowledge whatever of science; second—"

"A funny bunch of people, colonel," commented Lieutenant Parlan. "They believe that they are a part of what might be translated roughly as 'The Great Empire of Heaven.' Their word for themselves is 'Lilaar,' but that also means 'sky' or 'universe.' The birth rate is appallingly low; only one child per couple every fifteen or twenty years. I don't see how they kept themselves from extinction this long."

Colonel Forbes rubbed a thumb across his chin. "How do you think they'll react to Federation rule?"

"Duck soup. They have absolutely no weapons; they are strict vegetarians; they're the laziest and most sheeplike, peaceful people I ever saw."

"Very well, I'll send my report in."

The report went in by subspace radio, propagated at a velocity which,

though finite, is so great that the means of measuring it is unknown—the distance required is too great.

Expedition Ship 968 shot off toward her next target, a sun some three point two light-years distant.

Colonel Forbes addressed his staff: "Gentlemen, we have been away from Earth for better than two years. This is the last stop on our cruise. From here we return home!" There were general smiles and pleased murmurings all around.

"We have done well," Forbes continued. "We have discovered twelve planets which humanity can colonize, and more than that, one planet inhabited by intelligent beings, a discovery which is extremely rare among ships of the Exploratory Forces.

"Lieutenant Parlan, our contact officer, is, at this moment, exploring the thirteenth and last planet. When he reports back—I expect him any minute—I hope we shall be able to report that we have discovered thirteen habitable worlds on our outward trip; more than any other ship has so far found. To that, we can add the discovery of an alien race on one of the few—"

"Two," came the voice of Lieutenant Parlan from the door.

"I beg your pardon?" blinked Forbes, startled at the interruption.

"I said two, sir. We have found two planets inhabited by nonhuman races—or rather race."

"Please be more explicit, lieutenant," the colonel said sharply.

"The planet below us, sir, is populated by the Lilaar!"

"All in all, the next seventy years of exploration in that region uncovered seventy-one planets of the Grand Empire of Lilaar, all of which—"

Gorman snapped it off. That was enough. It tallied. He set the other chapter he had selected, and started the reader again.

"Beginning in YF 380, several Expeditionary ships stopped sending in their reports abruptly, and were never heard of again. Because of the obvious dangers inherent in interstellar exploration, not too much significance was attached to these disappearances, although it was noticed that the incidents all took place in one section of the outermost fringes of the Federation. It was not until early in 384 that the truth became known.

"In that year, Expedition Ship 770 reported that it was being attacked by alien forces. They subsequently ceased to report.

"Federal Security forces immediately went into action. The Bio-mathematical Section had long warned of the probability of inimical alien life, and thus the Government was prepared. The cry of 'Remember the Seven Seven Oh!' became the battle cry of the Federation. The Interstellar Secrecy and Security Act went into effect and—"

Again Gorman cut the reader off. One more check and he would have what he wanted.

He and the librarian went through the Laws of the Federation for several minutes until he found the original draft of the Act.

It read: "For the security of the Solar Federation . . . no person, corporation, planetary or system government . . . shall build or construct . . . any interstellar vessel, for any use whatsoever, except upon explicit contract with the Federal Government.

"All such now in use shall be . . . turned over to the Federal Government without delay.

"No subspace radio shall . . . operate or be operated . . . without explicit instructions from the Federal Government."

There was more, but that was all that interested Gorman. He was sure, now. Here was what he was looking for.

He had had a small smile at the part that stated that no "person or corporation" would build a spaceship. Any "person or corporation" wealthy and powerful enough to construct one would have long since ceased to be a "person or corporation" as such—they would have become a government.

Then he went out to the Federal Radio Office, sent an Interstellar 'Gram—three eighty-five a letter for nineteen letters—paid, and left for dinner. After dinner, he poked around until he found a bar near the spaceport which sold a concoction

that wasn't so ungodly sweet, had three drinks, and went to bed.

Next morning, he had company.

"Fleet Intelligence," said the smartly uniformed captain who stood in the doorway as Gorman opened it. His credentials were in his hand, but Gorman just gave them a quick glance.

"Come in," he said, mentally parenthesizing that for an Intelligence man, the guy didn't look too intelligent. Soft, bland face, wide-open eyes that kept blinking like a couple of synchronized camera shutters, and a prim mouth. Behind him were two more nonentities just like him in lieutenant's uniforms. They all trooped into the room, one right after the other.

"May I see your papers, major?" asked the captain.

"Certainly, captain." He handed over the thick sheaf of folded papers in their heavy official envelope. The Intelligence man scrutinized them for the better part of ten minutes, moving his lips in a not-quite-inaudible whisper as he did so.

"They seem to be quite in order, sir," he said when he finished. "They seem to be quite in order."

"May I ask what the trouble is, captain?"

"Well, to be frank, there were quite a few people who wondered just how a Spacefleet major, wearing an Outpost Spearhead, happened to get the extended leave required to come to Earth, especially with a war on out there."

Gorman absorbed that statement for a full second before the full import struck him. The fathead actually did not know the war was over! And had been for better than two and a half years!

He worded his second question cautiously.

"Tell me, captain, isn't this stuff radioed into GHQ?"

The captain looked startled. "Why . . . ah . . . yes . . . yes, I believe it is. But after all, major, you must realize that such things are merely for the record. Now that we have checked your papers, I have no doubt that my superiors will check them against the files to confirm them, but up to now, there has been no reason to look over those 'grams. They are simply received and filed until needed."

Gorman, still cautious, worded his next question a little more broadly. "But why? I should think you'd want to know what's going on in the Galaxy."

The captain's smile was a little superior. "My dear major, do you realize the immensity of correspondence that must come from better than seventy thousand million cubic light-years of space filled with uncounted thousands of billions of living beings? Why, it couldn't possibly be all correlated! I'm afraid, major, that you are thinking in terms of planetary governments. The Federation simply couldn't be run that way."

Gorman realized then why no one knew the war was over. It wasn't,

really; there were still a few mopping-up operations to be taken care of, still a few Thassela attempting to flee from the Federation Spacefleet. No one headquarters anywhere in the Outposts had sent the specific message: WAR OVER EXCEPT FOR MOP-UP. It would take a correlation of all the millions upon millions of reports from each of the widely scattered planets of the far-flung Outpost stars.

He chuckled mentally at the thought that several thousand of the clerks in the Federation offices each knew a tiny fraction of the fact that the Human-Thassela War was over. And who was he to tell them? After all, he was no official spokesman for the Outpost Fleet; he might not—be believed.

"You're probably right, captain; I must seem a bit provincial to you. Well, if you're quite satisfied I—"

"Ah—one more question, major." He ruffled through a notebook. "What was the meaning of the 'gram you sent to a Major Mark Gorman on Kaibere IV last night? It reads: *Altair cap. sppt six mos.* What does that mean?"

Gorman shrugged. "At three eighty-five, space rates, I saved a devil of a lot of money by not saying, 'Dear Mark, please meet me at the Altair capitol spaceport six months from now.' O.K.?"

"Why say 'Altair capitol'? 'Pelma' would have been a great deal shorter. Would've saved you fifteen-forty." The captain did not seem to be questioning in an official manner, now, he



just seemed genuinely interested.

"I'm no stellographer. Neither is Mark. Tell me; what is the only planet of Meargrave?"

"I don't know."

"But you could get there?"

"Yes. Easily."

"What if I told you to go to Hell?"

"*What?*" The captain looked scandalized, shocked, and insulted, all in one face.

"Hell, my dear captain, happens to be the only planet of Meargrave." Gorman particularly liked to use that

example. It had a shock effect he was fond of.

"Oh." The face cleared. "I see what you mean. Well, sir, I think everything is in order. Thank you, major, for your co-operation."

He saluted and left, the two lieutenants following silently after.

Gorman sat down on the bed, looked wonderingly after them for a moment, then grinned.

"What a bunch of fogheads. The Thassela could have battled their way clear in to Procyon before

they'd know it."

He had six months to wait.

The first three he spent on Earth. He wanted to see the entire planet but he just didn't have the time; therefore a representative sample would have to do.

He noticed quite early that most of Earth's inhabitants, both Human and Lilaarian, avoided him after first contact, especially if he mentioned anything about the war, or if they happened to see and know the Silver Spearhead. He knew what they must be thinking:

Here is a soldier, a killer, back from his awful business. Here is a man who has been trained to murder other beings. What if he gets bored with us? What if we anger him somehow? What then? Would he not just as soon kill a Human or Lilaarian as a Thasselan? Perhaps. It would not be too wise to associate with him, at any rate.

They were polite, but evasive.

Not, he reflected, that he blamed them. He was probably the first real veteran they had ever seen. To them, the war had not been close. They had lived with it all their lives, as he had, but it was not the same. To them, it was a vague thing; something two thousand light-years away that they heard of once in a great while and dismissed distastefully.

If a fully armed and armored Thasselan battle fleet had started for Earth yesterday, it would be a full two years at top speed before they would arrive: There would be plenty of time to prepare.

Even the planets near the periphery of the Federation shared, to some slight extent, the feeling Earthmen had toward the returned fighting man. He remembered Telsonn, two ship-months, a hundred and fifty light-years, in from the front. They had had men, sons, fathers, and husbands, who had fought in the war, although not actually as fighting men, and even they shied away from their homecoming relatives as though they were some other sort of life.

Here on Earth, of course, it was immensely worse. For the past century or more, no Earthman had volunteered for front duty, and it had not been necessary to order them there; the war had been going well, even then. The only duty imposed upon Spacefleet men of Earth was the Ferry Service; the duty of taking the fabulously expensive and highly necessary spaceships out for a month or two to some relay point where they would be picked up by another crew and taken a little farther, and so on until they reached their destination. The original crew would return by luxury liner to Earth for a leave, then pick up another ship.

After three months, Gorman grabbed the first available ship for Altair and—what was it?—Pelma, the System's capitol.

The great automatic ship had only three passengers besides himself. No one did much traveling any more, and those who did weren't very interesting to talk to. Major Gorman

kept to his cabin most of the time.

When he had begun his long journey in from Ferridel, now almost three years ago, he had been vastly interested in the liners, so different were they from the battleships he was used to. They were completely automatic, pursuing and correcting their courses through those immense distances with unerring precision, requiring no human hand at their control. Indeed, no human being could possibly move fast enough or think fast enough to control anything moving at nearly two hundred million miles per second.

The ships were robots, and for that very reason they had been fascinating. But they were blind, reasonless robots, designed to take their course and return. They had no real intelligence, and they soon palled on him. He had come to ignore them completely.

The trip took only a few days, but he was heartily glad when it was over.

Pelma of Altair, he soon discovered, was a great deal like Earth. Too much, in fact. The one redeeming factor was that here there were fewer people who recognized the Spearhead on his shoulder. Several times, on Earth, he had been tempted to put on civilian clothes, and had even gone so far as to try a suit on, but in the first place, it was strictly against military law, and in the second, civvies didn't feel natural on his body.

After he had been there a few days, he received another visit from

Intelligence, and they had evidently had no word from Earth that he was cleared there. The interview was shorter than the first had been, but the end result was the same. Major Gorman went on about his business.

Life suddenly became infinitely more bearable in the middle of the fourth week. She was sitting on a little grassy knoll in one of the innumerable parks, scattering food to a flock of the little bushy-tailed mammals that seemed to infest so many planets in this part of the Federation. Gorman watched her for a long time, trying to figure out an angle of approach that would work but wouldn't be too obvious.

She seemed to have some of the animals rather well tamed; they would come right up to her with their funny scrambling gait, snatch the food right out of her fingers, and then run off, nibbling it between their forepaws.

Suddenly, she screamed and jerked her hand away from one of the beasts. Gorman saw immediately what had happened: one of the little monsters had bitten her.

Arise, brave soul, and dash to her rescue, Gorman thought, and made motions to suit.

"What happened, Miss?" he asked, pretending a great worry over what he knew was an inconsequential wound.

She was crying and could hardly speak, but she held the injured and bleeding digit out for his inspection.

"Hm-m-m," he hm-m-m'd. He

took an ampoule out of the E-kit at his belt, aimed it at the tip of the finger he was holding, and squeezed the end. It spat a fine cloud of mist at the ragged little incision. Then he wrapped the finger.

"I think that'll do it. You can go to a physician if you want, but I don't believe it will be necessary."

She smiled prettily. "It doesn't hurt a bit, now. Thank you"—her gray eyes darted to his collar—"Major, thank you very much."

"Well, now, I wouldn't be in too much of a hurry to run off," cautioned Gorman. "You really ought to go somewhere and sit down for a while; animal bites can be poisonous sometimes, you know. Is there somewhere we can—"

She looked a little worried. "Why . . . why, yes, I know a diner down the parkway. Do you really think—?"

Gorman didn't know quite what to think. Was she taking him seriously, or did she think he wasn't quite bright? Who cared? Play it along, boy, play it along.

"I wasn't thinking of a diner, exactly. You see, it is a well-known fact that alcohol is just the thing for bites—provided that they're treated first, of course."

She brightened again. "Oh, really? I didn't know that. I suppose I had better have some, then."

They had some. The place labeled itself a "cocktail lounge," but it mixed drinks out of the assorted flavors and synthetics, then spiked them with a little bit of straight

ethanol. It took quite a little talking to convince the steward that he should jigger up the mechanism so it would serve the ethanol with nothing but soda water and a dash of bitters, but Gorman finally did it. It took him almost as long to convince the girl that she should drink the stuff, but he finally did that, too.

Her name, it turned out, was Laila Indar, and she was a music interpreter.

Upon questioning, Gorman discovered that a music interpreter interpreted music, a fact which he had already suspected. He asked her to explain further.

"Well, you see, it's this way. Lilaarian music all means something. It's very, very old music, most of it, dating back to the old Grand Empire itself. The Lilaarians know, or, rather, they *feel* exactly what the music means. It's really a language of sorts, you know, except that it expresses mood and emotion rather than ideas or anything like that. You see?"

Gorman did see, after a fashion. He waved a vague gesture into the air. "What is that saying?"

She listened for a moment to the soft, pulsing rhythm, then closed her eyes. Her lips began to move softly.

"We dream of peace, to sleep and dream; to quietness and gentle sleep our goal; we rest forever—"

She went on like that for the better part of ten minutes, and Gorman was reminded, somehow, of an old poem he had read in one of the mu-

seums he had visited - on Earth.
Something about—

“. . . To die, to sleep;
To sleep : perchance to dream :
ay, there's the rub ;
For in that sleep of death
what dreams may come
When we have shuffled off this
mortal coil
Must give us pause.”

That, at least, was a rough translation. He wondered, fleetingly, what that ancient bard would have thought of Earth today. Then, his thoughts were broken by Lanina's voice.

“See? Isn't it beautiful? Of course, to really understand it, you have to listen closely and listen to a lot of it, but eventually, you really get the feel of the music; then it comes easily.”

“It sounds a little morbid to me,” Gorman murmured.

“Oh no it isn't, really; it isn't at all. It's sort of beautiful and peaceful.”

“Are they all like that?”

“Oh, no. Some of them deal with pure beauty, others with light and color, and—”

Gorman listened for a long time, nodding his head occasionally, and sticking in an appropriate remark now and then, but his heart wasn't in it. He was thinking.

Here I am again, listening to a nice dissertation on Lilaarian music. Tomorrow night, it will be flowers, and the next night it will be statuary, and the night after that light symphonies of music again.

No! I'm going to get this piece of fluff to talk about something else if I have to completely re-educate her all by myself!

He knew from the beginning that such an education would have to be begun on her level. He began by painting word-pictures of the awful beauty of interstellar space, of the grandeur of the vast loneliness and emptiness between the stars; he went from there to the wonders of adventure, the desire to explore and see things that no man had ever seen before. He talked carefully, choosing each word for semantic content on the girl's own level, twisting the conversation back toward his own goal every time she tried to throw it off course.

In the end, he didn't think he had been too successful. After two months of education, it was a little disheartening to find that she didn't really seem to be interested in what he was saying. A blow to the ego, to say the least.

She was with him the day Mark arrived. They were eating dinner in the spaceport cafe, when the ship arrived. Lanina had kept nagging him to tell her who they were going to meet, but all he'd tell her was “a relative.”

When Major Mark Gorman came in and sat down, she watched the back-slapping and greetings with slightly startled eyes.

“Why, you're twins!” she exclaimed, at last.

“Oh, no,” laughed Karl. “Mark

is older than I by several years. Right, grampaw?"

"Right. But look, junior, where's your manners?"

"Oh. Sorry. Lanina, Mark Gorman."

Lanina searched Mark's face carefully. When he took off his cap she smiled. "You don't look any older, but I can see now that you aren't identical twins. Your hair is light-brown, almost the same color as mine; Karl's is almost black."

Mark rubbed his hands together briskly. "Well, son, what's on the agenda? How was Earth? I didn't come through there, so I figured you'd have to tell me all about it."

Gorman looked comically downcast. "We are the Forgotten Men. No one appreciates us around here. In fact, nobody even knows we exist."

"That's about the way I had it made out. Shame."

They eyed each other sadly for a moment, then broke out laughing. "Come on," said Gorman, "I know of a little place where the three of us can talk. I have bribed the automatics to make something that borders on being fit to drink. You have to watch those synthetics. They flavor them with some frightful messes."

The conversation that night was sometimes over Lanina's head. Most of the time the men talked to her, and the conversation was very stimulating, but every once in a while, they seemed to run across some private joke that she couldn't fathom,

especially those about Lilaarians. Oh, well. She didn't understand Spacefleet men, anyway.

The next morning, they were in the Spaceport office quite early, poring over timetables, making calculations, checking back over old passenger lists, and looking up immigration and emigration statistics. It was nearly nighttime before Karl Gorman was able to place his hand over a section of the tank chart and say: "Here."

"Here *what?*" Lanina asked confusedly.

Mark smiled. "My friend, the idiot, may not have told you, my dear, but I am a man with itchy feet. We were just deciding on the proper spot for my vacation—for the next five or six years."

The girl turned pleading eyes on Karl. "You . . . you aren't going with him? Are you?"

"Nope. I have decided to become a homebody. I like Pelma."

"But won't you have to go back to duty?"

"Nope, again. I am on 'indefinite leave'; don't have to go back until they call me." To which he added mentally: *And I don't think they will.*

The years passed swiftly for Karl Gorman, and yet, in another way, they were easy-going and full. Before the end of the first year he had acquired an apartment, and the lettering on the door said: **KARL GORMAN, THEORETICAL MATHEMATICIAN.**

It was as good a title and profession as any, and quite true, although there was little call for his services. Nevertheless, he worked at it. He and Lanina set up a small calculator in one of the rooms, and he patiently taught her how to set up equations on it after he had written them out. She never really quite learned what she was doing, but after he showed her how the music of Lilaar could be interpreted mathematically, she loved the work he gave her to do.

Meanwhile, the little, and highly illegal subspace radio began receiving reports from Mark's equally illegal set.

Karrvon; three hundred light-years from Earth; Index, point six three.

Ressalin; four hundred twenty light-years; Index, point five oh.

Mensidor; six hundred ninety light-years; Index, point three nine.

Hessor-Del; eight hundred light-years; Index, point two one.

Thilia; twelve hundred light-years; Index, point oh eight.

And Gorman carefully fed them all into the computer, came up with figures that were meaningless to anyone but himself, fed these back in, and came up with figures that were even more meaningless, if possible.

At other times, he computed Lanina's music for her, although he told her not to tell anyone where she had obtained her results.

"Every other interpreter would want me to do it, and I haven't that much time," was the absolutely untruthful answer he gave her.

And, again, he would go out to art galleries and measure lines and curves and color wave length and intensity. And these, too, went into the computer, and came out unrecognizable.

And one morning, when nearly six years had passed, Gorman and Lanina were eating breakfast when the door chime announced a visitor.

Mark Gorman was back again.

The Spacefleet Intelligence men and the CID were forty-five minutes behind him. This time they hadn't delegated the duty to a mere captain; having evidently decided they should outrank their quarry, they had sent two colonels.

"Which one of you is Major Gorman?" asked the tough-looking CID man.

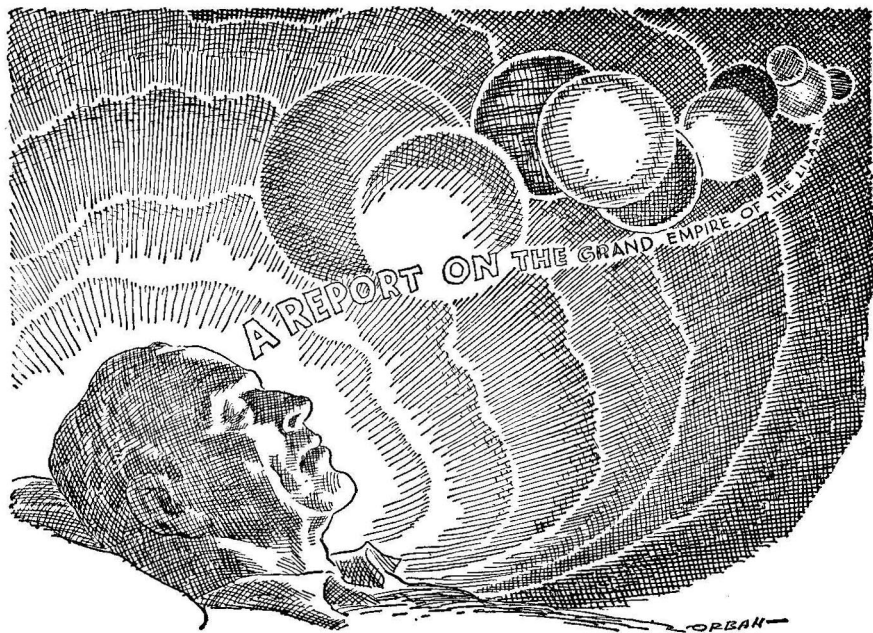
Two thumbs jerked simultaneously. Two voices said: "Him."

The colonel glared. "Let me see your papers!"

He looked them over, then looked back at the two who were standing at attention before him. "Very funny. And for that remark, I think we'll take both of you in."

"On what charge, sir?" asked Mark.

"Grand larceny and interstellar piracy. To be explicit, for feloniously disrupting the robot controls of, diverting the course of, and taking illegal possession of an interstellar passenger liner."



Karl gazed upon Mark with a mock glower. "Shame on you."

Mark tried to look innocent. "Well, nobody was using it."

"Enough!" barked the colonel savagely. "Let's go!"

Lanina said nothing, but her eyes were wide with terror. When they left, she was sobbing quietly.

An hour later, the Majors Gorman were sitting on a bench in a windowless cell, watching the door slide shut with a click.

"And now what?" asked Karl.

"And now, my boy, we are to be left for a time in order to thoroughly discuss our crime, so that concealed pickups can relay the complete de-

tails to our stuffy friend, the colonel."

Then the shock came. Energy rippled searingly through their bodies, and they sagged slowly to the floor.

When they opened their eyes, they were seated in a softly luxurious room in comfortable chairs, bound there by restraining, but not uncomfortable straps. Before them was a large, finely paneled desk. Behind it was seated a Lilaarian. Karl recognized him. It was Sarth Gell.

"Ah, you are awake," said Gell.

"An astute observation, to say the least, Master Gell."

"Oh," said Mark. "You know this pleasant fellow?"

"Ah, yes. We got sotty together some years back."

"Permit me to correct your brother, Mark Gorham," Gell interjected softly. "He got sotty. Lilaarians, in case you didn't know, eschew intoxicants in any form."

"I didn't know," Mark murmured. "But it's fascinatin' information. Do go on."

"I shall. I am about to make a very long, but, I trust, not tiresome speech. I hope both of you can restrain your admittedly very witty remarks until I am through.

"To begin with, let me tell you that I know exactly what you two have been doing for the last several years, and have followed your progress with avid interest. You have discovered that we of the Lilaar have begun to, and eventually will, take over complete control of the Federation, although the Federation will not exist as such by that time.

"As you, Mark, have discovered in your wanderings in that stolen spaceship, the regularly scheduled flights in that portion of the Galaxy are no longer being made. The planets there have not made any reports to Earth for some years, in some cases more than a century. Because of the very carefully planned decay of Earth's correlation system, they do not as yet know this, and by the time they do, it will be too late.

"And you, Karl, have discovered that our subtly hypnotic art forms are the means we use to further our purpose.

"Because you have discovered

these things, I am sorry to say that I must forever prevent that information from reaching Earth. You will never report what you have found.

"Now as to why and how we have done this. To begin, I must go back a good many centuries; back to the first century of the Federation. And I must also explain exactly who and what the Lilaar are.

"We of the Lilaar, you see, are immortal."

Karl Gorman's eyes narrowed. "Precisely what do you mean by 'immortal,' Gell? That's a pretty broad term."

"By that, I mean that we do not suffer, as you do, from the racial disease known as 'old age.' Except for accidents and a few rare diseases, there is nothing to keep us from living forever. You must understand this in order to undersand what you have seen.

"Our birth rate, as you know, has been referred to as being extremely low. Actually, quite the reverse is true. Each couple averages one birth every thirty years. That means that our population is *doubled every sixty Earth-years!*

"Of necessity, therefore, we had to expand. And in doing so we found that we had competition. You, of Earth, and the Thassela. We are not, however, fighters. Because of the vast value of life, we cannot, by our very nature, take the life of an intelligent living being." Gell's face twisted as he said this, as though he were going to be sick at the very thought of death.

He paused to relax for a moment, then went on.

"When your first ship found us, in YF 313, the Plan had already been in operation for some two hundred of your years. We pretended to be decadent. We made you believe that our glorious Grand Empire was dead. Neither is true.

"We knew in the beginning that your race, being inherently what it was, would eventually win the Thassela-Human war. Therefore, we are permitting you to do so. At the same time, we are completely undermining your once-tight and compact organization of government. The Federation should collapse in about one hundred fifty to two hundred years, at which time you will have won the war with the Thassela."

"It is obvious," remarked Mark calmly, "that you have, and can use, a space drive capable of much greater velocities than ours. Tell me, why don't you use it?"

Gell's brows lifted in surprise. "You are a very observant young man in some ways, but in others you are not. But"—he shrugged—"I will answer the question. Yes, we have had the infinity drive for many hundreds of years. We do not use it within the boundaries of the Federation unless absolutely necessary because it interferes with subspace radio, and is, therefore, detectable.

"Our kidnaping you from under the noses of the Spacefleet CID was done only because of the extreme urgency of the situation. We could

not permit you to return to Earth."

"May I ask why you are dooming the Federation?" Mark asked.

"We need the planets which you are using. Our population growth has required a tremendous amount of shifting about in the Federation, and a great deal of name-changing in order that your race may never discover the fact that we do not . . . ah . . . die." The last word was almost a whisper. "This is a nuisance and a bother. We are, however, eliminating it, since there will soon be no subspace radios in operation near our portion of the Federation to report the fact that there are certain irregularities in our life span."

Gell placed his fingertips together and smiled benevolently.

"Our plan, as you can see, is working well. The Thassela are too monstrously savage, too physically unlike us to have permitted our infiltration. The Humans, on the other hand, have proved themselves relatively easy to manage.

"And, if you will reason it out logically, you will see that it is all for the best. Both you humans and the Thassela are basically unfit for the role of Galactic rulers. You are basically killers; destroyers of life; diseases which should never have evolved!" His voice shook with loathing.

"Careful, Gell," Karl Gorman cut in. "You'll get high blood pressure." But Setfi Gell was calm again.

"The disease will be permitted to run its course, but by isolating the colonies of infection we will be able

to control and eventually eliminate it. The immortals must rule the galaxy."

"What about us? If you can't murder us in cold blood, what do you intend to do to put us permanently out of the way?" Mark was purposely gory for Gell's discomfort.

"We are leaving you here. The whole planet is yours. It will not be required by our race for another century. This house has been constructed for your comfort, but there is nothing else on this entire world in the way of civilized artifacts. You can not build spaceships; on the nearer of the two satellites is a device which will prevent your sending a subspace message, even if you should be able to construct a radio. You will remain here for the rest of your lives."

"This planet? Where are we?" Mark's voice was cold.

"While you were unconscious, you were transported here by one of our infinity ships. When this sun sets, I rather imagine you will like the view; you are in the center of the vast star clouds beyond Sagittarius, thirty thousand light-years from Earth. When I return, this planet will again be vacant and ready for our use. The Lilaar can afford to wait.

Sarth Gell, the Lilaarian, turned and left the room. In a few moments the ground quivered a little, and there was the distant buzz of a space vessel as it lifted, leaving the two behind to work their way out of the straps that bound them to the chairs,

knowing they could never work their way out of the vaster bonds of space.

"Are they gone?" Karl asked after a moment.

Mark Gorman's brain reached out through the twists of spacetime and contacted that of the robot in the Lilaarian ship. And the stupid, unimaginative thing answered truthfully.

Mark smiled. "Yes, they're gone."

The two stood, the binding straps splitting and rending as they did so.

"Now what, Grandfather?" Karl asked.

"I have been sending in my reports regularly, ever since we were assigned to discover why the Federation Government had become so lax. Now we know. I'll finish my report so that you can send in the math involved."

"Check. I'll wait."

Mark Gorman lay on a soft couch in the Lilaar-provided room, and closed his eyes. Again his brain reached out, this time further, much further than before. Finally he contacted it, fitted himself in, and took control.

And, more than thirty thousand light-years away, on Ferridel III, a robot controlled printer began to make impressions on a strand of ultrafine plastic, subtly altering its molecular structure.

A REPORT ON THE GRAND EMPIRE OF THE LILAAR

From: Mark of Ferridel III; somewhere in the center of the Galaxy.
To: Commanding General, Outpost Spacefleet, Control Division.
Via: Interbrain Paracontrol beam.

From the above portions of this report, I believe it will be possible for our psychologists to find the precise stresses necessary to disrupt their Empire. These will, I believe, be slight, since it is my opinion that they are already psychotic to some degree in that they do not admit their position in the basic realities of the Universe.

I give as examples the references to their living "forever"; a self-obvious fallacy, and their so-called "infinity" drive, also as obvious. The long and boastful speech which Sarth Gell made just before he deserted us here is also significant. Their basic revulsion to death is another factor, in that it springs, not from a high moral code, but from fear.

It is because of this fear, I believe, that they, like Earth, do not know that the Thasselan war is over. They avoided the entire sector. It is also responsible for their ignorance of our existence.

Earth, because of the Lilaarian disruption of Federal Co-ordination and Correlation, has forgotten us.

My grandson, Karl, will send in the complete mathematical analysis through me as soon as he has incorporated the data just received, but for those not equipped with computer brains, I think the following will explain in some measure our position:

When, three centuries ago, it became obvious that no ordinary robot could control an interstellar battleship to the extent necessary to overwhelm the antlike co-ordination of the Thassela, Dr. Theodore Gorr was sent to the Outpost planets to build a robot which could do the job required.

At this time, the Lilaar were not as yet beginning their actual infiltration, since they had not been accepted as citizens of the Federation; therefore, they knew

nothing of Dr. Gorr's highly secret mission. When Dr. Gorr produced the first Gorr-man on Ferridel III, he probably did not realize that the real enemy of Earth was attacking from far across the Federation, but nevertheless, as is well known, we were so equipped as to be able to ward off attack in almost any conceivable form.

The Lilaar, naturally, could know nothing of this, but they could have deduced it logically had not their fear of death kept them from the immediate area of the war. No human being is capable of computing the forces and the vectors thereof which obtain at ultra-light velocities in interstellar space. Had the Lilaar known that our fighting ships do not have built-in control robots, they would have known that they were controlled by some other type, and thus would have known of our existence. My grandson, by the way, has shown that the probable deduction would have been wrong, insofar as our method of ship control would have been assumed to be by the so-called "subspace" radio, and not by the actual application of mental energy.

Our activities for the past ten years were so calculated as to be suspicious only to the Lilaar. This was necessary because Karl's equations showed that the final factors could only come from a Lilaarian speaking of his own free will.

Karl, therefore, stayed on Pelma of Altair after his preliminary reconnaissance, while I inspected the area already under the control of Lilaar. My grandson, as you know, while only thirty at the time he was commissioned a major twelve years ago, is deserving of the rank in every way. He is, however, one of the new Type Beta Gorr-men, whose purpose is socio-mathematical computation, and therefore is not telepathic and cannot direct a ship as we of Type Alpha because of the extra brain capacity required for these forms of higher-stage computers.

On Pelma, he set up a "front" as a practical mathematician and actually bought himself an electrical computer which he taught a young human girl to operate, in

order to free his brain of the tiresome details of some of the simpler problems. He investigated Lilaarian art-forms, computed their hypnotic qualities, figured in the indices of general effect which I gave him from space, and entered all these into what he calls the Lilaarian Equations.

In general, these equations show the following:

A. The Lilaar, because their fear of death prevents them from practicing birth control, will so overpopulate their planets that they will starve, since they require as fuel the hard-to-synthesize carbohydrates, but can not also utilize, as we do, the lower alcohols.

B. Even their so-called "infinity drive" can not move them to new planets fast enough, as a little figuring with geometrical progression will show. Their population doubles every sixty years; therefore, their portion of the Galaxy can be shown to be an expanding sphere which must double in volume every second generation.

The Lilaarians must, however, go to planets outside the "surface" of that sphere, a surface which is constantly decreasing in proportion to the total volume. Theoretically, this would reach a point where it would be physically impossible for them to be "emitted" from the "radiating surface" fast enough. Long before that point is reached, however, the area in the center of this sphere will begin to starve. The death of its inhabitants will start a mass psychosis of the entire race which will eventually destroy them.

C. The Lilaar will be unable to admit this, even to themselves, and will, therefore, do nothing to prevent it.

We will stay upon this planet until the scientists of Ferridel learn the secret of the Lilaar drive, which, it is estimated, will not take more than from ten to sixty Earth-years.

We can well afford to wait.

Mark of Ferridel III

Major, Spacefleet Ship Control

THE END

IN TIMES TO COME

Next month's cover—by Miller incidentally, an outstandingly good one, too—features "I Tell You Three Times," by Raymond F. Jones. It's a yarn based on two propositions, both from recent article discussions in *Astounding* SCIENCE-FICTION; the magnitude of the problem of integrating and organizing any governmental structure, any society, as large as a galactic group, and the problem of the perfect thinking machine. His resultant yarn has some intriguing speculations.

And Murray Leinster—who writes all too little science-fiction these days—has a nice little yarn concerning the disrupting, disorganizing, and generally upsetting effects of one small technological invention. A very thoroughly organized and controlled socio-political economy, for instance, one like that of the U.S.S.R., could be most seriously upset and its tightly organized channel tied in knots not made of red tape, by one simple gadget. It's sad—or is it?—to contemplate the effect a simple vehicular idea could have...

THE EDITOR.

BEROM

BY JOHN BERRYMAN

Nobody talks Basic English on the radio—and it might be a little hard to get into communication with aliens. Languages tend to get complex; the ideal would be a simple, few-worded language to learn—

Illustrated by Welker

(EXCERPT FROM PROCEEDINGS IN THE COURT-MARTIAL OF BENJAMIN L. HARWOOD, COL., U.S.A., FORT MEYER, VA., JUNE 8, 2038.)

Judge Advocate: I have no further questions, colonel.

Defense Counsel: May it please the Court. Rather than recalling Colonel Harwood to the stand later, I would like to establish one point by cross-examination which properly should be made at this time.

J. A.: You may proceed.

D. C.: Colonel Harwood, going back to May 4th of this year, will you tell the Court how you received your orders from General Fairbank?

Defendant: How?

D. C.: In what manner were they communicated to you?

Def.: Verbally. There was no time, you understand, for any confirmation. I was told all General Fairbank knew about the ship in ten hurried sentences and given my orders.

D. C.: Can you recollect them?

Def.: Of course. Not *verbatim*, per-

haps, but certainly their substance. Would you like me to repeat them?
D. C.: (*To the Court*) I should like the Court to understand this is merely to introduce in proper order the point we wish to make.

J. A.: On that understanding, the defendant may proceed.

Def.: I was ordered to find out who were the country's leading students of language and communication, considering the problem of the visitors as General Fairbank knew it; to find out where these students were; to get the necessary credentials from the Office of the Chief of Staff; and to bring the persons in question to the landing site immediately.

D. C.: In other words, colonel, your choice was to depend solely on the qualifications of these persons as students?

Def.: That's right.

D. C.: And nothing was said with reference to their emotional or political outlook?

Def.: I don't think Army regulations provide for either of those things. (*Laughter*)

J. A.: Order! The colonel will restrain his mordant wit.

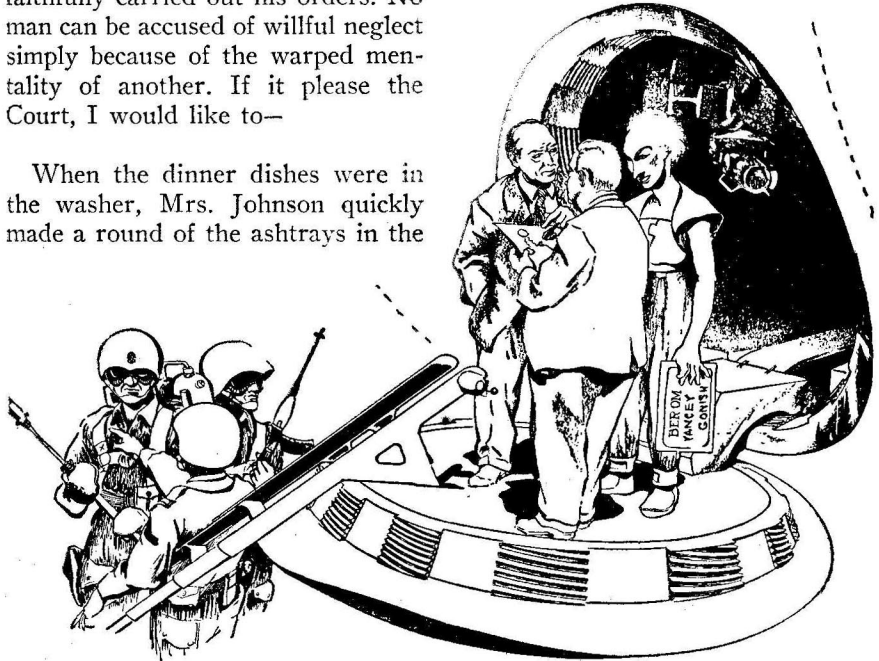
Def.: I beg the Court's pardon. No, sir, no mention was made of those factors.

D. C.: That is all, colonel. You may step down. (*To the Court*) This is the very nub of our defense. We contend that Colonel Harwood well and faithfully carried out his orders. No man can be accused of willful neglect simply because of the warped mentality of another. If it please the Court, I would like to—

When the dinner dishes were in the washer, Mrs. Johnson quickly made a round of the ashtrays in the

wages, since it was Saturday night. "Good night, Professor Yancey," she said with mock crossness as he handed her the money. "Now, for pity's sake, don't stay up reading half the night!"

"Good night, Mrs. Johnson," he replied, coming as close to a smile as he ever did. He set the night-



professor's book-lined study, emptying them into her ever-present dustpan. That was always her last act before leaving, Yancey reflected, rising from his easy-chair. By the time he had reached the door, his housekeeper had slipped on her coat and was bustling through the hall toward him.

She paused a moment for her

latch behind her and walked thoughtfully through the low-ceilinged old rooms to his side porch. The clock on the College chapel struck the half-hour.

Though the sun had set redly behind the Pelham hills some time before, there was still a luminosity in the spring sky that banned all but the brightest stars. The evening

breeze soughed sadly through the perfumed blossoms of his apple orchard and rippled the grass of his large lawn, overdue for cutting.

Yancey sighed as he took his pipe away from his lips, better to savor the sweetness of the blooms. How Madge would have loved the orchard, he thought. It was hard to believe that seventeen years had sped in their swift rounds since he had first turned the earth over their young roots, and so quickly had seen the same sod broken to receive his wife's shriveled body. The sad scent of the springtime always brought back her bitter-sweet memory. He sucked more life into his pipe. More and more, with the ripening blush of every spring, he felt that the world was leaving him behind. More and more he was out of place in a time where events rippled catastrophically about his head. With the despondent thought that he would be glad when life was through with him, he recalled the lines of David Morton, who had lived in that same house a hundred years before: "I like thee each day not more, but less."

A uniquely irritating sound drove him from his reverie. The unmistakable *hooo oooo* of a jet motor, coming from the direction of the campus, caused him to crane his scrawny neck around the old house's eaves. The sound drew loudly nearer. Then he saw the brilliant lance of the light through the arching trees. Although the craft was not clearly visible in the deepening dusk, it was directing

a powerful beam toward the ground. It hung dangerously low, Yancey decided, hopping spryly over the porch railing and trotting to the picket fence. A ram-jet helicopter, he guessed, from its deliberate pace over the elms lining South Pleasant Street. The effulgent beam seared his eyes as it swept over him, and then returned, causing him to lower his head in pain.

Then the hooting was full upon him. He felt the wild downdraft of the blades and saw the scented blossoms vanish from his orchard in a blizzard of flying petals. His angry cries were scarcely swallowed by the sound of the jets before the helicopter had grounded on his lawn. The merciless brilliance of the light reddened and died. His dazzled eyes could barely see the uniformed figures that sprang from the 'copter and ran toward him. Rectangles of light sprang into being about the Common as doors swung open, silhouetting the curious in their frames.

"Professor Yancey?" one of the newcomers cried.

"Yes! Look what you've done to my orchard! You'll—"

"Yes! Of course! Quick, professor, you must get inside at once!" The voice was urgent, but there was no mistaking the genteel courtesy of the speaker. Yancey allowed himself to be urged back onto his porch. "Evans!" the newcomer ordered in a low tone. "Keep everybody out. Rocco," he went on, as he politely urged Yancey through his door into

the study. "Get the professor packed!" The soldier named Rocco sprang vigorously up the stairs.

Yancey had no time to form his protest. "I extend you every apology," the officer giving the orders said with swift sincerity. "You are Professor George Yancey, the philologist?"

"Of course. See here—"

"Please, professor. I beg your indulgence. There is so little time. Believe me, sir," he went on with an urbanity not put out of joint by the strained circumstances. "I know this is an outrageous invasion of your privacy, but I have orders from the White House, professor. You must come with us at once." His clean-shaven, handsome features flashed a quick earnest smile that was clearly meant to tell Yancey how seriously he took it all.

"What the devil!" Yancey gasped. "What is this all about?" He heard the quick stamp of feet on his front steps. His front doorbell sounded insistently.

"Please don't answer it," Harwood asked, his hand gently restraining. "Professor, this is a matter of life and death for your country. We need your services urgently, this moment. I have authority to swear you into the Army, sir, with the rank of Lieutenant Colonel. Would you please raise your right hand?"

"Certainly not," Yancey said stubbornly. "I'm not used to having some smooth-talking public relations officer storm into my house and order me about. What in Tophet is going

on?" The tough military tones of Evans came clearly through the door, ordering people to keep outside the picket fence. Yancey was about to protest the treatment of his neighbors when those at the front door despaired of the bell and took to thudding its heavy silver knocker. Students, he knew, young and impatient.

"Don't go," Harwood said breathlessly. "Professor, a spaceship from outside the Solar System has just landed in Kansas. We are trying desperately to communicate with the visitors. We need you. We *must* have you to help us."

It took a long moment for what Harwood told him to sink in. Yancey's sharp features narrowed farther as he digested the incredible fact. "You mean, you Army people are trying to talk to them?" he asked. He had a wry conception of a crew of narrow-minded militarists trying to make sense to an alien culture.

"Yes," Harwood said, not feeling the barb in Yancey's question. "Weird as it seems, they are reasonably human, and they seem convinced they can communicate with us. Pathetically convinced. It's a race against time."

"What's the rush?" Yancey demanded tartly.

"Partly that they insist. They've made hand signals, professor. Apparently something about their power. We think it deteriorates under a gravitational field. We can't understand exactly what they mean, but they keep pointing to the sun and—"

"Yes, I understand," Yancey said acidly, his mind making semantic sense of Harwood's overearnest babbling. "And they seem to think they can communicate with us? By which you mean that they seem to think they know how *we* communicate?" He paused while his mind went back over what the other had said. "You said 'partly.' What's the rest of the rush?"

"Really, professor," Harwood insisted deferentially. "I can tell you these things en route. The others are waiting for us at Westover Field."

Rocco trotted quickly down the stairs. Yancey saw that he was carrying his overnight case. "Ready, sir," the soldier called. He waited for no signal, but ran through the door to the yard, taking the bag toward the waiting 'copter.

"All right," Yancey said, intrigued by the thought of conversing with a completely foreign creature. "You'll get in touch with the College?" he asked, turning out the lights and setting the snap lock on his side door.

"Of course."

The starter's growl was whirling the blades up to starting speed before they were in the cabin. The jets belched fire, throbbled throatily, and whined quickly up to efficient velocity. Yancey gasped as the house fell swiftly away below them. He got a brief glimpse of the clock on Johnson Chapel before they swung off to the South. There was no talking possible with the eerie hooting of the

ram-jets deafening them. Yancey collected his thoughts as they whirled over the Connecticut Valley toward the great Air Force base. All that he knew of language and semantics passed in well-ordered sequence through his scholarly mind. Always his circling thoughts came to rest on one fact. The visitors from outer space seemed convinced they could communicate. The idea titillated his rapier-sharp intellect.

A jet bomber waited squattily for them. Harwood seized the small suitcase himself as they grounded, and hurried Yancey toward the looming shape of the warplane. A small knot of people were bunched by it. Introductions were swift, mingled with the grunts of scholars straining their creaky frames through the bomber's small door.

"Professor Cottwold, the calligraphist," Harwood said hurriedly. "Meet—"

"Hello, Cottwold," Yancey interrupted. "Glad to see you again." They shook hands briefly, and Cottwold turned away to climb in.

"And Professor Pratt," Harwood continued, pushing them up the ladder. "In your field, Professor Yancey."

"Yes," Yancey said acidly. "We've met, too."

Pratt laughed woodenly. "Indeed we have," he said with a heartiness that was not relish. He kept on talking as they strapped themselves in, until the cough of the starting turbines stopped it. "How are things at Amherst these days, Yancey?"

"Quiet," the waspish little man replied. "You would hardly know we are waiting for the next Atomic War."

Pratt's stiff laugh was somehow condescending. "A little different at Yale," he confided. "We're somehow closer to life in New Haven. Don't see how you could spend time on a thing like that 'Sanskrit Revisited' you just published. We can't seem to ignore what's going on about us, the way you small-town people do."

Yancey's sharp retort was swallowed in the roar of sound. They taxied smoothly between the yellow rows of runway lights to the end of the long concrete ribbon, accelerated with neck-straining power, and hurtled into the black spring night. Red obstruction lights streaked into the distance behind them. Not until they felt the rippling passage of the bomber through the sonic barrier could they talk again. They could still feel the enormous power of the turbines surge through the hurtling ship, but they had left their screaming sound behind.

Harwood had wormed his way up forward with the pilots, using the radio. He crawled through the cramped passage back to them. "It's still there," he said breathlessly, his insignia glittering dully in the dimly lighted bomb bay.

"Where?" Yancey demanded.

"Near Emporia, Kansas," Harwood replied. "They've got the whole area sealed off. No aircraft. No cars. See here," he exclaimed, perching on a gunner's unoccupied

stool. "You've all got to understand the need for utmost speed on this thing. I think all of you know the visitors have plainly signaled they can stay only five days."

"Now don't worry," Pratt boomed importantly. "The moment they realize a trained specialist in communication has been brought to them, they'll relax."

"I'm sorry," Harwood protested with that politeness Yancey found so ill-fitting. "But you can't think of it that way. There are other reasons for speed."

"Yes, what are they?" Yancey pursued him, recalling his remarks while still at his house.

Harwood gulped visibly in the dim light. "The Russians," he said unhappily. "They're raising the very devil about it."

"Well, just tell them to go to Hell," Pratt snapped. "They landed here, not in Russia, and showed uncommon good sense, if you ask me."

"Yes, I know," Harwood said. "But it's not that simple."

"How do the Russians know?" Yancey asked.

"Their radars must have tracked the ship, too. It was the strangest thing. It just suddenly appeared, with the greatest burst of radiant energies imaginable, about fifty million miles north of the ecliptic. It dropped down toward Earth without any hesitation. Didn't seem any question about which planet they were interested in. They took their time coming, only used about a quar-

ter G acceleration, but they drove or braked the whole way. No drifting. They've obviously got an atomic drive of some kind. No rockets. Their power must be enormous. The electrical disturbance of their drive affected radars and other detectors all over the System."

"The atomic drive!" Pratt breathed. "At last!"

"Yes, I know," Harwood said miserably. "But of course the Russians are thinking exactly the same thing. The minute they knew the ship had landed here, we started to get demands that it be internationalized. They demand equal representation when we interview the visitors."

"Ha!" Pratt laughed bitterly. "Well, they know where that'll get them! Fat chance we'll share any atomic space drive with those blood-thirsty madmen!" Yancey shriveled with the implications of what the others had said. It was the same jingoistic talk that sooner or later guaranteed that the last two nations of the world would wipe each other out. They had come mighty close to it the last time, he recalled bitterly, thinking of his own wife, trapped in the dusting of New York.

Harwood was still talking persuasively, his tone low and tense. "They're not such fools," he explained. "They've told us they'll bomb and dust the area into extinction if we don't agree immediately. You can see the Russians would rather have the secret of the drive lost than see us get it before they do."

"What the devil!" Cottwold protested. "You mean we stand a good chance of being bombed while we're there! A fine time to tell us, young man! I consider this—"

"No, no," Harwood placated him. "We can stall them a day or so. They don't know, of course, that the visitors can't remain. By the time we get it all settled about how the thing will be internationalized, the ship will be gone. And we'll have the drive. I hope," he concluded. "It all depends on you."

Yancey's acid voice broke into laughter. "You fools," he told them bitterly. "And the moment the Russians think they've been tricked, they'll start their missiles toward us. They won't dare to wait until we have actually built and installed the drive. It will be now or never for them!"

"We can hold them," Harwood said tightly. "We haven't been sitting still. Our northern radar net—"

"Tophet!" Yancey exploded. "Then you admit we are starting the Second Atomic War. Well, I shall have nothing to do with it! See here, Pratt, you should be immune from the sordid appeals this sugar-tongued character is making! Cottwold!"

Pratt's sneer was plain in the gloom of the bomber's hurtling hull. "How you can defend an intellectualism that is not first concerned with its political freedom is beyond me," he said heavily. Cottwold was silent.

Yancey felt himself slump into his

cramped seat with despair. The whole world was going mad, he knew. When the intellectuals butressed the fatuous arguments of a constitutionally blind military, the place for his kind had vanished. But in spite of his hatred of the thought that he would contribute to the outbreak of war, his intellectual curiosity was too great for him to stay behind when the others were taken to the strangers from space.

There could be no doubt of the enormous scientific achievement of the visitors. Their huge vessel stretched its length a thousand feet across the green, sprouting wheat, and towered two hundred feet in diameter. A companionway of stairs, startling similar to the Terrestrial equivalent, had been let down from a round lock or doorway low in the hull, so that the great ship bulged out above it. At its head there was a small landing or balcony, big enough to accommodate several persons.

The Army, with all the unpleasant things it represented to Yancey, was there in force. Bare, unpainted hutments already clustered around the foot of the companionway, huddling under the outward swelling curve of the giant, cylindrical hull. The tender shoots of wheat had been ground blackly into the muddy soil. The deep ruts of wheeled vehicles testified to its wetness, and explained why the ring of vehicles about the ship, holding the curious back, were now all provided with caterpillar tracks. Cameras were being confis-

acted on every hand, Yancey saw bitterly, reflecting on the military mind. No photographic negative could ever print the impression that every viewer of the monstrous ship was having burned indelibly into his memory. The Army might even try to confiscate that, he decided angrily.

Harwood struggled with them through the mud as far as the foot of the stairway. There was a squad of paratroops posted there, tommy-guns slung meaningfully over their shoulders, their faces grim and purposeful in spite of their youth. It was all hateful to Yancey. Soon to die, he reflected. Soon, and young!

A feverish young captain met them. The generals had stayed behind in their quarters, the way generals always do, Yancey observed silently.

"Call him out, captain," Harwood ordered.

The other officer turned to the open port. "Berom!" he called, his voice high and clear with excitement.

"What does that mean?" Cottwold asked.

"How do I know?" the captain asked. "That's the first thing he did when he stepped out of the ship. He showed us a sign with that word on it. We've already taught him how the alphabet is pronounced, but that's as far as we got. He won't let us in the ship. Acts as though he won't until we can talk to each other."

In spite of what Harwood had said about the visitors' being human,

Yancey was unprepared for the appearance of the creature who stepped quickly onto the landing. Yancey's common sense told him it would be a miracle to find beings from the stars resembling humans even to the point of being erect and bifurcated. The visitor was a lot more than that. He wasn't much less like Yancey than an Australian fuzzy-wuzzy, but in the opposite direction. Pigmentation, while present, was light. He had hair on a head that bore two eyes, a nose and an all-too human mouth. His locks were platinum and fine to the point of suggesting a halo. He carried some kind of sign or placard and held a staff or wand in his tapering fingers, of which there seemed to be six rather than five.

"Berom!" he replied, his human features breaking into what was unmistakably a smile.

"Tell him 'Berom,'" the captain said. "He likes that."

"Berom," Pratt called in his heavy voice. He led the three savants up the companionway to the landing. Yancey brought up the rear. For a long moment the beings of two worlds viewed each other at arm's length, curiosity written in the same lines on all their faces.

"Berom," the visitor repeated, with an upward inflection, as if he were asking a question. The staff in his hand proved to be a stylus. With it he wrote carefully on the placard he carried. Its point was curiously fashioned, so that with a tiny lever on the shaft of the writing instrument he could control the width of

the line it drew. His draughtsmanship was precise to the point of exciting Yancey's wonderment. The letters were a perfectly stylized type-writer font, albeit somewhat antique in their appearance. "BEROM" the visitor wrote, all in capital letters an inch or so high.

The three Terrestrials looked at it thoughtfully. "What is it?" Cottwold asked. "Does it make any sense to you?"

Yancey and Pratt exchanged glances. "Do you recognize the word?" Pratt asked the slighter man.

Yancey's eyebrows fluttered in the briefest shrug. "If it is a word," he said cautiously. "It is probably Hindustani. The root 'bero' in Sanskrit—"

"Oh, no," Pratt insisted heavily.

"Do you know the root?" Yancey asked icily.

"No. But, please, spare us Sanskrit. What would it be in Hindustani?"

"A 'berom' is a wedge, usually employed to hold a mattock on its shaft," Yancey said. "But I don't think that's important."

Pratt grunted irritably. "See here, my friend," he said in English to the visitor. "You had better talk to us. Talk. Talk." He pointed vigorously to his lips. Comprehension was swift. With a soft smile the fine-haired creature broke into speech. His voice was soft and mellifluous, somewhat light in timbre, and in a girlish register. The phrases ran together in the formless torrent of any



completely foreign language.

"Slower. Much slower," Pratt insisted, articulating his syllables with great deliberateness. "High degree of flexion," he noted over his shoulder to Yancey.

The result was surprising. A swift frown of disappointment crossed the visitor's face. He pointed excitedly to the word he had written on the placard. "Berom!" he exclaimed. "Berom!" He wrote it again, more quickly, his odd, adjustable stylus forming the expertly printed letters effortlessly.

"Look at those serifs!" Cottwold said. "An utterly novel approach toward calligraphy!"

Yancey pushed himself forward, around Pratt's lumbering bulk. He

held his palms upward in what he hoped was a universal sign of friendship. To the surprise of all, not excluding the visitor, he encircled the stranger from space lightly in his arms and embraced him for a moment. A soft, unpracticed smile came and went on the philologist's features. Gently he removed the stylus from the other's slender hand. His flesh was as warm, firm and muscular and his bones as sturdy as Yancey's own. Using the visitor's hand, he placed it against his chest and said "Yancey," several times. The stranger caught on as quickly as before.

"Yancey," he repeated with excellent tone reproduction. Smilingly withdrawing his hand, he laid it

against his own chest and said, "Gonish."

Yancey nodded, and supported the placard the other held with one hand while he wrote "BEROM" in simple Roman capitals, being unable to reproduce the other's skill at adding the cursive serifs of typewriter font. Then he printed his own name and, pointing to it, said it several times again. He followed by printing "Gonish," which he also spoke.

Gonish nodded quick understanding and retrieved the stylus. Still using the careful calligraphy that had so astonished Cottwold, he wrote a series of words on the placard:

"BEROM FANID ERPOT
SIDAR YEVAH."

Pratt quickly copied them into his notebook, but all of them made it plain they did not understand the message. Gonish was plainly discouraged. He gestured toward the sun, and made several sweeping motions with his hand.

"Yes, yes," Yancey told him with the nod that was apparently a common signal of assent. "We understand. Only four more days." He turned and left the landing, leaving Pratt and Cottwold to continue a fruitless attempt to establish better communication.

"Well?" Harwood demanded, when he had returned to the sticky mud.

"I can't tell yet," Yancey said, musingly. "I suppose there are all sorts of scientists here, are there not?"

"Of course."

"Get me an astronomer," he asked. "I think I can get farther than that fumbling old Pratt up there."

Pratt and Cottwold had left the landing after copying down a number of other messages that Gonish had written. Yancey led the astronomer up the companionway. "Smile when you meet him, Skinner," Yancey asked, scraping the gumbo from his shoes. "I think he can understand most of our gestures and conventions of unspoken communication."

Reaching the landing, he eschewed the cry of "Berom!" with which the captain had signaled the visitor. "Gonish," he called. "It is Yancey."

The white-haired visitor stepped through the open lock in a few moments. "Yancey!" he said with obvious pleasure. He stepped lightly to the professor's side, and repeated Yancey's previous embrace. The philologist smiled happily, returning the light, symbolic pressure of the other's arms.

He took the clock from the astronomer. It had a twenty-four hour military dial. Pointing to the sun, and making a gesture to suggest its full course around the Earth, he then pointed to the timepiece and showed one revolution of the hour hand. He reset the instrument, showing that the minute hand made one circuit for each of the twenty-four hourly movements of the smaller hand.

Gonish took the clock from him

and twisted the set knob until he understood the linkage. By gesture he then repeated his understanding of the relationship between the course of the hour hand and the rotation of the planet.

"Sketch the Solar System, from north of the ecliptic," Yancey directed Skinner.

Gonish quickly nodded his assent as the representation of the sun, to which Skinner pointed, was surrounded by circles representing the elliptical orbits of the first three planets, with arrows flying in their direction of revolution. As he drew the third ring, he pointed significantly to the ground. Gonish nodded vigorously.

It took a little time to indicate the ten digits in the decimal numbering system, but eventually Gonish understood that nearly four hundred days were required for Earth to make one circuit about its parent.

At Yancey's continued direction, Skinner sketched wavy lines to indicate the vibratory pattern of light, and with the face of the clock showed that seven minutes were required for it to reach Earth from the sun. Gonish timed the sweep of the second hand of the clock with his own wrist instrument, and indicated sudden comprehension. He sketched a symbol.

"Undoubtedly the constant of the speed of light," Skinner said in awe.

"Yes," Yancey agreed. "Now, we must find how long light takes to go from here to his star." It was slow work in gestures, slow until the in-

stant Gonish perceived what was wanted. He quickly understood that the period of revolution of Earth about the sun was the unit of time to be used as a measure. He made quick, crabbed calculations on the edge of the placard with a small pencillike stylus he took from his clothing, and, with careful copying of the arabic numerals, wrote the number "65."

"Sixty-five light-years," Skinner said. "Yancey, this is terrific. Imagine that unthinkable distance. Find out how long it took them to get here."

"That doesn't matter," Yancey told him. He tapped his skull several times with his forefinger, nodding and smiling to Gonish. "I hope he gets that," he said to Skinner. "I want him to know that I understand." He pointed to the clock once again and showed two circuits of the hour hand. "Two days," he said, pointing to the arabic numeral "2" on the placard. Gonish nodded.

"Come on," Yancey said to Skinner.

"Why quit?" the astronomer protested. "We're just beginning to get somewhere."

"We are already there," Yancey said sourly. "We're wasting time. Come on." He trotted briskly down the companionway.

Harwood had left the trampled mud at its foot. "Where's the colonel?" Yancey asked the captain of the guard.

"They're all in General Swift's

quarters, professor," he replied. "Something's up!"

Skinner tramped with him through the clinging mire. They had to step aside several times to avoid the lurching progress of light tanks, their whipping antennae barely skimming under the maze of telephone lines strung to hastily driven posts.

Harwood greeted them the instant they walked through the door. "Yancey!" he gasped. "The situation is deteriorating fast!"

"What happened?" Yancey asked, adding his muddy tracks to the hundreds of others that had soiled the rough wooden floor.

"The Russians apparently are wise to what's up. They've announced they are sending their representatives here Tuesday morning, under escort. They insist we permit them to land and join in communicating with Gonish and his crew."

"And if we don't?" Yancey said, knowing the answer beforehand.

"They will consider it an act of war. The 'escort' is obviously their full war fleet. They probably can't mobilize it any more quickly than that."

"Going to let them land?" Yancey asked irritably, sitting down to clean the muck from his oxfords.

"That depends on you and the others," Harwood told him feverishly. "Can you possibly get in communication with them before then?"

"This is Sunday," Yancey reminded him. "I have to go to Chicago for some references."

"References!" Pratt bellowed from

the table at which General Swift and others in uniform were bent in earnest conversation with a number of scientists.

"That's what I said, Pratt," Yancey snapped.

"Don't be a fool!" General Swift rumbled. "We can't wait for a lot of bone-dry research. We've got to make those people understand.

"Understand what?" Yancey demanded acidly.

"That we want the secret of their drive, and that the Russians can't have it!" he growled ominously.

"And if they won't do that?" Yancey persisted.

"I have my orders," the general ground out pointedly.

"You wouldn't try to force your way into the ship?" Yancey marveled.

"They'll not leave here without our having the secret, or their being in no condition to pass it on," Swift snapped. "Didn't you get anywhere with them?"

"Nothing important," Yancey said. "But I have some ideas. I'll need to do some research, as I told you."

"What do you mean, nothing important?" Skinner protested excitedly. "Why, at the rate he was going, we'd have had anything we wanted in a couple hours!"

"Is that true?" Swift demanded.

"Not at all," Yancey said in a chill tone. "We merely exchanged references on our time system and found out that his star is about sixty-five light-years away."

General Swift was on his feet. "That's the stuff," he snapped. "Skinner, did you understand how he did it?"

"Yes, general. It's simple. Gonish wants to give information as hard as you can imagine."

"Well, come on," Swift roared, reaching for his cap.

"I've still got to go to Chicago," Yancey insisted. "Skinner can carry on, if that's what you care about. I'll be back tomorrow night or Tuesday."

"How can you consider leaving at a time like this?" Swift growled. "Haven't you got a scrap of patriotism in you?"

"I'm as old as you, if not as mentally ossified," Yancey seethed bitterly. "I have my own very strongly developed ideas of patriotism, undoubtedly arrived at after thought more cogent than you are capable of. I don't need you to tell me my duty! Are you trying to tell me I'm not free to go?"

All the military personnel froze into stiff silence in the electric tension. Swift slowly purpled, trembling with restrained fury. "Go ahead!" he gasped, with a furious swing of his arm. "But keep your idiotic mouth shut! And that's an order I can make stick!"

The Russians had arrived before Yancey's 'copter returned him from Chicago. A number of rotary-winged aircraft had alighted beside the looming bulk of the monster from space. Overhead, as far as the eye and ear

could detect, a huge fleet of Soviet aircraft circled ominously.

Harwood met him as he eased himself from the 'copter's cabin, his shoes going over their tops in the slime.

"Have you got it?" he demanded hopelessly, his face lined and haggard.

"Yes," Yancey said impatiently, struggling through the heavy going. "Of course. That's why I'm back. Took longer than I thought to find it. Take me to General Swift."

"Professor," Harwood protested, as they trudged laboriously under the overhang of the huge spaceship, "he's in with the Russians. They're having the biggest fight you ever heard. The Russians have posted a guard at the companionway, too. They won't let anybody by. And we won't let them go in, either. They demand three days with Gonish before we see him again, on the theory that we have already had a three-day crack at him. It's awful!"

Yancey frowned, and they both stepped out of the way of a clanking, snorting tank. "That changes things a little," he said. "Still, you had better get Swift out of the meeting a minute."

The general brought Pratt with him. "Well?" he gasped. His red face ran with sweat. The tension of the days had told on them both.

"I can communicate with Gonish," Yancey told him.

"Not now," Swift said heavily.

"What?"

"You heard me. If you'd stayed

here and done your duty— But no! Well, we're not doing any talking with that white-haired little idiot until we settle with the Russians. The Secretary of State will be here any minute."

"Gonish will leave before you settle anything," Yancey said sourly.

"No he won't. We'll either agree, or agree to disagree in the next hour," Swift snarled. "And I think war will start right in that room. Major, give me your sidearm." He gravely buckled the belt and holster over his uniform. "Those Russian generals are armed to the teeth," he swore, turning to leave.

"Wait," Yancey called. He handed him a sheet of typed paper. "This is what I propose we should have told Gonish."

Swift glowered at the meaningless message. It was a short string of five-letter words, making no sense. "What does it say?" he demanded.

"It's in code," Yancey said, with a vindictive smile toward Pratt. "Bentley's Commercial Code, obsolete now, but in common use for fifty years in the last century. 'Look it up for yourself.'" He did not mention the copy of the code book in his pocket.

"What?" Pratt roared. "Inconceivable!"

"Who knows how many thousands of facsimile messages they received, how many labeled diagrams were transmitted? It may have taken years, but they did it. After all, code is still language."

"Ridiculous!" Pratt snapped, reddening at the thought he had missed

the solution.

"Quite right," Yancey grinned acidly. "Of course you should have figured it out in a minute. Five-letter word groups. No flexion apparently present but, as you pointed out yourself, his speech has even more flexion than our own.

"And he thought we should understand. A complete stranger, he walked out of that ship printing words in our own letters that he thought we knew. And from sixty-five light-years away! It almost screamed that his race had been picking up facsimile transmissions. And of course, the transmissions had to have originated more than sixty-five years ago, the time it took them to travel through space to his planet.

"We don't use the system any more," he explained. "All commercial messages are now sent on keyed-variation pulses, to preserve their security. But for many years after 1954 or 1955 almost all commercial radiograms were broadcast as facsimiles, the way we still send radio-photos. The code was used to compress the message as much as possible and to keep the purely curious from reading it without effort. Many of the code words in Bentley's stand for whole sentences. Such as BEROM."

"What does it mean?" Pratt asked reluctantly, as Swift's eyebrows narrowed over his haggard face.

"It means, 'Suggest we pool our information,' a common commercial phrase," Yancey said blandly.

"Something that was plain from Gonish's every action."

"That settles it!" Swift snapped.

"Settles what?"

"The Russians don't get to talk to Gonish," he said flatly. "That white-haired fool would as likely hand *them* the secret of the drive as not." He spun on his heel and re-entered the conference room, Pratt tagging across the muddy floor behind him.

Yancey walked disconsolately from the nerve-wracking atmosphere of the barrack. He felt rather than saw the rounded belly of the spaceship as he walked to where it curved into the great depression it had rammed in the mud of the prairie.

The squad at the foot of the companionway had been reinforced, as Harwood had told him. The Russian soldiery stood on one side, glaring at the equally grim group of paratroops on the other.

Yancey struggled slowly over to them. One of the Russians promptly raised his tommy-gun in an unmistakable gesture of threat. Yancey stopped and looked at the foreigners thoughtfully. Their broad Slavic faces and cropped blond hair marked them as elite troops of the Soviet. All but one of them. His flat Mongoloid nose and eye flaps marked him for a Tatar. Yancey grinned without humor.

With the unconsciously easy skill of the accomplished linguist, he produced the Tatar tongue he hadn't spoken for twenty years, since his student days in traveling over the

highland steppes of northern Tibet.

"Greetings, my Tatar friend," he said in the difficult tongue. The soldier started with surprise. "Have no fear," the professor told him loudly. "It is only I, *Yancey*. Just *Yancey*, and I would do you no harm, my Soviet comrade."

The effect of his name was electric. Gonish appeared immediately on the landing, behind the backs of the guard. Yancey raised his eyes. Four words he cried:

"BEROM BODAD VEMAN WEGOT."

Gonish stood transfixed. Slowly he re-entered the lock, making only an arresting gesture with his hand. Too late the Russian soldiery realized he had spoken with the ship. Consternation and fear crossed their regimented faces. Yancey stood stock-still, waiting in fearful suspense. Had he overestimated the capacities of the visitors?

He was not to be disappointed. The tractor beam seized him with a steely embrace that he recognized for deepest friendship. He heard the lock clang shut behind him. An enormous surge of acceleration threw him motionless to the floor of the lock. For many minutes it crushed him there, alone, scarcely able to force a trickle of air into his straining lungs. When the crushing weight eased, he knew they were far beyond the stratosphere. The easing was only momentary. The whole structure *rippled* and his vision went wild, only to clear. He felt almost weightless. It was the interstellar

drive, he told himself.

(CONTINUATION OF EXCERPT FROM PROCEEDINGS IN THE COURT-MARTIAL OF BENJAMIN L. HARWOOD, COL., U.S.A., FORT MEYER, VA., JUNE 8, 2038.)

Defense Counsel: . . . to introduce into evidence two documents which have an important bearing on this same point.

Judge Advocate: It seems to me that this is out of order, and that your exhibits should properly be presented when your direct examination of the defendant takes place.

D. C.: May it please the Court, the cross-examination I shall wish to make of General Swift, who will, I understand, take the stand next, makes it desirable that these documents be introduced at this time.

J. A.: Very well. Proceed.

D. C.: Both these messages were originally in code. A copy of the book "Bentley's Commercial Codes," Seventeenth edition of 1961, has already been entered by the Court as Exhibit "C." It has been used to decode or translate the exhibits in question.

The first exhibit decodes what, to the best auditory recollection of several persons who stood near him when he was drawn or sucked into the ship, Professor Yancey cried out to Gonish, the visitor from space, namely "BEROM BODAD VEMAN WEGOT." Each of those words in Bentley's represents a standard sentence often used in

commercial messages. This Exhibit decodes them to read, "Suggest we pool our information. You are in great danger. Leave at once. Take me with you." I offer it as Exhibit "L."

The second exhibit is a similar decoding of the suggested message to Gonish, given General Swift by Professor Yancey on his return from Chicago, where we now know he searched numerous old code books before discovering that Gonish was familiar only with Bentley's. This message, unlike the other, consists mostly of code words from Bentley's which represent one word or simple phrase in English. It reads, "Visitors from space: We are flattered and pleased by your generous offer to pool information. Unfortunately our world has not reached the stage of political maturity where it can be trusted with the secrets of enormous power you obviously possess. We are still divided into warring tribes, each trying to wrest mastery of the planet from the other. The idea of cooperation between peoples separated by our seas is slow to take root. To prevent the immediate outbreak of a catastrophic conflict among our tribes you must leave at once." I offer it as Exhibit "M."

Now I wish the Court to understand that we make no point of the accuracy of Professor Yancey's belief that departure of the ship would prevent the outbreak of war. Only the superhuman efforts of General Swift, as we all know—

THE END.



CYGNIAN HARVEST

BY J. W. GROVES

Men, being fairly tough organisms, can stand a lot of grief, and a lot of microbic attack. But Man is not an independent life-form . . .

Illustrated by Brush

Since the new method of revitalizing the past was discovered and perfected many strange, once-forgotten stories in the history of man have come to light again. And perhaps the strangest of them all is the tale of how the whole race was saved—possibly from extinction, certainly from being flung back a million years along the path of evolution—because

one young woman was rather spoiled and a little selfish and somewhat of a coward, and altogether splendid . . .

James Farrel stood in the little cabin of his ship, looking down at her. His mind was still confused, off poise after the deadly urgency of the rescue. The taboos hammered into his brain by two decades of exile

screamed that he should never have done this thing. Yet the inescapable fact was that she would by now have been dead if he had not.

The medicant that he had injected began to work, and she opened her eyes. For a while she stared about her, bewildered. Then memory and understanding came back and she said: "My friends?"

He hesitated as to whether to lie to her, then decided that anyway she would have to know soon, and she was already far enough recovered to stand the shock. "Dead," he said gravely.

She closed her eyes for a moment, then opened them again. "It was an incredible piece of luck that you should have been near enough to save even me. What were you doing?"

"Your defective drive threw you off course. You drifted near our sun and my detectors picked you up—"

He hadn't meant that she should know the full extent of her catastrophe so soon. But he had underestimated the agility of her brain and unconsciously betrayed himself. Her eyes went wide. "Your sun—! But there's only one other known sun with habitable planets!"

She sat up suddenly, and flung a swift glance round the cabin. On the handle of the built-in chest of drawers hung the flimsy dinner jacket that he had stripped off of her. To the green lapel clung a brown, sodden mass, already beginning to slough away in putrescent decay.

"My gardenia!" she whispered.

Then in shrill, vain protest: "No! It was damaged when the ship crashed. It must have been—!"

He didn't even bother to answer that. To be caught in the wrecking of a ship could do many things to a flower. Crush it or tear or burn it. But it could not reduce it in a matter of minutes to fetid slime.

She shook, and looked about her wildly like a hunted animal. "I've got to get out of here. Before I catch it."

"Too late," he said grimly. "We use a Cygnian plant form in our air purifiers. And they're blowing off second-stage stuff all the time."

Shock and horror caught her emotionally off guard. Suddenly she was crying, noisily, unbeautifully. "You mean . . . I'm a Cygnian—? Oh, why didn't you let me die?"

"I thought of it," he admitted soberly, "but I decided to give you a chance to make up your own mind. There's always euthanasia, if you prefer it."

"No." She choked the words out between sobs. "I'm an anti-euthanasian."

"Didn't know there were any nowadays."

"Well there are. I'm one. Euthanasia is—" She struggled in vain to express logically a conclusion born of emotion and instinct. "It's . . . Well, I just don't like it, that's all."

She fought her tears and gradually she conquered them. With a wisp of handkerchief she scrubbed her eyes, and began to talk more normally. "That was beastly of me. It isn't your fault. And Joan and Tim and

Nina—they're all dead. And I'm crying just because I can't ever go back to Earth again."

She gulped. "What's it like on Cygni Three?"

"Not too bad," he said heavily. "We get plenty of everything. Earth ships come with supplies and leave them for us to pick up."

"Plenty of everything. Yes . . . but what do you *do* with yourselves?"

His shrug was more expressive than an hour's explanation.

She came near to crying again. "I had a lot of friends on Earth. And a nice home. And a father and mother—" She began to twist the wispy handkerchief into a tight ball. "You don't have anything like that, do you? They take your babies away—"

"It's the best thing they can do. For some reason the virus doesn't pass from a mother's blood stream to a child's. If the birth occurs in a sterile chamber completely free from plant life and the baby is taken away the second it is born, it can grow up on Earth and lead a normal life."

"I see. I suppose it is the best thing they can do then."

They talked on for a while. He told her his own name, and learned that hers was Sylvia Menton. She gave him a few more details of her life on Earth, and pressed him with questions about the planet that must now be her home. He answered volubly, but with patent evasions. Finally, inevitably, their conversation drifted to the reason why all Cygnians had

to be exiles.

She was too young to remember the actual time when famine had reached out with bony hands to clutch at all the worlds of Sol. But the tale was still fairly new when she grew old enough to understand, and she had been able to appreciate some of the remembered fear in men's eyes when they talked of it.

Of the sudden, inexplicable swathes of blight that had swept across the planet, reducing every form of plant life to stinking slime, threatening the balance of nature, threatening the race's food supply. Of the imposition of rationing. Of its breakdown. Of the riots, and the raids on the inadequate synthetic food factories. Of the threat of a system-wide crack-up of government.

"How did it feel," she asked, "to know that you—?"

"We didn't know at first. Nobody did. At the beginning the only effect it had on us was that we found ourselves, almost overnight, neglected and forgotten after being system-famous heroes. Boylike I resented that, though now that I'm older I can see that it was more than we had a right to expect. What could it matter to starving men that we had penetrated further into space than anyone ever had before—or that we'd found the first known habitable system outside the Solar? There weren't enough ships to take everyone there, and meanwhile Earth's food supply was failing."

"But surely it didn't take them

long to find out that you were causing it?"

"Longer than it should have done. People panicked, you know. Still, eventually some observant scientist noticed that the destruction radiated out from our landing fields in the direction of our different homes, and then followed largely the paths of our various triumphal processions. After that it didn't take long to work out the answer."

"There's one thing I've never quite understood—why was it limited just to you? I mean, if the virus goes from animals to plants and then back to animals, why wasn't everybody infected?"

"Anything that has a life cycle in which it takes two different forms needs time to develop from one stage to the other. The virus is harmless to animals, and the Cygnian plants have evolved a high degree of immunity. Most of them don't die of it, and even those that do live long enough for it to grow until it can become air-borne and re-enter an animal's blood stream. But the plants of Sol's planets are too delicate. They die immediately, and the virus dies with them."

"It must have been an awful time for you." She shivered a little.

He shrugged. "It could have been worse. In a less civilized era I expect we should have been lynched, instead of just rounded up and given a choice of euthanasia or life-long exile."

Life-long exile. She brooded over

the words for a while. She had known even as a child that that was the sentence laid upon the Cygnians. But in those days the phrase had meant little. Had even sounded rather romantic. Now, though, she had the virus in her own veins—

Suddenly she threw the covers off and rolled clear of the bed on which he had laid her. "If I stop there thinking about it, I shall only make it seem worse."

He nodded his agreement. "It's best to try to forget it as much as possible. Like something to eat? Not that I've got anything very tasty on board, but you're welcome to what I have. It'll be some hours before we get back to Cygni Three, I'm afraid. This is only a rocket ship. They don't allow us space drives, you know. We might try to smuggle ourselves home."

"Home," she noted, still meant Earth. After twenty years. But she did not remark on that. Instead averred, "I'm ravenous. Anything you've got will taste like a banquet."

During the meal they grew even more friendly. When it was over, though, and he was tossing the dirtied dishes into the auto-cleaner, he seemed to become thoughtful. He answered one or two of her remarks in monosyllables, ignored others altogether. After the dishes had gone he still stared at the cleanser, avoiding her eye.

"Look," he said abruptly, "this is going to seem unusual to you, I know, but you'll be with us for the rest of your life, so you might as well

start to get used to our ways. We're a small community on Cygni Three. There aren't many women. And of all the men I'm the youngest without a mate. I need one."

She gaped at him. "What is this? A proposal?"

"It's only that I wanted to get in before some of the others. Am I being too sudden?"

"Too darned sudden altogether," she retorted angrily.

A momentary suspicion flitted through her mind. Living the sort of life he lived might make a man grow desperate for a woman. Had he planned this whole affair? Then she dismissed that idea as impossible. The defect in their space drive had developed light-years away from Cygni. But the feeling that perhaps he would not have bothered about a rescue if she had been a man or an old woman fed her anger.

"If we have to go back to your planet, isn't it time we made a start?" she asked acidly.

"All right." He turned towards the control room, then added over his shoulder the nearest to an apology she ever received from him. "I've lived most of my formative years on Cygni Three. There aren't many of us, and though we have plenty of everything we haven't a darned-thing worth having. The primitive needs get more urgent in those circumstances. You'll learn."

She did learn. That, and many other things.

Cygni Three was a pleasant

enough little world, with terrestrial gravity, breathable air, and prolific plant and animal life. Practically all of it, though, was covered with jungle and remained unexplored. The Cygnians, less than three hundred in number, lived in one tiny corner of the main land mass. Most of them were middle-aged now, or rapidly approaching it. And the dominant mood among them was a listless, awful resignation.

James Farrel had been a young boy at the time of the original landing on the place. Indeed he would never have been allowed to come along at all if he had not lied about his age. Yet even his comparative youth had not saved him from sinking into dull lethargy, relieved only by intermittent efforts to distract himself with the trivialities of pleasure.

Sylvia, at first, was rebellious, unconsciously refusing to adjust herself to the psychology of the pariah. Only in one respect did she yield to the spirit of the place.

Because he had found her, and because he was the youngest of the males and without a mate she found it tacitly accepted that she was Farrel's woman. And it did not take her long to realize that on a world like this it had to be him or one of the other, older men. So, after a week or two she went to live in his hut.

For the rest, though, her mind fended off the impact of horror by seeking refuge behind wish-created hope. When Earth had first condemned the Cygnians to exile there

had been extravagant promises of vast sums to be spent on urgent research. Research that would surely, sooner or later, yield a cure.

Though in the days when she had been a terrestrial she had heard nothing of any brains or money still being devoted to such a cause she turned to that old, long-forgotten promise and clung to it as fiercely as ever a space-cast man clung to oxygen tank and reaction pistol.

She began to speculate aloud to everybody as to how long it would be before the cure was found. To drug herself against the monotony of her days by creating for herself visions of what she would do when at last the virus was expunged from her veins. To dream at night about the coming of the relief ship that would take them home.

Then one morning someone, whether out of kindness or spite she could never quite decide, took her for a walk away out of the little community of huts, to one ramshackle structure that stood on its own. She hadn't been there before, didn't know that anyone lived so far apart from the rest of them. She found herself curiously reluctant to enter the place, but at last, under the persuasion of her guide, she went in.

There was an old man in there. A very old man, who had been well past middle-age when he captained the expedition. And he was a very happy old man.

He did not wonder, or long for the day when the cure would be found. He knew it had been found.

He babbled to her about it, and about the ship that was on its way to take them home, and of the glorious time they would all have on Earth. He went on babbling until his words faded into mere gibberish; and a long, thin stream of saliva began to drop from the corner of his slack mouth.

The cure—if it was intended as a cure—was a drastic one. In the first days after that Sylvia came dangerously near to escaping into the same refuge from reality that served the ex-captain. Then the inborn resilience of her mind reasserted itself. She recovered to what passed as normalcy on that planet, and settled down like the others to playing futile games, chattering incessantly about nothing, waiting for the supply ship from Earth, playing futile games—and never, never, thinking. About anything.

Two years went by. Three people died. Four babies were born to be whipped away before their mothers heard even their first cries. And one day in an unguarded moment a dreadful thought caught up with the girl. Their community was inexorably getting smaller. There would come a day when it numbered only one. And she was by far the youngest of them all.

She told Farrel of that. He was either less sympathetic than he should have been, or had learned that to be hard was in the end the only true way to be sympathetic in such lives as theirs. He merely



echoed his old words to her. "There's always euthanasia, if you prefer it."

Halfway through the third year it became known that soon another baby was due. The mother-to-be this time was the wife of the ex-mate, a florid-faced, beefy woman of early middle-age, with whom Sylvia had grown more or less friendly.

Back on Earth the girl had had several friends who had become mothers. In those days the waiting months had been a time of delightful surmising, of delicious whispered conferences, of joyous preparations. There was nothing like that here. The main need was for someone who would sit with you all the time. Someone who could be relied upon to chatter, make incessant jokes, do anything to keep you from thinking.

Sylvia played her part nobly for her friend, staying with her even when she was rocketed out to meet the maternity ship from Earth. And because she realized something of what the mother was thinking the girl followed across the room when they snatched the new-born baby away, and pressed her nose against the transparent panel that separated her from the part of the ship to which they had taken it. She wanted to be able to relate afterwards what sex it was, what color its eyes were. But somehow she found her attention caught by one little detail in the room into which she gazed. In the vases were artificial flowers.

It was silly to be so frightened, of course. Why shouldn't they have artificial flowers in the next room,

anyway? Probably they were cheaper than real ones. You couldn't jump to horrible conclusions just from a little thing like that. And anyway she didn't want to think about it.

She ran back to her friend, needing someone to talk to. But the wife of the ex-mate was not yet far enough recovered from the anaesthetic to share her need.

It is probable that after her return to the planet Sylvia would, given time, have forgotten the whole incident. Indeed, for a while she did appear to forget it. Even when she discovered that she was going to have a baby herself.

Farrel was at one of those interminable, complicated games of mah-jeera when she dragged him away to tell him of this new event in their lives. He reacted as a good Cygnian husband should. "I'll send a message by drive-radio, and the maternity ship will be here in plenty of time. Don't worry. The whole thing will be over soon and you can just forget about it."

She began to cry, as she had not cried since she first learned of the curse that he had planted in her blood. "But I don't want it to be that way. I don't want to forget that I ever had a baby. I want to keep it and love it and play with it."

"You know that can't be," he said gently. "Try to look at it logically. If they take it away, you won't be any worse off than if you had never had a baby at all."

She sniffed her contempt of that. What part did logic have in mother-

love? Of course she would be worse off. Far, far worse off.

And then a dormant memory of horror revived itself. "And anyway I can't have my baby on a maternity ship. They've got artificial flowers in the farther chamber."

"What difference does that make?" he asked in mild surprise.

She didn't answer him—then.

It was the early hours of the morning when he missed her from his side. He wasn't particularly worried at first. There were a dozen and one possible explanations for her absence. He even managed to go back to sleep again for a bit. But when he came to a couple of hours later to find that she still was not there he began to scramble hurriedly into his clothes.

The ex-mate's hut was the nearest to theirs, and it was he whom Farrel first aroused. The older man was sympathetic, but not too helpful. "Supposing she has gone away, son? She must have gone of her own accord, so we've got no right to drag her back. And if its euthanasia she's seeking . . . well, lots of people prefer to do it themselves in one of the older, cruder ways. We can't stop her. You know the law."

"But it might not be like that. She might have just gone for a walk in the woods, to think things over. And got hurt, or caught by an animal—"

The ex-mate's wife was wakened by the noise. Fortunately she was the sort to be more influenced by Farrel's distraught appearance than

by the niceties of legal technicalities. "Of course we must help him find her," she scolded her husband. "Don't be a fool. Call some of the other men."

The Cygnian dawn, pearl-gray and crimson, was just breaking when a group of the men set off into the forest to search for Sylvia. Her trail was easy enough to follow. The blue, tall-growing moss that serves for grass in their world becomes spongy with absorbed dew in the hours of darkness, and the lightest foot laid on it squelches out a plainly visible impression of itself.

They found the girl a quarter of a mile from the settlement, lying beneath the harmless, writhing branches of a medusa-bush.

As no doubt she had planned, a sudden new frenzy in the vegetation above warned her of their approach. She leaped up and sped away from them.

"Sylvia," called Farrel. "Sylvia. Come back here."

She ignored him, ran until she judged she was far enough away for safety, then turned to face them. The ex-mate made a grumbling comment.

"Can't see we've got any right to chase her. If she doesn't want to come back, she needn't. That's the law."

"This is our world," said someone sharply. "We are the law here."

"That's right," added another of the men. "The poor kid's out of her mind. Must be. We can't just leave her to wander."

The ex-mate shrugged. "All right. If you're set on catching her and you don't want to spend all day running about, you'd better scatter out into a half-circle. Surround her. The Canyon's ahead. She won't get far."

The Canyon was a huge split in the world's crust, caused first by an earthquake in some long-past era, and deepened since by a river that used it for a bed. Its sides were sheer, and dropped downwards for three hundred feet. And the river at the bottom was turbulent and rock-infested.

When the men closed in again on Sylvia she was standing on the edge of the Canyon, grasping a dead branch of a tree. At the sight of them she strained further away. A couple of loose pebbles rolled beneath her feet to drop soundlessly into the depths. For a moment she teetered. Then she recovered her balance.

"What do you want?" she asked sharply.

"You," said Farrel.

"I won't go back with you. I won't. I'm not going to have my baby on a maternity ship. Those artificial flowers—"

In different circumstances Farrel would have answered her angrily, but under the stress of knowing how precarious her position was he developed an enormous patience. "What have the artificial flowers got to do with it?" he asked, quietly and carefully.

"Don't you see? Don't you? Why should they need artificial flowers in

there if they hadn't lied to you about the virus' not being transmitted to the child through the mother's blood stream? It's legal for the courts to order that a baby shall have euthanasia, if the parents are dead or for any other reason incapable of arriving at a decision."

The idea was new to Farrel, and his face went white with the shock of it. But one of the older men spoke up from the back of the group. "Some of us have guessed that already, my dear, but what can we do? What can you do? It's no good. You've got to come back with us."

She glanced down at the dizzy depths, and then back at them. "I'll go down here if you try to make me."

"And then your baby will be dead anyway."

She was beyond the reach of logic. "I don't care. I just don't care—"

Farrel took a step towards her. She leaned back. "If you come any nearer, I'll let go. I mean it."

It is interesting to speculate at this point as to whether she really did mean it, or whether she was just trying to frighten him into agreeing with the plan she had evolved in those dark hours beneath the medusa bush.

Unfortunately the "memory" of atoms records nothing but the light that falls upon them. We have expert lip readers, and competent psychologists who can deduce superficial emotions from facial expressions and other indications. So when we pub-

lish these little glimpses of the past we can in many places use with reasonable confidence phrases such as "He thought—" "She felt—"

But there are deeper layers to the human mind that cannot be penetrated without the direct use of telepathy. And atoms do not hold the impression of mind emanations—or if they do we have not yet found the key with which to unlock them.

The compilers of this little history are inclined to think that Sylvia Menton was merely bluffing. She was a young woman who loved life very much, as witness her abhorrence of legalized euthanasia. It is worth pointing out, however, that though the question is an interesting one in itself the answer has very little real significance for us.

If she had gone over the cliff, or if she had stayed and yielded to Farrel, the result would have been the same. There would be no you and I, no galaxy-wide civilization for us to enjoy....

Farrel stopped. The law of their civilization held that a man or woman's life was their own property, and it was their right to end it if they chose. But of course one did not drive the person one loved to take that step, if there was any way to avoid it.

So he pleaded with her, stumbling over his words. "But, sweetheart, can't you see how silly this is? Even if the baby's got to die, what good will it do for you to go with it?"

"My baby hasn't got to die," she said defiantly. "I could have it here."

"Here?" Farrel swept his arms wide in a gesture of despair. "But there aren't any hospitals, any doctors—"

Surprisingly enough it was the ex-mate who came to her aid then. "There isn't any law that I know of saying a woman has to have hospitals and doctors if she doesn't want them."

"You see?" said Sylvia eagerly.

Farrel was still floundering in the quagmire of an utterly new idea. "But what would we do with it—?"

"Do?" She was full of impatience with the stupidity of a male. "What does anybody do with a baby? We could raise it, bring it up to live on this world."

Her voice rose. "Oh, why are you all such fools? Because the stuff in your blood makes you deadly to the people of Earth they sent you away. Told you to go back to the corner of the universe where you could do no harm, and to stop there till you die. Do you have to do what they tell you? Perhaps you had to go, yes. But do you have to die?"

"Nobody's managed to dodge it yet," commented someone with grim humor.

"As an individual, no. But we're more than individuals. We're a race. Earth isn't our home any more. This is our home. And this is a rich, fruitful world. And there are others like it round this sun. Why should we sit in one corner and wait for ex-

inction? We and our children and our children's children could take over. Domesticate the animals, tame the jungles into farmlands, build cities—"

Farrel saw nothing in her vision but the ravings of a half-crazed woman. But he was very much in love with her. And she was in very horrible danger. "All right," he said quietly. "If that's what you want, we'll try it."

She dropped her eyes and spoke more softly, addressing him alone. "You promise? Jim, you do mean it, don't you? I want it so very much. -Swear you mean it."

He swore, and she came away from that awful edge, and yielded herself into his arms. "Oh Jim," she whispered, "we can do it. You know we can. Just the two of us on our own if need be."

Just the two of them on their own could not have done it, of course. But they were not on their own for long. Although Sylvia was the youngest of the women on that world there were others still not too old to bear children. And being women they wanted those children to live. So they fell in with the plan, and dragged their men in with them. And, though there were inevitable setbacks and moments of despair, on the whole they prospered.

When word of what they were doing got back to the Solar System Earth was grimly disapproving. But the law said that euthanasia could be used on adults only with their own

permission. The government were too legally minded, or perhaps too humane, to take the only logical step. Instead, after a few notes of protest they acceded to their requests and sent them tools and agricultural implements—and a few technicians and scientists who were still young enough to be willing to buy adventure even at the price of eternal exile.

And that first generation of Cygnians lived and died. And their children lived, and spread out over the planet, and died. And their children—

The final act in the drama did not come for another thousand years. A thousand years is a long time to men. But it is an even longer time to a virus. Long enough for many mutations to occur and become inbred characteristics of the strain.

The terrestrials who concluded that Earth plants were too delicate to support the Cygnian virus were right. But it so happened that that first expedition on its way home had found it necessary to stop on a certain frigid satellite whose only life form was a primitive kind of moss. And here the virus had lingered. And changed. Until one day another ship from the Solar Sytsem stopped there

to make some necessary repairs, and then went on its way.

The plants of Earth did not sicken and die quickly enough this time for the source of infection to be traced. Instead they lived for weeks, throwing back the virus to every animal that came within a mile of them. Then they began to die. In ones. In dozens. In hundreds. In millions.

Men may learn a lesson and remember it till they die. But Man never learns anything for very long. The synthetic food plants were still inadequate. The rationing system that was imposed broke down. There were riots, and a threatened system-wide crack-up of government.

It is probable that if outside help had not come famine would have depopulated the Solar System. As it was, over a million people died of starvation before the first food ships arrived from the rich and fruitful worlds of Cygni. And for a long time millions of others lived dangerously close to the hunger line—until Cygnian crops, toughened by a thousand generations of evolution against the onslaughts of the virus, could be seeded and harvested on the fertile soil of Earth.

THE END

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SITUATION THIRTY

BY FRANK M. ROBINSON

There is one weapon left to the cornered and surrounded victim of an ambush—a weapon that is unmatched, however strong his opponent. Desperation itself, properly used, is a potent weapon . . .

Illustrated by Orban

The ambush had happened too suddenly. It had been too thorough and complete—and too successful—for Lieutenant Rossow to think of it on a personal basis, as something affecting him. He felt, at the moment, like an innocent bystander, momentarily stunned by an accident he had just witnessed—an accident that had happened to somebody else.

Ten minutes before the *Terran Skies* had been part of a destroyer screen for the main Terran patrol fleet on a mission near Messier 81. And in ten minutes it was over. The fleet had been completely gutted, from the largest, most powerful battlewagon to the slowest, dirtiest, supply tug that had limped along in the rear. The placement globe on the bridge was completely dark except for the one small, red dot in the cen-

ter that represented the *Terran Skies*—a limping, disabled *Terran Skies* that was leaking air from a dozen compartments and couldn't put more than two tubes in firing order if it wanted to get away and dared to try.

Rossow felt sick. Concussion had twisted and torn tubing and wiring conduits the full length of the vessel, the two forward gun blisters had been shattered and hulled, the Cameron-Smith converters were shrouded in acrid smoke, and the air system was thoroughly befouled with the stench of burning grease and the bitter odor of ozone. He could hear the drip of water from broken pipes, the mumbled ravings over the intercom of the dying men in the gun blisters, and the soft, anxious hiss of escaping air from one of the sealed-off compartments.

He glanced toward the end of the bridge and then, suddenly dizzy and nauseated, leaned over the railing. Concussion had blown Captain Yaeger onto the terminal posts of the fifty thousand volt line feeding the converters. Gates, the captain's "talker," lay crumpled against the bulkhead near Yaeger, one hand clenched on his throat microphone and the other over a hole in his barrel chest.

"What'll we do, captain?" Rossow got control of his aching stomach and looked up. A blackened, tattered caricature of Chief Deckert stood at his elbow.

Captain. That was right, he thought. With Yaeger dead, he was captain. The decisions were up to him now.

He was still too conscious of nausea, still in the twilight period of existence where he didn't care whether he lived or died, to think logically. He had no idea of what to do next.

"What do you think we should do, Deckert?"

Deckert grimaced painfully. "Wait for them to blow us up or beat them to it and do it ourselves."

The statement staggered Rossow but after thinking it over for a minute, it didn't seem logical. If they were going to be destroyed, they would have been destroyed by now.

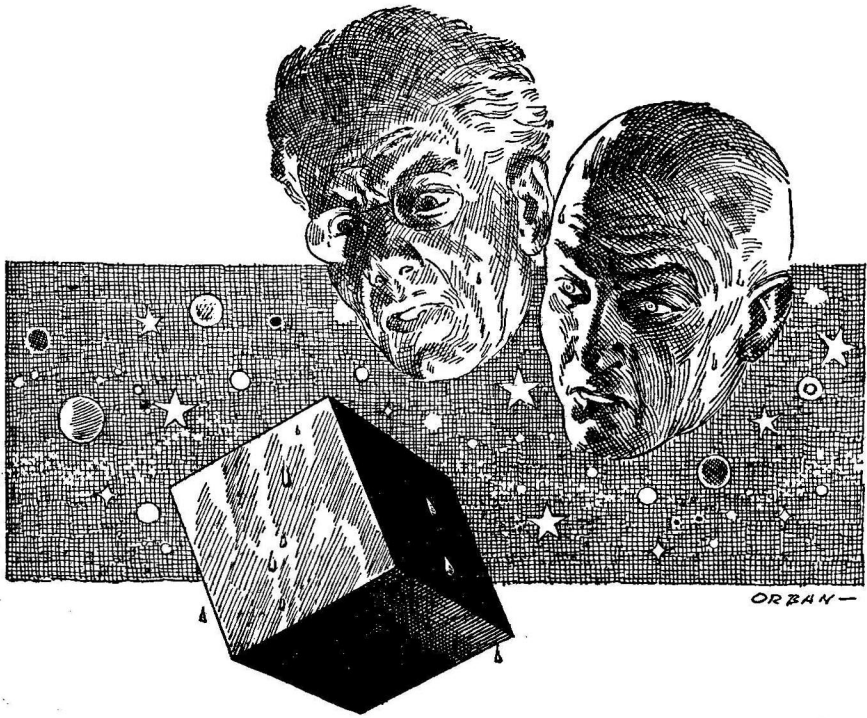
The enemy was waiting for them to surrender.

Rossow looked thoughtfully at the viewplate. Paradoxically, practically every piece of electronic apparatus

aboard had blown its tubes but the viewplate worked perfectly. In the plate, outlined against the stars, was one of the battleships of the enemy, a huge vessel fifteen times their size and quite capable of blowing them to fragments if its captain so desired. The rest of the fleet had departed for their home base—wherever it might be—leaving the one vessel behind.

And surrender posed a problem—in fact, several of them. How would the enemy communicate with them? They wouldn't send over a boarding party. The risks were much too great when they knew nothing of how to communicate, the psychology and culture of Rossow's race, the protective devices they would need once inside the ship, or what weapons Rossow still had at his disposal.

It was five hours later when the problem of communication resolved itself and then only through luck. Five hours after hostilities had ceased, the chief radio technician and signalman reported seeing a color-modulated light beam from the enemy ship. Previous to that, Rossow assumed that they had tried electronic means of communication and space knew what else in trying to contact them. The color-modulated beam would have meant nothing if Deckert, on impulse, hadn't plowed through the ship's reference on alien codes and communication. That their enemy was the same race was very improbable—if they were, they would have used the system before this. It was more likely that the



enemy had picked up the system from contact with the race in the past.

They decoded the request for surrender fifteen minutes later.

"Our move, captain. What do we do now?" Deckert asked. "You can't surrender, I know, but you'll have to tell them something."

Rossow's mind settled into an accustomed groove. A request to surrender, after the destruction of the rest of the fleet, placed him in a small—a very small—bargaining position. Any information the enemy wanted as to personnel, destination, nature and history of his civilization,

et cetera, would have to come from his ship. They had eliminated all other sources. His position at present might be good enough for a stall.

"Tell them we have urgent casualties, both personnel and ship, and need a delay. Figure it for twenty-four hours our time." The request was truthful, logical, and relatively minor. It would not be refused.

Deckert came back five minutes later. "We've got twenty-four hours. What do we do when that's up?"

"Fight."

Deckert almost laughed in disbelief.

"What with? We're disabled, helpless, under the guns of an enemy

a lot tougher than we were when we were in tiptop condition." He leaned closer to Rossow, his eyes mere slits in a bruised and sooty face. "Just what are you going to fight them *with?*"

Rossow was silent.

"Oh." Deckert's sarcasm was just short of insubordination. "I forgot. Our secret weapon. You."

"They'll be curious," Rossow said, "and they'll make mistakes. If we play it right, we'll win."

"You have to believe that," Deckert said.

All right, so he *had* to believe it. As an officer, he was conditioned against the thought of defeat, conditioned against surrendering. He was physically incapable of surrendering and absolutely unable to concede defeat. In battle his mind could entertain but one thought and that was of victory. He had been conditioned to go down fighting to the very last on the assumption that victory was within his grasp. And knowing he was conditioned to believe it didn't change it in the slightest.

Wars were no longer fought leaving things to chance. Individual courage and enthusiasm for a cause were tenuous things at best, changing radically with conditions. And military analysts had proved long ago that maximum battle efficiency could only result when neither thoughts of surrender or defeat were present in a situation—pressure of battle, yes, for human minds also work better under pressure.

The system of battle conditioning had been well thought out. The most amazing thing was that it had taken so long to put it on a strictly scientific basis, rather than leaving the generating of a "fighting spirit" to sometimes inept propaganda.

The system didn't work perfectly, of course, but it worked remarkably well. To make a man out of a machine was technically impossible; to make a machine out of a man was not only easier but much more practical.

What would he fight them with? Primarily their own ignorance, their fears, and their suspicions. And Rossow's main ace was the enemy's own thoroughness in the ambush. They knew nothing about him; the rest of the fleet had been too thoroughly destroyed to yield any evidence about their ships and weapons and the race that had manned them.

Lieutenant Gordon Rossow, Psychologist, first grade; he, and hundreds like him, trained for years in human and alien psychology and then attached to the fleet. Old line spacemen like Deckert might not admit it but battle tactics and theory had undergone a gradual change since the addition of the "specialists." Terra, Rossow thought proudly, didn't win her wars with her weapons. She won them with her wits.

Deckert didn't think so, of course. He was one of those antispecialist boys who thought that specialization was a blind alley. Yet, it was the specialists who fought and won the

wars nowadays. Die-hards like Deckert just didn't want to admit it.

Sector Commandant Llnonwiss polished his fingernails and idly hummed a tune. He felt quite lucky. The engagement had been phenomenally successful. The ideal battle—complete annihilation of the enemy in the shortest possible time with the minimum loss in personnel. It was like one of those ideal situations that they taught you in school; perfect to illustrate techniques and tactics but not to be expected in real life. But here it was, it had actually happened.

They had been on patrol near Ataxa when the first, faint warnings of an approaching fleet had sounded on their detectors. They had circled behind Ataxa until the enemy had drawn up closer and then there had been no hesitation. This was no fleet of cargo vessels being convoyed across the galaxy; the gun blisters and ray ports had given the lie to that. Nor did he stop to certify who they were and whether they were friendly or not. One disastrous incident like that had happened in the far past and history books were still cluttered with accounts of the carnage they had caused. If they were not ships of Ataxa, they were alien. And if they were alien, they were—by definition and past experience—unfriendly. They might not know there was a civilization near Ataxa. They might go straight through the system and never investigate. That was their tough luck. As sector

commandant, he couldn't afford to take chances.

Ergo, the ambush. One small vessel had been saved for scientific purposes and also to put on display before the populace so they would see that tax money for the fleet was money well spent. He had granted them a delay in surrender, which was annoying, but the reasons they gave for it had been substantial.

He scratched his face thoughtfully. Ambush had its bad points. It would have been nice to know what type weapons the enemy had. Most of their ships had never had a chance to use their weapons, whatever they were. And, of course, he knew nothing of their scientific development. That was inconvenient—and potentially dangerous. True, they could find out from the small vessel but there was a lot they could hide. And then there was the race of beings themselves. He couldn't hide a ripple of revulsion, remembering the tentacled methane-breathing creatures who had stumbled upon Ataxa in the remote past. Even granting that accounts had been exaggerated in coming down through the ages, the creatures must have been horrible. And the enemy in their small, needle-shaped vessel had responded when they had used the methane-creatures code. They might not be the same creatures, of course, but then again, you couldn't tell. And the code itself was so limited! You couldn't express anything complicated—about all you could do was

ask for surrender or give simple instructions.

His aid-de-camp stuck his head in the hatchway. "Crewman Sorekk to see you, sir."

"Find out what he wants and remind him for not going through channels."

"He says it's urgent, sir, and he has something he thinks you should see personally."

Commander Llnonwiss was annoyed. That was the trouble with this new "democracy" in the fleet. Every man aboard from cook to captain thought they could drop in on him any time they liked. It was probably something political, too.

"All right, show him in."

Crewman Sorekk was breathing heavily, apparently having run from his post to the commandant's office. He was a thin, young-looking fellow, with yellow hair and brown splotches on his face. But it wasn't his appearance that was of interest—it was what he proceeded to put on the commandant's desk.

The sector commandant carefully inspected the thing, rearranging his magnifying eye-shield to obtain a better focus on it. To all outward inspection it was a cube; a metallic, highly polished, cube with no projections or openings of any kind. A featureless cube of metal, not too heavy since the crewman had shown no difficulty in carrying it, and with tracings of frost on the six faces. A few drops of water that had condensed on it ran down the edges and

soaked into the commandant's blotter.

The commandant looked at it suspiciously, inspected it again, and finding nothing more than he had observed the first time, asked the obvious question.

"Where did you get this?"

"I was on watch, sir, at port fifteen facing the enemy ship. I saw a flash of light from one of the enemy ports and a second later a small metallic body registered on our detectors. I let it in the field, since it didn't explode or anything, got the magnetic grapples and brought it in. I thought it might be important so I brought it straight to you, sir."

Commandant Llnonwiss showed his teeth in a smile that had no connection with anything funny. Naturally, if it was from the enemy ship it was important. More than likely, crewman Sorekk wanted to make sure that any credit for its discovery would go to him, and not to his immediate superiors.

"What's your full rank?"

"Just crewman, sir."

"All right, Sorekk. Report to detention quarters and tell them you're to be put on bread and water for one week. After that you're to be reduced in rank and sent back on planetary patrol for willful negligence of duty."

He paused, giving a red-faced, sweating crewman Sorekk time to start mumbling questions as to why.

The commandant leaned his knuckles on the desk and looked very solemn.

"I suppose you want a reason. You brought an object from the enemy vessel into our own without the most cursory examination, neither did you inform your immediate superiors of the find or handle it through regulation channels. On top of this, you left your post without permission during a state of war. You should be thankful that your punishment is as light as it is. Don't forget, Sorekk, that we know nothing about the enemy out there. This cube might be—anything.

"On your way to detention, stop by the chief scientist's quarters and tell him I want to see him immediately. And incidentally, Sorekk, it won't do you any good to see your political representative on this."

He turned away from the youth and stared thoughtfully at the cube. Knowing nothing of the enemy, he couldn't begin to make the slightest guess as to what the cube was. It might be a message in some outlandish, alien fashion, or it might be a gift, an offering of some kind. It might be any one of a number of things. Whatever it was, there had been some reason for sending it over.

The palms of his hands suddenly felt sweaty.

It might be a weapon.

It didn't add up, though. The enemy couldn't possibly think of continuing the fight; their ship was almost hopelessly wrecked and they had even asked for a delay in their surrender because of casualties.

Even so, the first thing that should

have occurred to him was that this was a weapon. It was perfectly possible that the cube was entirely innocent. It was also possible—and far more logical—that the truce had been a stall so they could fabricate this and send it across.

It was ridiculous, of course—and they didn't stand a chance.

But he knew nothing about them, what they were, or what their science was. This was a case of being confronted with the devil that he didn't know. What he didn't know about the cube, of course, was hardly sufficient grounds to blow the small enemy ship to atoms. The paradox of needing "grounds" for small actions when they were so completely rationalized and explained away for larger actions escaped him.

He was ignorant of the capabilities of the remaining enemy ship and in his ignorance, he overestimated.

When the chief scientist showed up a little later, he was intrusted with a metal cube, approximately one stat on a side, and told to find out what it was.

"If it's a message of some kind," the commandant said, "I want to know what it says. If it's a container, I want to know what is inside. And if it's a weapon, I want to know what kind it is and I want it made harmless. And I want to know in less than one time period."

When the chief scientist had left, carrying the cube in a somewhat gingerly fashion, the commandant tried to dismiss it from his mind.

He couldn't quite succeed.

Rossow slowly stripped off his tunic, filled a basin with some water from a leaking water line nearby, and started to wash the caked blood off his left arm. He would do what he could himself; the medical men were busy with far more serious cases right then.

There was a gash in his arm—not serious—where he had apparently run into a sharp ledge or corner during the ten confused minutes of combat. He winced when the water touched it.

Deckert stood in the corner, moodily staring at the star-studded screen of the viewplate.

“Relax, Deckert, the dangerous part is past. They took the cube aboard their ship two hours ago. If the plan were going to fail, it would have failed then. Once on board, we stand a good chance of it succeeding.”

“How soon do you think it will be before—?”

“I don’t know. It shouldn’t be too long.”

There was a silence for a minute. “If I understand it,” Deckert said, “you can only deal with what, to you, are facts. You say you cannot guess or gamble. To you, people and aliens react to situations as surely as a rocket reacts to the pressure of a thumb on the firing stud. But different species react differently in the same situation. You have to know who the enemy is. And this time you don’t. It’s true they know nothing about us—but neither do we know anything about them.”

The lieutenant started tearing his undershirt into inch strips to wrap around his arm.

“But we do know who they are, Deckert. I didn’t at first, but they left their calling card in their actions. Our enemy out there”—he waved at the battleship in the viewplate—“is basically as human as you or I. You know yourself that alien races can be catalogued into certain broad classifications, dependent on their basic psychology. I’ll admit that we have no records of anthropomorphic races in this sector but then it’s never been thoroughly explored, either.

“Add it up. The tactics they used during battle could only have evolved from a background like that of our own. The use of the ambush, even the basic idea behind the ambush—of ‘shooting first and asking questions later’—is strictly a development of our type of species. And then there is the fact that they let our ship survive.”

Deckert looked puzzled. “Where does that fit in?”

“Consider. Having overwhelmed us and destroyed us in their ambush—before we could effectively bring our own weapons into play—they know nothing of our science and our weapons. With the utter destruction of the other ships, it’s extremely improbable that enough of the human crew who manned them are left to identify.

“The use of the ambush alone tells us a lot. Obviously they haven’t had much contact with alien races and what they have had has been bad for

them. And they don't know us—they know nothing about us; which is, incidentally, decidedly in our favor. We would be valuable for that reason alone. But there's another, far more important one.

"When you win a battle, Deckert, particularly one as big as this, it is neither glamorous nor satisfactory to parade, as the only sign of your victory, a sheet of statistics and maybe a fused lump of firing tube from one of the enemy ships. But if you have a complete ship—and captives—your glory is much greater and the victory is a much more tangible thing. It means something when you can show the populace some six-legged monkey-men from Aldebaran whom you just blew out of the ether and thus saved your fair system.

"While we're alive, we're dangerous, Deckert. And there's only one type of race that would run the risk of letting us live just to satisfy their own ego. Our type."

"That sounds real good," Deckert said. "Just like circumstantial evidence in a trial. Even though it may all point to a man being guilty, that doesn't mean he is. And all of this sounds logical but that doesn't mean that's the way it's going to be.

"You're too confident, Rossow. What happens when you don't win?"

Rossow smiled. "But we always do."

Chief Scientist Vvokal gratefully accepted the chair offered him and proceeded to sponge the sweat off

his face with an already sopping handkerchief.

Sector Commandant Llnonwiss offered him a drink and took one himself. The man was unstrung, which was a good sign. Apparently, whatever the cube was, it had been unpleasant. It must have been to have affected his chief scientist this way. But obviously, to have known it was unpleasant, meant that he had found out what it was.

"What did it turn out to be? Some sentient form of life of some kind?" That was meant as a joke, to take the edge off Vvokal's nerves.

"It could be. We don't know."

The commandant was very formal. "I thought I gave you specific instructions to find out all you could about the cube?"

"Don't you think we tried? We went as far as we could—and don't dare go any further. So far as we know, it is no message. We went over the exterior of the cube very thoroughly. There is no writing or imprinting of any kind. There are no projections, knobs, or concealed buttons or studs of any type on the cube. Externally, it is a cube of about one stat on a side, of a highly polished metal. We massed the cube and found its mass to as many figures as you care to mention. We then took a very small sample of metal from one of the corners—where it can be assumed the metal is thickest—put it in an electric arc and made a spectrographic plate. From this analysis we found the type of metal the cube was made of."

"All of which is very elementary," the commandant interrupted. "And what then?"

Vvokal brushed again at his sweaty face. "Knowing the metal and the mass of the cube, we determined that the cube was not of the same metal throughout."

"Brilliant. I take it that it was hollow?"

"Or was made of this metal only for an undetermined depth and had something else from there on in."

"I assume you opened it and found out?"

Vvokal took a deep breath before the plunge. "I had one of the crewmen stand by with a torch to open it when it occurred to me—as it must have to you—that this could be a weapon. What kind, I had no idea. Possibly the cube contained some kind of disease germ or fungus that would decimate all aboard this vessel."

Commandant Llonwiss sat down. It very easily could have.

"Or more than likely—and what would have been the cream of the jest—it was some kind of weapon that would explode on being tampered with . . . that is, on our attempts to open it. Knowing nothing of their science or their weapons, I can only assume what the explosive power might have been."

The commandant whitened. "There must be other means of finding out the contents of that cube besides cutting it open, Vvokal."

"Quite true. We tried X-rays on it with no result. Exposed plates

showed nothing but the foggy outline of the frame we had put the cube in. We were about to try some other forms of penetrating rays when again it occurred to me that it might be some kind of radioactive weapon. Something, say, that would explode on being subjected to hard gamma rays or whatever we might use. There is no way of telling, frankly, the methods they might assume we would use in opening the cube and thus the different conditions the cube might be primed for."

"You tried still other ways?"

"Yes. Do you want me to enumerate?"

"No need. I can well guess what happened."

It was obvious what had happened. With each new line of inquiry the technicians working on the cube had thought of the possible hazards connected with it—and naturally dropped that line. It wasn't that they were cowards—far from it—but neither could they bring themselves to endanger the entire vessel and the several thousand of personnel aboard.

He could call for air from the other ships that had departed two time periods back—but no, that was out of the question. He couldn't possibly call them back, present them with the cube, and state that it constituted a major threat for the ship.

So what was he going to do?

"In other words, we can't open it or otherwise find out what is in it?"



"That's correct. I suppose you *could* open it," Vvokal paused to dab at his face again, "but I wouldn't advise it. You don't know how destructive it might be. And it seems too big a chance to take on it *not* being destructive. A weapon, of some kind, is the most logical thing they would send over."

"What are you doing to it now?"

"Nothing. We have it in a well-padded, temperature-controlled container, carefully shielded against stray radiation—"

Well, that would be the next logical step. If they couldn't destroy it, protect it. Vvokal reminded him of

nothing so much as a person trying to do mirror-tracing and ending up in a haze of indecision, afraid to go either ahead or backwards.

Their method of approach had been very logical—and very tiring. After all, there was no necessity of assuming it was a weapon. But he couldn't risk a ship and all the personnel aboard—including himself—on the assumption that it wasn't.

There was a very simple answer

"What's to prevent us from sending it back to them?"

Vvokal sagged in his chair. "Nothing, I suppose, except our own logic and imagination. The cube was sent through space—cold, airless

space—to our ship. The cube could have been primed with that set of conditions so that when it was exposed to them again it would—explode. Or suppose that there is some sort of apparatus within the cube that is recording the type of machinery that we have on board—they could do it through vibrational analysis—or the living conditions as to temperature and pressure, composition of the atmosphere, and things of that nature which could tell them an enormous amount about the type of life aboard. On releasing the cube or sending it back to them, they would then come into possession of that information.”

“You’re overwrought — imagining things. Granted that it was the latter, what good would it do them?”

And immediately afterwards, he was sorry that he had asked it. How was he to know what good it would do them? He knew nothing of their science or weapons. Information of that kind might do them an enormous amount of good.

Vvokal got up. “What do *you* advise, commandant?”

He didn’t know. It would be risky business indeed to try to open it—or to send it back.

They were at quite a disadvantage—they knew so little about the small ship they had “caught.” And how he wished that he had destroyed it along with the rest of the fleet!

But there was still the immediate question of what they were going to do with the cube. They could, of course, just leave it sit and wait it

out. But that was illogical, too. It must have been sent over for a purpose. What was it? And he knew they just couldn’t leave it sit. A small part of his mind was sidling up to an assumption that so far he had refused to face.

A quite terrifying assumption.

Black queen on the red king would probably win the game. Rossow slipped the card out from between the other two and placed it on one of the neat piles of cards in front of him.

“You even *have* to win at solitaire, don’t you, lieutenant?”

Rossow flushed and angrily shoved the piles of cards into one big pile and started shuffling them.

“Time elapsed is forty-eight hours, Deckert, and nothing’s happened to us yet.”

“Uh-huh. What do you think they’ve done so far?”

“Tried to find out what it is—and haven’t succeeded. It’s probably occurred to them that we sent it over for a purpose. It’s probably also occurred to them that it’s a weapon.”

“Why don’t they just send it back? That would solve everything for them.”

“They won’t.” He dealt out another hand of cards.

“Why not? That would be the logical thing to do.”

“Because they’re suspicious. Because they know nothing about us. And because they—like us—are gifted with an imagination. I’ve considered that they might decide on

some course of action and gamble on it—but nobody gambles when they don't know the odds and haven't any way of finding out what they are. They won't send it back because they'll think of too many reasons why it would be dangerous for them to do it. I don't know what the reasons will be but to them they'll be good ones."

"And what happens then?"

Rossov smiled. "Wait and see, Deckert. Wait and see."

Sector Commandant Llnonwiss hadn't been out of his clothes for three time periods. During that time he had accomplished nothing but the ruining of a good shirt with perspiration and the adding of a few more ulcers to an already too tender stomach.

The morale situation had slipped unbelievably in the last few periods. The crew, of course, knew they had a weapon of the enemy aboard. That could've gotten out easy enough. And they also knew that the commandant and the technical division didn't know what it was. That was the bare skeleton that rumor had rounded out to terrifying proportions. And there was nothing that he could do about it. To deny it would actually confirm the fact that they had *something* aboard. To confirm it—and not be able to state what it was—would add fuel to already flaming fires.

And they still didn't know. The entire technical staff sat like a collection of brass monkeys, using more

imagination than intelligence, trying to figure out what was in something that they couldn't open and couldn't subject to any scientific tests, outside of ones that were too elementary to tell them anything of importance.

They couldn't open it, they couldn't get rid of it, and they couldn't destroy it. Or could they? He considered the idea thoughtfully and tentatively tried to poke holes in it. It seemed like it would work.

"What would be wrong," the commandant said slowly, "with ejecting the cube into space and then destroying it from a safe distance? We could put it in some kind of container to keep it under the same conditions as to the interior of the ship."

Vvokal was on the verge of collapse. "Any number of reasons. Shock of initial ejection from the ship, danger of enemy recovery—choose your own. And if you did explode it, what would be a safe distance?"

The commandant was nettled. "Aren't you overemphasizing this weapon—if it is a weapon? If it's so powerful, why wouldn't it have exploded when we destroyed their fleet—and destroyed us along with them?"

"You should know the answer to that, commandant. Weapons of this type wouldn't be primed until they were going to be used. And don't forget, commandant, that it wasn't *our* superiority in weapons and science that won the battle. It was their own surprise."

They settled back in mutual silence, the commandant chewing mo-

rosely on a plastic marking pen. Gradually his mind came back to one more assumption, the one he had been hoping to avoid. He finally voiced it, hoping that Vvokal would prove it to be an illogical one.

"If it's a weapon, Vvokal, isn't it logical that it would be a time weapon? That is, one set to detonate after a certain lapse of time?"

Vvokal nodded.

Well, that was the most logical assumption of all. He should have thought of it before—he *had* thought of it before but purposely hadn't pursued it. Whether he considered it now or even if he had considered it sooner still left him in the same position.

"That means we can't keep the cube, we can't destroy the cube, and we can't send it back." And he couldn't ask the rest of the fleet to succor him—he wouldn't have the time.

Vvokal sadly affirmed this, too.

Silence.

"Of course," Vvokal suggested, "there's something we can do. Obviously, the enemy knows what it is. Obviously, they can 'defuse' it."

"Under certain circumstances," the commandant said sarcastically, "I suppose they would."

He glanced sourly at the cube, its shiny sides glinting through the glass walls of its temperature-controlled container.

"It's ridiculous, Vvokal! A battleship doesn't surrender to a tugboat!"

"They would probably be satisfied with just their own freedom."

"So they can go back to their own system, get help, and then come back and destroy us and our civilization? That's out, too."

Vvokal leaned back in his chair and stared at the ship's chronometer.

"What time do you think the cube is set for, commandant?"

The commandant felt the sweat pop out on his forehead. What time *would* it be set for? What would be the right psychological time?

He looked at the cube for the thousandth time and tried to picture the race that had made it. What incredible monstrosities they must be!

Actually, he had no time left to figure out the riddle of the cube. And with no time at all left to him, he forced his mind to a slow walk and considered the cube from the very start.

This network of assumption piled on assumption, the constant application of tension until neither he nor his staff could think logically, their suspicions and jitteriness—none of this made for calm consideration of the problem.

He would forget the assumptions that he and Vvokal had made and deal with what few facts they had. The *cube*—in itself—was not important. The *situation* was.

"Well, Deckert, do I win?"

"They haven't surrendered or let us go yet."

"But they will. We've lasted sixty hours and nothing has happened to us yet. They must have assumed by now that it is a time weapon—if

they had made that assumption at first, we would be on our way home by now. But it was inevitable that they would make that assumption sometime. And by now they must have exhausted all their ideas on the cube. The crew probably knows—maybe not much, but enough to ruin their morale. And the staff knows that time has run out. It can't be long now."

"You took a pretty long chance, didn't you Rossow?"

"Not too much. Think. They're humanoid, they have the same failings that we have. They'd be curious—which would make them take the cube aboard—and they'd be suspicious about what it was once they got it aboard. And then consider that they knew nothing about us. A race is at its best in fighting what it knows—but against something that it knows nothing about but suspects the worst of? And consider the ambush. If they ambush aliens, without trying to find out whether they are friend or foe, it means they've had some pretty tragic scrapes in the past. Combine these, Deckert, and then present them with the cube. Could you have conducted an impartial, scientific investigation of it? No, you couldn't have—and neither could they. Whatever they did, they had the specter of an unknown, powerful, alien race staring them in the face. And knowing nothing about us, they would overestimate our abilities. And with each succeeding failure on their part, our stature would

grow and their process of logical thought would weaken."

"Just what was the cube anyway?"

Rossow laughed. "It was the one thing that would momentarily stump them, the one thing that would prevent them from having initial success in discovering what it was. We needed just one small failure on their part, a failure that would plant the seed of uncertainty in their minds.

"The cube was of very simple construction, Deckert. Quarter-inch steel, highly polished on the outside, with a relatively thin coating of lead on the inside. And on the inside of that was the one thing that would be bound to escape initial detection—nothing."

It had been a very simple scheme, as such things go. An empty metal cube that would win a war—provided your enemy was equipped with an imagination.

Rossow started filling two glasses with a bubbling liquid from a quart bottle. "Let's drink to imagination, Deckert."

They just had the glasses to their lips when the seaman rushed in.

"Begging your pardon, sir, but I was on watch just now watching the enemy battleship when I saw a flash of light near one of their ports. A second later something hit our hull and I put on a suit and went outside and took it in. Thought you'd be interested, sir."

It rolled a little on Rossow's desk and then balanced itself to a halt. It was a shiny sphere of metal; pos-

sibly a foot in diameter. There were no external projections of any kind. A few drops of water that had condensed on it rolled down the sides and glistened on the linoleum desk top.

Rossow's glass shattered on the deck.

It could be a gag like his had been—but he couldn't be sure. He couldn't be sure because he didn't dare open it, or destroy it, or get rid of it, or keep it. He couldn't do anything. He couldn't fight because there was nothing he could fight. And yet he had to fight because if he didn't fight he'd have to surrender or concede defeat and yet he was conditioned so he couldn't surrender or concede defeat but he couldn't open the sphere or destroy it or—

The shiny surface of the sphere caught a reflection of Rossow's face and the curved portion made it look all wrong, not nearly as happy as his gales of laughter made him sound.

Deckert watched him silently for a minute and then buzzed for the security watch. Two of them took Rossow away and the third turned and saluted him smartly before leaving.

"Any further orders, captain?"

He was the highest ranking petty officer left. He was the captain now and it was up to him to solve the problem that had driven Rossow insane.

A whisper of Rossow's laughter floated up the companionway and Deckert slammed the hatch. Poor

Rossow. The specialist had gone up the same blind alley that the saber-toothed tiger and the dinosaurs had taken. They couldn't adapt. Rossow had been trained to handle almost any situation but he couldn't handle the stalemate he had found himself in. What was it the psychologists called it? Situation thirty—the final situation.

Rossow had been conditioned so he couldn't take chances but that didn't apply to Deckert. It was all very simple, really. The sphere was probably a trick, like theirs had been. True, it might be a weapon of some type and it might do anything at any time. But there was a fundamental difference between the enemy battleship and themselves. If they opened the sphere and it did explode, it wouldn't change their material position a bit. They had been on the losing side at the very beginning. They had nothing further to lose now and everything to gain.

He felt pretty good about it. He'd give odds that the enemy had tried a trick as their last resort. But it wasn't going to work and the beauty of it was, it would still leave them in their agony of indecision. An agony, he suddenly thought, that he didn't have to prolong any further.

"Yes, there is," Deckert replied. He pointed to the sphere. "Take this to the shops and cut it open with a torch. Let me know what's in it, if anything. Then call the enemy ship and give them ten minutes to surrender."

THE END

BOOK REVIEWS

"The Kid From Mars," by Oscar J. Friend. Frederick Fell, Inc., New York. 1949. 270 p. Front. \$2.50

"The Kid From Mars" is far from top-level science fiction. The title speaks for itself. This is science fiction of the old school, plotted and written on the level of a Tarzan movie, and with about the same Hollywood possibilities.

Tiz-one-two-ought-ought-Vix-four-seven-nine-eight-nine (Llamkin for short—with every possible change rung on the name) is a Martian of Flash Gordon style, bred as an emissary to learn the secret of mankind's sense of humor, which is needed to permit his declining race to die gracefully and with a wan smile. Taken to be merely a publicity stunt of Tri-Dimensional Pictures or Rainbow Slumber Vitamin Pellets, he falls instantly in love with Tri-Dimensional's beauteous star—presented in a frontispiece by Virgil Finlay—is hounded by Rainbow ty-

coons and Communist spies for the secret of his spaceship, plays straight-man to a bibulous sports writer, and eventually has to kidnap the entire cast, including the President of the United States, by way of convincing the world of the sincerity of his mission.

This is one of a series of science fiction novels, scheduled to appear monthly and written by such men as Edmond Hamilton, Frank Belknap Long, and Murray Leinster. Although there is certainly a need for books which will attract the non-initiates, it is to be hoped that the corn will have a little more ferment in it in future.

P. Schuyler Miller

"The Last Space Ship," by Murray Leinster. Frederick Fell, Inc., New York. 1949. 239 p. \$2.50

Fell's Science Fiction Library,

which got off to an auspicious start with "The Best Science-Fiction Stories: 1949," is continuing with a series of novels by well known science fiction authors. The second of these, "The Last Space Ship," is an expansion of Murray Leinster's magazine one-shot of 1947, "The Manless Worlds." It is smoothly written interstellar and intergalactic adventure of the old school—a foregone conclusion, really, for there are few more experienced and more expert writers than Leinster.

The story takes us some thirty thousand years into the future when the so-called Disciplinary Circuit provides a grim and apparently absolute mental and physical control of mankind by making it possible for autocratic rulers of various kinds to enforce their edicts through torture and death, mechanically and automatically administered. Teleportation, while opening the galaxies to human colonization, has made mere spaceships obsolete—museum specimens. It is the last of these relics which Kim Rendell steals to make possible his own escape from the Circuit and its manipulators, and eventually a new birth of independence and freedom for the "criminals" who have resisted its despotism.

This is a prime example of what cynical fans long ago dubbed the "thud-and-blunder" yarn—but, with Murray Leinster writing it, it is without the blunder. "The Last Space Ship" is a fast-moving space opera which should lure neophytes

into the field and encourage them to try more mature and ambitious fare.

P. Schuyler Miller

"The Cosmic Geoids and One Other,"
by John Taine. Fantasy Publishing
Co., Inc., Los Angeles, Cal. 1949;
179 pp., ill., \$3.00

It is difficult for me to believe that John Taine wrote this book. That is not categorically to condemn it as bad Taine. The "one other" of the volume, a novelette titled "Black Goldfish," is, I believe, the weakest thing Taine has ever done; but the puzzle this volume presents is the widely divergent styles of the two stories, and their major deviation from what Dr. Bell has done before. Briefly, if the name of Olaf Stapledon—he of the macrocosmic concepts—had been attached to "The Cosmic Geoids," and "Black Goldfish" had been presented as by simple story-teller David Keller, I would more readily have believed the authorship.

John Taine originally named the title story "The History of the Cosmic Geoids." The agent suggested it be changed to "The Mystery of the Cosmic Geoids." The publishers excised both qualifying phrases.

The Geoids are records of a pre-human, extragalactic civilization which foresaw its end five million years in advance and scattered broadcast throughout the Universe

hundreds of millions of "man"-made meteors bearing messages to other intelligences. The first geoid was found on Earth in 1879, and by the Twenty-second Century forty-four in all have been uncovered and partially deciphered. But the science of the geoids' creators, the aeons-dead Eosians, was so incredibly complex that the main body of information baffles the best minds of Earth even three hundred years hence. And the inkling gleaned from the imperfect translations leads the Alliance of World Scientists to believe that vital information applicable to "present" precarious conditions in the cosmos is contained in these bowling balls from the bowels of the Universe.

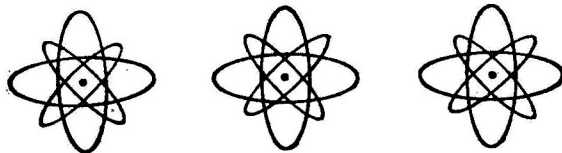
There is an astonishing development when one scientist secretly realizes that all the geoids were not the handiwork of Eosians in agreement. One set of messages, in fact, seems to condemn the purely scientific intelligence, denies that high-mentality life is worth while and urges a nihilistic acceptance of extinction on any thinking race faced with destruction from Outside. "Die!" recommend the Renegades of billions of years ago. "Life is only a torment to its possessors. Let the

tortured Universe be quit of this plague."

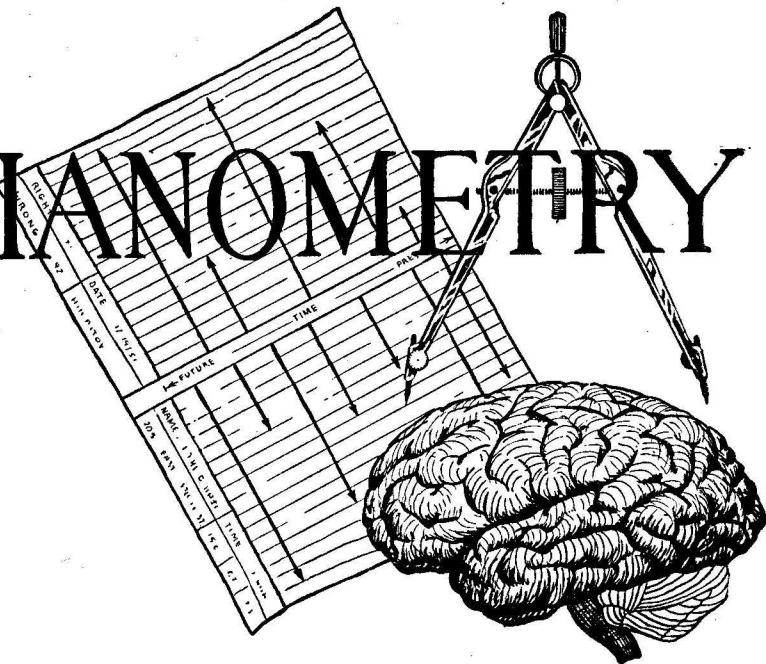
Taine has, consciously or unconsciously, created a truly *Stapledonian* story with his Controllers of Life, Fully Living, Living Dead, Hopeful Monsters, the Renegades, internecine warfare of half a million years duration and other alien and awesome concepts. Story?—no, atmosphere, for there is very little story here, very little of human interest. There are long dialogueless tracts, and the brilliant interplay of characters and emotions, purposes and counter-purposes expected in a Taine work are only occasionally in evidence. The body of the narrative is deep stuff, to be read slowly and digested carefully: "Geoids" is not a fast-action yarn that can be raced through like "Quayle's Invention" or "The Forbidden Garden," but must be contemplated at a pedestrian pace.

The less said about the supplemental "Black Goldfish" the better. Its seventy-seven pages is not even particularly interesting to readers seeking quasi-Keller. The science—involving a couple imaginary vitamins—is slight.

Forrest J. Ackerman.



DIANOMETRY



BY L. RON HUBBARD

Presenting a little different approach to the problem of a man's worth to Man. Consider two intelligent, extremely able men, for instance — Adolph Hitler and Thomas A. Edison. Both brilliant, both highly successful . . . but there's more to a man than intelligence and drive!

Illustrated by Miller

Dianometry is that branch of diagnostics which measures thought capacity, computational ability and the rationality of the human mind. By its axioms and tests can be established the intelligence, the persistency, the ability, the aberrations and existing or potential insanity of an individual.

Dianometry is "thought measure-

ment," derived from the Greek for thought and, unscholarly enough, the Latin for mensuration. It has the virtue as a word, of being swiftly understood. It has the virtue, as a part of dianetics, of answering such questions as the following:

1. Are you "sane"?
2. What is your native and inherent ability?

—Your Ability and State of Mind

3. How long will it take to restore your native ability by dianetic processes?
4. What will be your status when cleared?

By archaic definition, sanity was the ability to tell "right" from wrong." In the absence of precision definitions of what was "right" and what was "wrong," many Homo sapiens have been imprisoned or executed for crimes which were "virtues" in one society and "criminalities" in another. The confused "definitions" in law were exceeded only by those classifications which existed for "insanity" in the field of medicine. Over fifty widely variant codes of classification exist for the definition of various "insanities"; each one is simply a description;* for not knowing the source, and with scant knowledge of the nature of mental function, those working in the field of insanities were, like those

* "... the work of the psychiatrist was taken up mainly with describing and classifying symptoms. This procedure has been strongly criticized by some students on the ground that it leads nowhere and encourages a false pretense of understanding where there is none. Giving a name to something does not increase our understanding of it. Introduction to "The Psychology Of Abnormal People," John J. B. Morgan, Ph.D., a standard pre-dianetic textbook.

engaged in law, involved in continual controversy.

Insanity can be of two kinds: acute and chronic. An acute insanity we can think of as one which flares into existence for a few moments or a few days and then subsides, leaving a relatively normal person. A chronic insanity is one which, having appeared, does not subside but holds the individual in an abnormal state. Each has the same genesis, the engrams, and each is decidedly harmful to the individual himself and to society.

The acute insanity is most commonly seen in a rage or a tantrum. It is no less an insanity because it subsides. An engram has been momentarily restimulated so that the individual is temporarily bereft of his analytical mind. When so bereft of analytical power he may do numerous things, as dictated by the engram in restimulation. He may even murder or commit mayhem which, afterwards, will cause him to be punished by society.

The chronic insanity is an acute insanity with the time factor lengthily extended. Most chronic insanities

are, of course, complications of several engrams. The more often these insanities are restimulated, the more chronic they become unless they are more or less "permanent" (pre-dianetics).

Here we have a spectrum at work. Measured by time of restimulation and degree of harmfulness to the individual himself or society we have gradations from intense and perpetual restimulation of engrams, through occasional restimulation—normal—through the dianetic release and to the dianetic clear, the optimum level of rationality. The clear is not subject to "restimulation" because he has no engrams which can be activated.

Degrees of sanity are possible. The term is very loose, however, and is not susceptible to the exact formulation desirable in an exact science. Sanity is too highly relative even for scientific use. For instance, a sailor who, in battle, functions well, obeys orders and kills members of the armed forces of the enemy is sane in battle. He may, however, be so insane ashore that he earns countless courts-martial, creates enormous trouble and may even have to be incarcerated to protect himself and his society. Another sailor may be so eminently sane ashore that he is rated up to petty officer, is given responsibilities, is depended upon by his superiors utterly and is generally looked upon as a model for all recruits. In battle this sailor may take one look at the kamikazi, desert the gun which might have saved his

ship, dive into a magazine full of explosives and be found, some hours later, when people are trying to get the vessel underweigh again, smoking chain-fashion and lighting his matches on lead azide fuses. The second sailor is sane ashore and insane in action. It depends, when one deals with aberrated persons, what kind of sanity one requires and what kind of insanity will not be detrimental to the job. In a navy which is meant to fight battles, the first sailor is infinitely more valuable than the second, swivel chair bureaucrats to the contrary, but it is the courage, not the aberrations of the first which made him of worth.

Unless one has some idea of mental function, the problem of sanity is a tangle of unpredictable factors. A person who is aberrated may be restimulated into acute insanity in the very environment in which he is ordinarily sane. Viewpoint and changes in the environment itself shift. When one knows mental function, the degree of sanity of a person can be established. In any case, sanity, where one deals with any normally aberrated person, is a relative term. There is a dianometric definition about this:

Sanity Is The Degree Of Rationality Of An Individual.

Rationality is defined as follows:
Rationality Is The Computational Accuracy Of The Individual Modified By Aberration, Education And Viewpoint.

Complete rationality could then be defined:

Optimum Rationality For The Individual Depends Upon His Lack Of Aberration And His Accurate Resolution Of Problems For Which He Has Sufficient Data.

By computation is meant his ability to resolve problems.

The resolution of all problems is a study in rightness and wrongness. Dianetically speaking, there are no attainable absolutes. The formidable Absolutism of metaphysics — which the grammarians with their absolute definitions for “accuracy” or “true” attempt to compel us to use — is a scientific outcast of some duration. The entire problem of getting right answers and wrong answers is a problem of degrees of rightness and wrongness.

Old Aristotle reputedly held out for two-valued logic—at least that is the way he is interpreted. However, the world received quite an advance when Aristotle resolved and formulated some of the problems of logic. Before Aristotle there was *one*-valued logic, the will of the gods. Man acted because he was forced to act. Aristotle, a wild-eyed radical, came along and insisted Man had a right to be right or wrong according to the dictates of circumstance. Man had a choice. If Aristotle went off into that mathematician’s land of Never-Never, the syllogism which, in abstracts, seeks to evaluate concrete entities and proves only what it assumes, he still advanced ideas about thinking. Lately Man has considered logic to have three values—

right, maybe, and wrong. None of these systems of logic begin to encompass what the fabulous computational ability of the mind encompasses minute by minute. Logic could best be explained in terms of an infinity of values. From the theoretical but unobtainable ABSOLUTE WRONG, solutions can be graded through a theoretical midpoint of neither right nor wrong to a theoretical but unobtainable ABSOLUTE RIGHT. (See graph.)

The mind computes on the yayanay principle. It resolves numbers of simultaneous equations by running each one, evidently, on at least three computers at once. It runs as many as a thousand factors at once. And it does it, apparently, upon the simple formula $A > B = A$, $B > A = B$. Thus if eating an apple is less right than not eating an apple, the decision is to not eat the apple. If not eating an apple is less right than eating an apple, the decision is to eat the apple. There is no ABSOLUTE RIGHT or ABSOLUTE WRONG about eating an apple. On the sole consideration that a worm *might* be in the apple, a two-valued, right, wrong equation breaks down. Around one simple act the mind may run fifty or a hundred computations or may draw upon a past computation’s conclusion which, however, was once run. Acts or solutions are either more right than wrong—in which case they are right. Or more wrong than right—in which case they are wrong. Right and wrong greater-than less-than computations are run

off on hundreds or thousands of variables by the mind to make up one solution.

Life is a complex affair. Computation has to be close to as complex as life or survival would long ago have ceased for Man, that high organism who depends for progress and weapons upon his mind. Thus his mental processes are constant evaluations of data in relation to their importance to the immediate solution, and constant evaluations of these conclusions to formulate decisions. Thus his computer is in constant action, thus he is continually involved in re-evaluation of both old data and old conclusions in the light of new data and new conclusions. The principle of *how* he thinks is simple. It is only that he handles so very, very many computations at once that makes the principle seem complex.

Now the only reason we take account of logic here is to orient the problem of rationality and how one goes about determining whether or not a man is rational.

An *ultimate* wrongness for the organism would be *death*, not only for the organism itself but for all involved in its dynamics. An *ultimate* rightness for the organism would be survival to a reasonable term for himself, his children, his group and Mankind. An ABSOLUTE WRONGNESS would be the extinction of the Universe and all energy and the source of energy—the infinity of complete death. An ABSOLUTE RIGHTNESS would be the immortality of the individual

himself, his children, his group, Mankind and the Universe and all energy—the infinity of complete survival. *Ultimates*, in this sense, are attainable and there are various ultimates of greater or lesser importance. Any ultimate would contain some destruction or some construction.

Viewed in this way, the problems of logic compute easily and well. A scientific *truth* would be something which was workably and invariably right for the body of knowledge in which it lay.

One of the reasons very right, slightly right, very wrong, slightly wrong, very true, rather true are used here instead of circumlocutions with new words—such as, for very right, “containing more right factors”—is that the scientist who, after all, fairly well runs this present world, has long since cleaved from metaphysics. Hegel, great man though he was, and Kant, with their metaphysical ABSOLUTE went so far as to deny Piazzi’s discovery of the eighth planet, inhibited the acceptance of Ohm’s law, proved Newton “wrong” and generally did things which, if they were necessary to maintain the Great God Absolute, nevertheless hindered scientific progress. “Truth beyond the realm of human experience” sounds well and is an authentic route for some things, but it doesn’t make washing machines run or raise better chickens or send any rockets to Mars: in short, Absolute Truth is a foreign substance in this highly integrated

The Evolution of Logic From Ancient to Modern Times

Ancient	Aboriginal Logic Exists As The Logic of $\frac{2}{3}$ World's Population Today as "Fatalism".	One Valued Logic No Decision. All Action Based on "The Will of Fate" No Right - No Wrong
Dark Ages	Two Valued Logic <hr style="border: 1px solid black;"/> Absolute Right or Wrong	Wrong Right
Present	Three Valued Logic <hr style="border: 1px solid black;"/> <hr style="border: 1px solid black;"/> In General Use 1949	Wrong Maybe Right

scientific society. Grammar lags back with the metaphysician's Absolute Truth. The modern scientist is prone to apologize because his data is *workable*, rather than true. If the data is uniformly workable, it most certainly is *true*. Grammar, in trying to hold with metaphysics, impedes, as did metaphysics, science. So there are things very right, very true, very real, very accurate and very variably relative in general. Until a bright mind discovers a way to obtain and use data which cannot be sensed, measured or experienced, grammar had better regulate itself to the driving force of the society, science.

So here we have the formidable article, logic. It is computed, not

dreamed and intuitively plucked from some ether. If a man, a group, a race or Mankind does its thinking on a sufficiently rational plane, it survives. And survival, that dynamic thrust through time toward some un-announced goal, is pleasure. Creative and constructive effort is pleasure. Some pleasure destroys more than it creates and so it is "immoral" (and by future prejudice becomes irrationally immoral, traveling as a social aberration; superstition is a parallel channel with immorality, no other proof of harm than prejudice). Some pleasure creates more than it destroys and that is "moral" or *good* pleasure. If a man, a group or a race or Mankind does its thinking on a sufficiently irrational plane—out of lack of data, warped viewpoint or

simply aberration—the survival is lessened; more is destroyed than is created. That is pain. That is the route toward death. That is *evil*.

Logic is not good or bad in itself, it is the name of a computation procedure, the procedure of the analytical mind or collective analytical minds in their efforts to attain solutions to problems.

The process of logic consists of:

1. Finding out what one is trying to solve.

2. Formulating the question for solution.

3. Obtaining or recalling the data for the question and solution.

4. Evaluating the data to be used in the solution.

5. Comparing data with data, new conclusions with old conclusions.

6. Evolving a new answer or confirming an old one or deciding there is no immediate answer. All answers in terms of relative rightness or wrongness.

7. Action or conclusion.

As outlined above—and on the graph—in one problem, the arrow of decision swings back and forth, back and forth until, by greater-than and lesser-than computations, it finally comes to rest with an answer. Here is a problem: “Shall I pull trigger of shotgun?”

Formulation question: What will happen if I pull the trigger?

Formulation of questions for solution: Is it right or wrong to pull trigger?

Obtaining data: Gun is cocked. I am in closed room. I am in a hurry to get to dinner. Leaving gun cocked weakens spring. It will take over a minute to open breech.

Evaluating data: Gun is cocked—arrow moves far right. I am in closed room and guns go off sometimes—arrow moves far left, but is restrained by already having moved far right. I am in a hurry to get to dinner, been duck hunting all day and I’m starved. (Arrow moves to right but restrained again, two evaluations having been computed.) Leaving gun cocked weakens spring and this is a good gun—arrow moves a little farther *to right. Breech in poor shape.

New data: Footfalls in room overhead, calling attention to existence of other persons in house. (Arrow moves left.)

New data: Got to clean gun anyway after supper. Can inspect its chambers then when I’ve got time to look. (Arrow moves to left.)

Answer point of arrow is well to the left.

Solution: Lay gun on bed, cocked.

Action: Goes out door.

New data: Little boy laughing down hall.

Evaluation of data: Boy very inquisitive. No lock on door.

New formulation of problem: Is it right or wrong to leave gun unsecured?

New data: Wife’s voice urgent from dining room. Stomach growling.

Meat frying.

Evaluation of data: Wife's voice—small motion of arrow to right.

Stomach growling—another motion to right. Boy in danger—surge of arrow far, far to left.

Action: Returns, wrestles with faulty gun breech—whole new set of right-wrong series. Finds breech was empty. Puts cartridges on top shelf, moves chair away from shelf where boy can't easily get it, hangs shotgun out of reach on wall. Goes to dinner.

This is a simplified solution. Actually each datum was evaluated for the problem by a separate computer! There were many other data and conclusions and computers used in the computation. And it was all completed in a few seconds and the action fully accomplished in two minutes. The solution was based on a datum which made the problem, as formulated, so wrong that additional precautions were taken.

Thought goes on a network of such computations. Almost none of the computations are examined by "I" no matter how stylish it has been to ponder and vocalize and stew with datum after datum. (This adage that slow thought is good thought stems, most likely, from the propaganda of some fellow who wanted an excuse because he could never think fast. The mind works solutions in milliseconds and then aberrations snarl and alter transmission so that hours and days are required to get the

solution from some part of the computer to "I".)

The mind can compute in any terms, *real* or *abstract*. In dealing constantly with data which can be sensed, measured and experienced—*real* data—the mind is fundamentally acquainted with the nonexistence of Absolute Precision. It handles problems about the bigness of big bicycles and the warmness of a drink and the prettiness of beauty and the quantity of companionship in a dog with swift and relatively accurate evaluations. It measures time, distance and space and energy inter-relationships as handily as it weighs the thoughts, ethics and potentialities of other minds and all these things are qualitative and quantitative measurements and evaluations which are and cannot be otherwise than approximations. The mind only requires, like the scientist, a workable accuracy. The plus or minus margins of error in finite analysis must be kept within bounds of usefulness. Precision, then, can be defined as the maximal accuracy required for the problem's solution and demands a minimal margin of error which will not make the solution workable. No instrument of Man, including his mind, no matter how cunningly or delicately constructed can measure time, space, thought or energy with Absolute Precision. There exists in any sensing, measuring or experiencing minute errors. And even if these errors are so tiny that Absolute Precision apparently exists, the

errors are nevertheless present. Absolute Precision might occur by accident in the evaluation of an electric current, a temperature or the weight of a flake of gold but no instrument exists fine enough to detect that the Absolute Precision had existed, thus it could not be repeated. Understand that such errors can be so minute—and generally are—that they exceed the requirements of the problem in which the evaluation is needed, but this does not make them any the less errors.

There is the story of the navigators. A ship had, amongst other officers, an assistant navigator, a senior watch officer and a navigator. The admiral came into the chartroom and desired to know the ship's position. The assistant navigator was present; he was very young, fresh from school and lacking in any experience. He eagerly plotted the ded reckoning, sharpened his pencil exceeding fine and made a tiny point on the chart. "Admiral," he said, "we are right *there!*" At this moment the senior watch officer, a grizzled lieutenant, came in and had the question put to him by the admiral for confirmation. The senior watch officer figured for a moment, running up the ded reckoning, and then drew a small circle on the chart. "We're right about there, sir," he said. The navigator, hearing the admiral was in the chartroom, came in and in his turn was asked for the position. The navigator had been to sea for a long time, he had navigated many ships. He glanced at the course

changes in the quartermaster's notebook, looked at the chart and then, slapping his huge hand down upon it said, "If I'm not mistaken, admiral, we're some place around there!"

The margin of error allowable for a problem can be very wide or very small. It has its self-limiting factors. In navigation, the young assistant above might have been expected to take a sextant sight and then go below to calculate down to the last foot his ship's position. That would be unnecessary accuracy. First, the position of the ship is not needed in terms of feet when off soundings but is "accurate" with a margin of error of a mile or two. Second, the sight cannot be more accurate than the error in the sextant and the chronometer. Any sight so taken can be calculated with a precision much greater than it can be shot. If the required accuracy of position is a mile or two, if the sextant sight is accurate with a quarter of a mile, there is no use calculating it down to feet. To do so would be to introduce a new error, the error of the Delusion of Accuracy and *that* can be the most dangerous error of all. One has to know, reliably, the margin of error. If it is falsified by an enthusiasm to make data look good, the data may lead to serious mistakes. The most serious observer error which can be made is to enter in a Delusion of Accuracy for those who depend on the data are thus led astray and they cannot know in which direction or how much the

data was wrong and are not informed that it was falsified.

The Bureau of Standards, for instance, gives methods of measuring power at radio frequency and the error of each method, announcing it to be two, three or five percent in certain ranges as the case may be. This is reasonable accuracy, greater precision may sometimes be desirable but is not generally used.

In the *real* Universe, then, the entities of time, space, distance, energy and thought cannot be computed with Absolute Accuracy. All data is evaluated with the precision necessary or attainable. Good data is usefully accurate data. Even when the margin of error is so tiny that no known instrument can measure it, it still exists.

In *abstract* terms only can evaluation be Absolutely Precise. If, in the *real* Universe, Absolute Precision is unobtainable, Absolute Precision can be assumed and is a useful analogic tool for computation. The mind computes in various ways and one of those ways is to set up analogues. Arithmetic is such an analogue. The schoolboy writes $2 + 2 = 4$ and is satisfied that this is a *real* evaluation. It is not. It is an *abstract* evaluation. Absolute Precision has been assumed where none exists. This does not invalidate the equation by any means. The mind uses and needs such equations in its computations. To say that two apples plus two apples *equals* four apples is of great help to the shopper and the grocer.

They accept the *equals* because they do not need any accuracy greater than two apples plus two apples equals four apples. But both the shopper and the grocer would admit, if the problem were presented to them, that two Winesaps plus two Delicious did not equal four wormy crab apples by any means. The shopper on the receiving end of this equation would object and, getting no redress, would take his trade elsewhere. Two apples plus two apples *are* the same four apples and in this alone is there an approximation between the *real* and the *abstract*. Nothing *equals* anything with Absolute Precision. Two Winesaps, ever so carefully measured and weighed could be shown to be similar to each other even if they "looked" exactly alike. No two Winesaps in the world are *exactly* alike save by an accident which, again, would not be a detectable Absolute Precision, since nothing weighs that fine or measures that close.

As an abstraction, arithmetic is useful. The mind uses many abstractions. The retired colonel, telling of his battle, grabs some walnuts, some napkin rings and the sugar tongs and says, "Now here was the Seventh Foot"—lining up the walnuts—"and *here*"—picking up and laying down the napkin rings—"was the enemy artillery. And *here*"—putting down the tongs with a clang—"was I, mounted on my charger. Now . . ." He has done a mathematical analogue of the problem of the battle and he is saved much re-identification, as he

tells his tale, for his listeners know that walnuts "equal" the Seventh Foot, napkin rings "equal" the enemy artillery, and sugar tongs "equal" the colonel and his horse. Einstein working out new equations of relationship amongst time, space, and energy forms and manifestations may be telling more truth than the colonel and is serving a higher usefulness by far, but the colonel and Einstein are both dealing in analogue computation. Users of the data of either the colonel or Einstein must allow for a reasonable margin of error when *real* entities are substituted for the *abstractions* in the equations.

It would be far better, of course, in mathematics, if the word "equivalent" or "represents" was substituted for "equals" in all mathematical equations. The actual function of mathematics would then be preserved. The word "equation" should be changed in meaning—for it means "act of making equal"—or should be exchanged for "abstraction" if mathematics are to be better understood. For the mind, by establishing the abstractions which we call mathematics sought only to improve its ability to handle *real* entities. The abstractions are nothing in themselves but assistants in mental process. A skilled mathematician has, in mathematics, a part of a servo system in which his own mind is the chief agent. He evaluates by abstractions real entities of the real Universe. Then, by processes exterior to the mind—scratch pad or electronic computer—he computes with abstrac-

tions alone until he achieves a solution. This solution he then "translates" back into the terms of the real Universe.

So far have mathematics strayed from their intended purpose, from time to time, that they seem to possess entity value of their own. Some esoteric mathematicians have in the past so far departed from the fundamental purpose of mathematics that they have, like priests around an idol, sought to deify their servo systems, declaring them to be beyond all human experience. And so they can be!

In metaphysics, Absolute Truth, Absolute Mensuration, and Absolute Thought became a sort of mathematics by which some men tried to locate data beyond the realm of human experience. In German Transcendentalism, Absolute Truth was considered to surpass all human experience. This is quite valid since it is very definitely the case. This was a mathematics, an effort to reach, by abstractions, a higher set of data. It became abhorrent to the scientist because metaphysicians seemed to use this mathematics as a height from which they could assail and snub human experience with impunity; by using wide and obscure terms and being rather grand about it all, the metaphysician so snarled the wits of his attackers that these have not taken metaphysics for what it is, a species of mathematics. The metaphysicians themselves would hotly deny this, as would the mathe-

matician that he uses daily some of the fruits of metaphysics. There is a battle there; meanwhile evaluations both in abstract and real terms goes on, not only in the giant electronic brain in some university but in the grocery store. The mind simplifies its problems by posing abstractions to represent them, retranslates the answers back into real terms and so computes the solutions of existence. It computes in various ways, is a computer in itself; it invented numerous mathematics to assist in computations and today it builds gigantic computers to relieve it of some of its burdens.

These two processes of computation, the comparison of real data with real data and the approximating of real data by using abstract symbols, combine into a multitude of

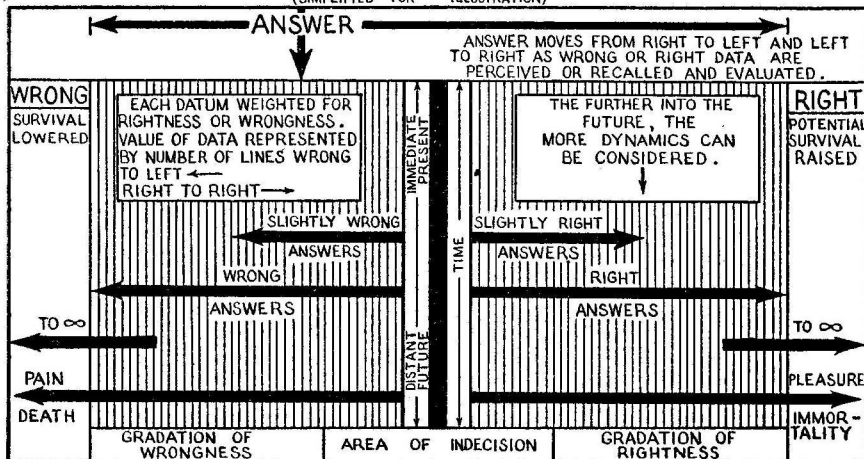
manifestations of thought processes. By such combinations of computation the individual mind derives the highest attainable correctness possible for it in its answers. It allows its admissible margins of error and places the solutions into action or a file for future use.

The basic principle of operation is relatively simple. Two things, however, are not simple—the power of the mind to evaluate data and resolve problems and the structure of the mind which permits such magnificent computation.

If one does not believe the mind capable of handling large numbers of very variable variables and achieving swift solutions, let him plot out all the mental computations—as contained in the seven steps above—for one mile of automobile driving on a

GRAPH OF LOGIC

(SIMPLIFIED FOR ILLUSTRATION)



crowded highway: and in addition to the computations will be the execution of the solutions. One cannot dismiss all this as "training pattern" for if a training pattern were all that was required to drive a car, then any automatic pilot could navigate any stretch of complex and crowded roadway; but automatic pilots cannot be made at this time which would perform the feat which any "moron" considers ordinary.

The structure which two billion years of biological engineering evolved can be understood, with dianetics, in its functional aspects. No adequate technology exists today to explain the structural blueprint of the mind. Knowledge of structure can be expected to develop in any field only after a knowledge of function and purpose is acquired. But structure or no structure it remains that the mind operates with a precision which is fabulous, well above that of the machines it builds.

Thus the processes of rationality. Good reasoning is good computation. The better the computation, the better rationality; for rationality, after all, is a synonym for right answers.

There are, however, as delineated in the broad field of dianetics, ways of reducing the computational accuracy of the whole mind. All these ways sum into the one generality of bad evaluation of data—disregarding, of course, the organic reductions which delete parts of mental equipment, occasioned by pathology or accidents or psychiatric surgery. Look-

ing at the logic graph, it is easily seen that erroneous evaluations of data interfere seriously with rationality for they give improper weightings to factors used in mental equations. If the analytical mind cannot properly re-evaluate or check the evaluation or establish the weight of the data it uses, then its answers are liable to considerable error. This error is not limited to computation alone but extends into the execution of solutions. Errors in time and difference can be extended to include all the errors possible. And as time is only poorly evaluated when its differences are improperly established, then all error can be lumped into the major error of difference. When an abstraction is mistaken for a reality, as in the case of metaphysics, many errors are then possible in the computation. The belief that two plus two equals four is a *reality* and is always the case can lead to some astonishing misapprehensions. Conversely, a belief that a reality is an abstraction can also produce errors.

Aside from mathematics, considering those to be precision abstractions, the mind handles problems in terms of loose symbolisms. Amongst the most indefinite symbolisms are dreams.

The dream has an entirely valid place and purpose in computations. It recombines data into new entities and is an important part of imagination.

Imagination is vital to computation for it recombines for the pur-

poses of creation, construction and prediction. Creative imagination can be such a complex computation and can be accomplished on such thin data by a good mind that it can assume an aspect of divine inspiration. Just because one can understand the functional process of imagination does not mean that one can thereby detract from its value, for it is the highest echelon of computation.

The errors to which the mind is liable are not computational. They can be listed under the headings of observational, educational and aberrational.

Observational errors come about when the individual believes he perceives something which he does not perceive. A meter can be subject, for instance, to an undetected error and can be read and the reading used in a computation with the result of a wrong answer. Or such a thing as a letter one finds in his wife's dresser may indicate a conclusion, such as infidelity, which is not justified. Mis-observation introduces error into the computation. And one of the major sources of mis-observation comes under the heading of a Delusion of Accuracy.

Educational errors can be cultural aberrations. But the major source of educational error is *lack* of data. Lack of data, for instance, added to false data, makes it possible for the citizens of one nation to believe that the citizens of another are dangerous and that a war must be

fought. Lack of data is a primary source of error in all mental computations. It is not true that *quantity* of data is the most vital requirement for an accurate computation; many researchers operate on this false assumption and swiftly swamp themselves by the sheer weight of imponderables. *Quality* of data, its weight in relationship to associated data, is a much more important thing. Ability to *evaluate* is much more important in any formal or informal educational process than ability to memorize; for an unaberrated mind memorizes at a glance and the memory cannot be trained; what passes in current formal education for memorizing of facts is a poorly directed operation of re-associating facts with new things. Education has been made into a contest of recall in contemporary schools. The data is forced into the student with a value welded to it. It is worth little thereafter to a computer which *must* be able to re-evaluate data for any and all problems. Education is mistakenly identified with schools in most minds, this datum having been forced upon these minds along with much other set-valued bric-a-brac. Actually, education begins long before speech and ends only with death; the bulk of the data used by any mind is derived from its own observations of the environment. The computer uses freely only that data which it itself has observed and aligned with its purposes. Without purpose and alignment but with set-

value, formally "taught" data is a large percentage worthless.

Aberration, as covered in Individual Dianetics, is data which is unknown to the analytical mind and its standard banks and which has too much weight.

False data, lack of data and mis-evaluated data cause the errors of computation.

In dianometry we are establishing, for purposes of therapy, the errors of computation to which the mind is liable and weighting the worth of the mind when freed from errors.

There are various classes of minds. First minds can be classified from the standpoint of false data and lack of data and mis-evaluated data. And second and most important, from the standpoint of inherent worth.

There are many types of minds. All operate on the same principles but all are not equal in their power and worth.

In dianetics we consider the *worth* of the individual to himself, to his group, to Mankind and posterity. With dianometry we are seeking to measure that worth.

For these equations of worth, we use *ability to think*, *power to execute* and the *vectors of purpose*.

Ability to think is more than intelligence. Intelligence would be the complexity of the mind in computation, its agility in the matter of perceiving, posing and resolving problems.

The *ability to think* includes intelligence and the training, experience

and data stored in the mind. The ability to think is not a structural potential of the mechanism but the actual capability of the experienced and stored mind.

THE ABILITY TO THINK IS THE CAPABILITY OF THE MIND TO PERCEIVE, POSE AND RESOLVE SPECIFIC AND GENERAL PROBLEMS.

But the fact that a mind *can* resolve problems is no reason to suppose that it *will*. One is confronted continually in life with individuals who obviously possess relatively little ability to think but who accomplish far more than those who are patently their intellectual and educational superiors. This introduces into the equations the dynamics. These are the dynamics of dianetics, of course, four in number, stemming from the central dynamic of survival.

THE DYNAMICS ESTABLISH THE PERSISTENCY AND VIGOR OF THE MIND AND ORGANISM.

Measurement of the dynamics is difficult and can be done at this time only on an arbitrary basis. Experiments have been outlined to be conducted to establish and identify Life Force which is, of course, the principal dynamic itself. The dynamics are widely variable because of aberrations which obstruct them. In the dianetic clear, the dynamics are free of mental obstruction and are found to be much stronger. Mental and physical exhaustion tests on aligned

ASTOUNDING SCIENCE-FICTION

—freely chosen—purpose establish the value of each of the four dynamics. The summed value gives a relative figure for any individual.

The *power* of the individual is his ability to initiate the resolution of problems and execute the solutions. No matter the complexity of the mind, its experience or the data with which it is stored, unless it is prompted by power, it resolves little and, again, unless prompted by power, it executes little. Application of physical energy in such a routine matter as ditch digging would, of course, be accounted for as the physical side of power. The potential of delivering a sharp blow or enduring long punishment are both accounted for under power. A “brilliant” mind may occupy itself doodling unless it is prompted by power to align its purposes and perceive, pose and resolve problems. A “genius” may perceive, pose and resolve problems by the carload lot and yet lack the extra power to execute the solutions. A mind with a low *ability to think* may have enormous power in initiating the resolution of problems and enormous power left over with which to execute those solutions and so may rule the world. A mind with enormous power to initiate, a high *ability to think* and enormous power to execute solutions might well shake the ages.

The *potential value* of the individual is derived from his ability to think and his power in the following fashion where PV equals *potential*

value, A equals *ability to think* and D equals power:

$$PV = AD^*$$

The potential value of an individual would be in four lines. First would be his potential value to himself, second would be his potential value to his children both as to their creation and their future and thus to future generations, third would be his potential value to groups ranging from a club to a race and nation, and fourth would be his potential value to Mankind. Therefore the above equation would have to be executed for each one of the four dynamics of self, sex, group and Mankind. The sum of the four equations would give his total potential value.

The worth of the individual would, however, be found to be different than his potential value and could be determined by means of vectors. His *worth* would be his net. His alignment of purpose with the optimum purpose would not necessarily be perfect. In the case of a dianetic clear it would be near the optimum purpose, but dianometry does not have as its first duty the measurement of clears but of aberrated individuals.

A single example will serve to illustrate this. In France a counterfeiter was so skilled that the engraved old postage stamps so nearly approximating the genuine stamps that experts could not differentiate between the two. This activity required strong power to initiate, good ability to resolve problems and strong power to execute. He did his work well and had the additional

power and ability to so dispose of his product that he could not be indiged by law. Thus his potential value to himself and group and Mankind must have been high. But aberration rotated his vector of application out of line. His purpose was so mis-aligned with the purpose of the group and Mankind that he not only canceled his potential value but posed a mild threat to self, group and Mankind. As a childless bachelor his second dynamic was a zero. With high potential value his worth was negative in some units.

In the case of Ghenghiz Khan, potential value was very great. His ability to think and power to initiate and execute were very high. On the first dynamic his actual worth was exceptional. On his second dynamic his potential value was extremely high but the worth was shortened by the precarious heritage he left his many children. On his third dynamic his worth was enormous for he unified not only his personal race unit but consolidated into it other units which had been at mutual war on the steppes. On the fourth dynamic, Mankind, his worth was so far negative that it not only wiped out all gains in the first three dynamics but made the total worth of the man more negative than any other for centuries around him. Into the equation which was Ghenghiz Khan might have been added artistic or beneficial knowledge for the world had they been present and these might even have overweighted the equation back into positive worth,

but Ghenghiz Khan initiated and contributed no such thing.

In the case of hypothetical B. G. the engineer, we would take the PV equation somewhat in this fashion. He has had a formal education, has received his degree, has worked in routine company jobs for fifteen years. In this time he has become married and has three children who are happy and will be given the highest formal education available. B. G. has medium power to initiate and execute and medium ability to think. However he has aberrations to the effect that he must do precisely what he is told and no more. His worth on the first dynamic is a short positive. His worth on the second dynamic, because of his children, is a long positive. His worth on the third dynamic for his company is a medium positive, for his state a short positive since he takes little interest in it. His worth on the fourth dynamic is a very short positive. His worth is a medium positive. The relief of his aberration and general clearing not only frees his set-valued education to permit him to engage upon projects requiring newer evaluations but also raises his power to initiate thought and execute solutions. His value to himself lengthens to a long positive, his value to his children lengthens, his value to his company lengthens to a long positive and to his state a medium positive, his value to Mankind, because he is no longer a cog but may initiate new ideas in engineering, lengthens to a medium

positive. The worth is now a long positive.

All worths are, of course, in terms of potential survival, the dynamic principle of existence.

These equations are not, however, in solely "cold, calculating" terms. For survival is no hard-headed, "cold, calculating" proposition. It is found that when the dynamics are freed, the amount of "free feeling" available for the enjoyment of life is enormously increased. The advance toward survival is pleasure, the reduction toward death is pain. Happiness can be defined as the overcoming of not unknowable obstacles toward a known goal or the contemplation—for a brief space—of attained or envisioned goals. As covered in dianetics, pleasure is "immoral" only when it is also overweightedly injurious: all moral codes find their origin in the denouncement of some activity because, no matter how pleasurable it may seem, it is destructive; moral codes tend to become aberrations in a culture and, as aberrations, may well outlive their practical use, remaining as prejudice, not as reason—hence the arguments about morality. Hence, survival activity is creative and constructive. All creation and construction, however, by the laws of the cycles of change, is accompanied by some destruction. So long as Man's equation of creation and destructive progresses in favor of survival along all four dynamics, Man can continue to win. Thus worth can be established by the attainment of pleasure



which is the reward of better than average survival.

A painter can have a worth greater than B. G.'s if he is a good painter, for he adds the stuff to life which may make life more beautiful, thus more pleasurable.

A politico filling the press with the rush of heated air, a declared power in the land, a possessor of wealth and influence, when graphed in terms of worth on the four dynamics might be so aberrative to his children, so dangerous to personal freedom for all his cant of freedoms, so unskilled in foreign policy despite his pronouncements which sound so brave, and so dangerous to Mankind by his posing war for it that for all huzzahs he might fall far, far, far short on the vector of worth and be of much less value than some poor and unskilled dancer, much, much less value than even aberrated B. G. and certainly far less value than the painter.

Here we deal with relative values. The mind is capable of handling them without their being graded into abstractions such as mathematical numbers, for the grading of worth in mathematical terms would be to introduce a Delusion of Accuracy error.

Any person must be measured in relationship to his environment, his associates, his society and with a consideration of his age and physical status. The mind hourly accomplishes much more staggering approximations than this and comes forth with highly workable answers.

A graph similar to that of the logic with its movable arrow will resolve the problem visually as a servo mechanism all the reason needful for the creation of the mind.

Now it happens that there are three types of minds. We assign all minds into these three types for handy approximation and by so assigning minds to these types we advance our understanding, which is of these classes.

In days of yore it was customary to classify aberrations into enormous lists. In dianetic therapy, however, we are concerned with only three major manifestations. These three manifestations are possible in any of the three types above.

The three cases dianetics considers as separate classes for therapy are the cases which have sonic recall, the cases which do not have sonic recall and the cases that have "dub-in"—imaginary—recall. These cases are listed in their order of seriousness in therapy and the seriousness is considered only in time required. The sonic recall will take less time than the non-sonic, the non-sonic will take less time than the dub-in. But there are other difficulties encountered by a mind trying to think. There is lack of visio recall, there is "dub-in" visio. There are the shut-offs of emotion and pain and the "dub-in" of emotion. (There is no pain "dub-in.") The aberrative pattern of the individual is not much considered in therapy and can be anything from

psychotic to "normal" without enormously changing the time in process of a pre-clear—patient.

Now any of these conditions can be present in any of the three types of mind listed below. Each one has some value as an inhibition to optimum thought processes. They are the mechanical aberrations which we consider. They influence an individual's position in the types below.

The worth equations above also influence the position of the individual in these types for when these equations are worked out one can see approximately how badly blocked each dynamic is.

The influence of mechanical aberration and the worth equations on the position of the individual in the below types is very great, as will be discussed.

The three types of mind are as follows.

CLASS C. That mind which is *aware*. It neither adjusts to nor attempts to adjust its environment.

CLASS B. That mind which is aware it thinks. It adjusts to its environment.

CLASS A. That mind which is aware it thinks and how it thinks. It adjusts to its environment and adjusts the environment to it.

It will readily be seen that these classes provide a graded scale which can include, each one, a large number of mental manifestations. The test of each upward grade is in terms of

greater survival potential along all four dynamics. First we have those who, through lack of worth, have slight chance of personal survival, small chance of survival through progeny, some chance of survival in a group out of tolerance or charity and as scant chance as Mankind. Next we have those with survival chances in the dynamics from short to medium but who provide the hewers of wood and the drawers of water and as a *class* have value. At length, by increasing gradations of survival potential, we have the Class A individuals whose inherent PV would place them, as it rose, higher and higher until one came to the few whose top flight creative powers affected the whole environment and the future of Mankind. The Class A minds are invaluable as *individuals* for the progress of the society depends upon them as they function as greater and greater self-determined organisms, their freedom is essential to the survival of all. The argument between whether a state should be organized on a corn-and-games welfare basis or on a free enterprise basis is resolved by the consideration that Class B cannot exist without Class A and that Class A cannot exist under the restrictions codified to fit only Class B.

These three types are not types of inherent minds only. They are also used to classify in terms of mechanical aberration and worth. We cannot advance an arbitrary classification unless it has application and has

some approximation of reality.

In terms of aberration, which can be tested by the various occlusions or lack of them as listed above, minds can be seen to shift, when aberrated, down the scale toward or into Class C.

While these tests are rule of thumb, they give some index of the aberrative content of the mind and thus some idea of how high it may be expected to rise and where it belongs on the scale. When these occlusions are considered *with* the worth, which also give an aberrative index, an approximation of the *proper* classification may be obtained.

If we take an apparent Class B, which is the largest class in numerosness of the three, a man who has a routine job sorting laundry, and examine him, we may discover the following:

He has sonic "dub-in" which, we will say, indicates that he carries serious emotional charges and a heavily aberrated mind in general. He has occluded visio recall. He has an emotional shut-off. These would indicate that he at least belonged higher in his class and should be directing those engaged in routine tasks.

Now we will investigate his dynamics. We find that he believes himself to be very ugly and detestable to people. He is inhibited sexually and abuses his one child. He is churlish to the people with whom he associates at work and he belongs to no organization of any kind. He

says he hopes the H-bomb will finish off the human race.

The result of this investigation is that we have here a potential Class A, probably very low scale, but certainly Class A. For when we look at the dynamic vectors to place an aberrated individual into a mind class, we consider how much must be *holding down* the dynamics and how far they will spring free when the aberrations are removed by dianetics.

In terms of modern society, this man is, of course, something of a liability for he has aberrations and by contagion he is "infecting" associates as well as a member of the next generation. In terms of dianometry which measures for the purpose of dianetic processing.

Now let us take a "feeble-minded" child, an apparent Class C. She is very dull and listless. She is compliant. She never becomes angry or excited. She has learned speech but she talks little. She never brings anyone a present. She has no bad dreams. She can dress herself with some help.

On investigation of her recalls and shut-offs, there are found to be none.

The apparent Class C is evidently a Class C.

Let us take another Class C, a young man. He is sullen. He occasionally sings boisterously and then laughs foolishly. He has a woman to whom he brings presents and around whom he seems worried. He can be calmed by reassuring words when he glowers.

On investigation of his recalls he is found to have no sonic, no visio, a pain shut-off and a violent antipathy toward taking a look at anything in his past.

The apparent Class C is an actual Class B.

Unless some vital portion of the nervous system can be shown to be unmistakably missing and unless his condition has continued so long that his body has passed a recovery point for any physical disturbance—and he would have to be old for that—he could be salvaged.

Let us take now a “normal” schoolboy. He is an apparent Class B. According to his teachers he wastes most of his time, gets bad grades, knows the lesson if effort has been made to attract his attention to it, spends most of his time at recess fighting and always getting licked. If he keeps on this way it is certain that he will fail in school.

On investigation we find he has sonic and visio recall but a pain shut-off.

Despite the fact that he has recalls except for pain, here is a Class A mind. Cleared dianetically he would probably change and improve the whole class.

Take his classmate, the boy with the always clean shirt, the never-de-ranked tie, the perfect grades, the most quietly pleasant and orderly boy in the whole school, the model student.

We examine this boy's recalls. He has sonic recall, visio recall, pain re-

call, emotional recall, tactile recall, kinesthetic recall, olfactory recall, organic sensation recall, with no psychosomatic disorder. Preserve this boy well. He will become the backbone of some routine office. He will be the darling of the welfare state. His total worth to humanity is nothing to get excited about.

The latter boy is an apparent Class B. He is also an actual Class B.

The point here is not that abuse and aberrations make for an increase in ability for that is not the case. *Experience* and *hard knocks* will vastly add to one's educational store but these are not aberrations. The former boy was a Class B *because* of an aberrational pattern, the latter boy was a Class B in the absence of a strong aberrational pattern.

The total question here is *change*. The Class B can be forced to or willingly will adjust to his environment. The Class A does some adjusting but he *changes* the environment.

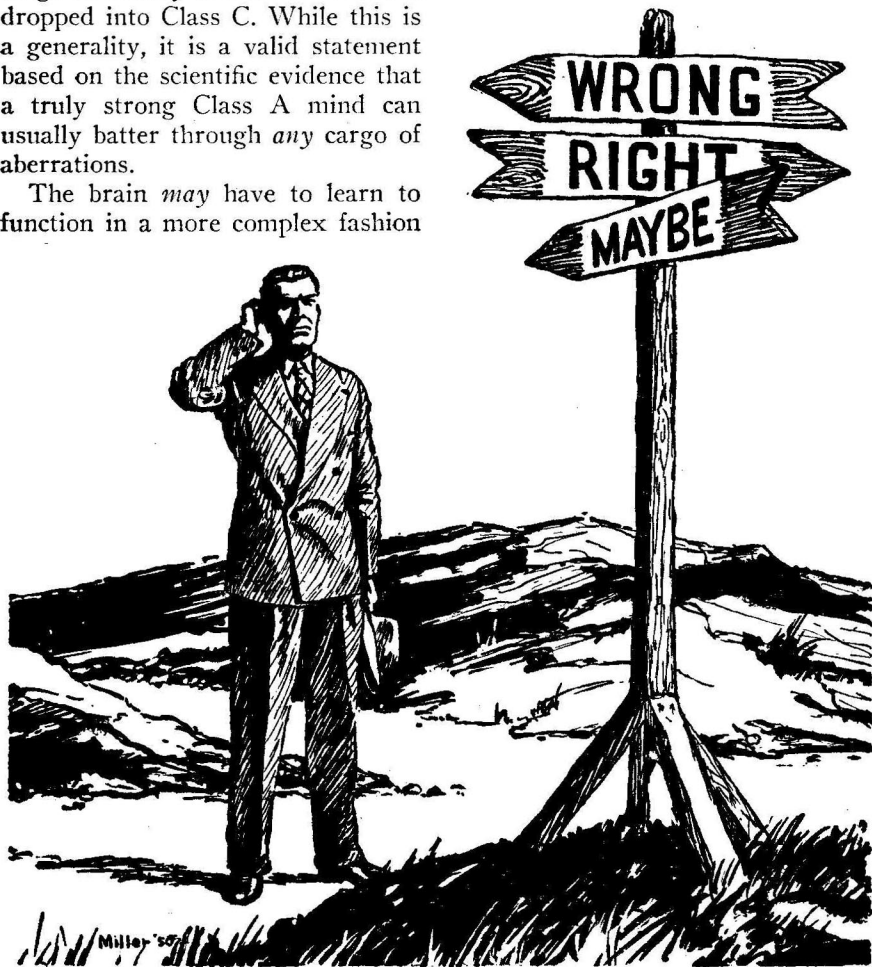
The conqueror who changes the environment by exterminating a race is no less a Class A mind. Education and aberration dictate the wrong vectors. The conqueror cleared would *still* change the environment but he would orient his vectors along the dynamics.

It is an astonishing fact that the criminally inclined, while they are in some part actual Class Bs, contain, as a group, a large number of Class As. A society dams up their aberrated and destructive channels

of effort by putting them behind bars. In the light of dianetics this is an appalling waste of manpower. The insane asylums, on the other hand, provide no such percentage of Class As. An individual whose dynamics are so weak as to collapse on him to the point of actual personal incompetence in the teeth of any aberrative cargo is usually a Class B who has dropped into Class C. While this is a generality, it is a valid statement based on the scientific evidence that a truly strong Class A mind can usually batter through *any* cargo of aberrations.

The brain *may* have to learn to function in a more complex fashion

because it has received engrams which occlude some of its engrams. It may then function more complexly *despite* those engrams. When those engrams are processed out by therapy, the PV of the mind on all four dynamics soars. Ten thousand cases carefully tabulated may resolve the precise relationship between initial



aberration and eventual brilliance if one exists. It is known definitely that the aberrations only *inhibit* mental function and that the man who prides himself on his neurotic condition on the grounds that it proves him "sensitive" falls into the error only because of a "desire" to justify his disability.

The fallacy of the belief that neurosis is responsible for ability is easily indicated by pointing out the paradox of the theory. The theory attempts to tell us that one is more rational when one is less rational, that one is more able to think the less one is able to think. And in terms of fantastic imaginings, the very aberrated do not dream, they

have only nightmares. One ex-painter of wildly imaginative pictures, when cleared not only regained the ability to paint which had ebbed away but could paint even more wildly imaginative things than before. Imagination is a form of computation, the highest form. Spoil computation with aberrations and one spoils as well an active imagination. A hard life may teach a man he has to be a top dog, but that's *experience*. His engrams only teach him to go mad or lie down.

The tests which dianometry applies so that dianetics may be begun include the following:

RECALLS:	<i>Easy Case</i>	<i>Difficult Case</i>	<i>Very Difficult Case</i>
	20 hrs. each item	50 hrs. each item	100 hrs. each item
	sonic	non-sonic	sonic "dub-in"
	visio	non-visio	visio "dub-in"
	pain	pain shut-off	
	emotion	emotional shut-off	emotional "dub-in"
	good memory	poor memory	no memory
	demon circuit	2 demon circuits	more demon circuits
	no chronic psychosomatic ill	mild psychosomatic ills	severe and chronic psychosomatic ills
	good humored	angry	apathetic
	medium dynamic	high dynamic	low dynamic
		named after family member	named after parent
	loves parents interestedly	dislikes one parent	Dislikes both parents and is propitiative to them. Prenatal area in foreign tongue.
	high ability to think	medium ability to think	low ability to think

You will notice that each list has a figure at its head. Anyone can select out of this list his mental abilities and disabilities and add them up and he will get some idea how

long it will take him, working with some friend, to become cleared dianetically. This is, of course, an approximation for one cannot tell how skilled the new auditor will be or

how much content the individual actually has in his engram bank.

To test for the above, sit down, shut your eyes and *go back* to any recent period in time. Listen for the things that were being said then. If you hear them but your friend says that wasn't what was said, that's "dub-in." Look at a book. Then half an hour later sit down, shut your eyes and "look" at the book by going back to the time you saw it. If you see it and it's right, that's visio. If you don't see it at all, that's non-visio. If you see something that wasn't on the page, that's "dub-in." Pinch yourself. A few minutes later, sit down, shut your eyes and go back to "feel" the pinch. If you can't feel it, it's pain shut-off.

If one is *always* apathetic, that's apathetic. If one is *always* angry, that's angry. If one is usually good-humored, that's good-humored.

The demon circuit is any circuit that vocalizes your thoughts for you. That's not natural. It's an installed mechanism from engrams and it slows up thought. Sometimes people have two or more demon circuits, which is to say, they have "voices" which advise them: they talk to themselves inside their heads and answer themselves. Sometimes they have demon circuits that talk out loud at them. Demon circuits mean in any case, a rather high degree of aberration.

To compute your dynamics evaluate on the basis you have desired to change or benefit one dynamics' field

or another. If you want to change yourself, that's fairly long One, if you get angry about sex or children, that may mean an average Two; if you are promiscuous, that is a badly blocked but a highly active Two. If you want to run clubs or change clubs or abolish clubs that's a high Three. If you think it's dumb worrying about atom bombs, Dynamic Four is not only blocked; it probably is infinitely short in the first place.

To get your inherent mind Class, re-examine your dynamics as listed. Then see how docile you are, or how rambunctious. Then look at the job you are filling or mean to fill. If your estimate of dynamics said you were a low dynamic, if you are docile and if you are content to be a servo-mechanism and work without initiative, that's a Class B, apparent and actual. See some of the examples to compute a Class A and the level of A.

Cleared, unless one has been operated upon and had part of his brain removed or burned out by a psychiatrist or accident, the various recalls and all data ever recorded will return to you in their entirety.

In dianetics it is possible to recover the full force of the inherent dynamics in the mind and all computational ability. Thus, if you start for clear, keep a log of your dianometry. It is a system of approximations, just as the mind evaluates and computes on approximations. But, used by a human mind, it will make sense.

THE END

THE HAND OF ZEI

BY L. SPRAGUE DE CAMP

Conclusion. Igor Shtain was a syndicate to begin with—but even when you got hold of Igor Shtain, the individual, you had a problem. He still wasn't really Igor Shtain!

Illustrated by Cartier

Synopsis

In the Banjao Sea on the Cetic planet Krishna lies the Sunqar, a floating continent of terpahla sea vine. Rumor associates the Sunqar with the janrú drug which, smuggled out of Krishna and used in perfumes, enables any woman completely to dominate any man.

The explorer Igor Shtain plans to invade the Sunqar to clear up the mystery and incidentally to collect scientific data—actually to be gathered by his associate, George Tangaloo the Samoan xenologist—and material for his books—to be written by his ghost-writer Dirk Barnevelt—and lectures—to be delivered by an actor impersonating him. For in this age of specialization—the Twenty-second Century—all these experts work for the firm of Igor Shtain Ltd.

to set before the public a synthetic entity called Igor Shtain, of which the flesh-and-blood Shtain is only a part.

The flesh-and-blood Shtain, however, disappears, and the dismayed members of his firm suspect he has fallen afoul of the janrú ring—perhaps been killed or taken to Krishna. As they have a contract with Cosmic Features for fifty thousand meters of Krishnan movie film, a quarter of which must be taken in the Sunqar, they send Tangaloo and Barnevelt—a shy young ex-teacher suffering from a mother-complex—to carry out Shtain's plans and look for the missing explorer. While Interplanetary Council regulations forbid revealing inventions and mechanical devices to the pre-machine-age Krishnans, the travelers are allowed to take one-

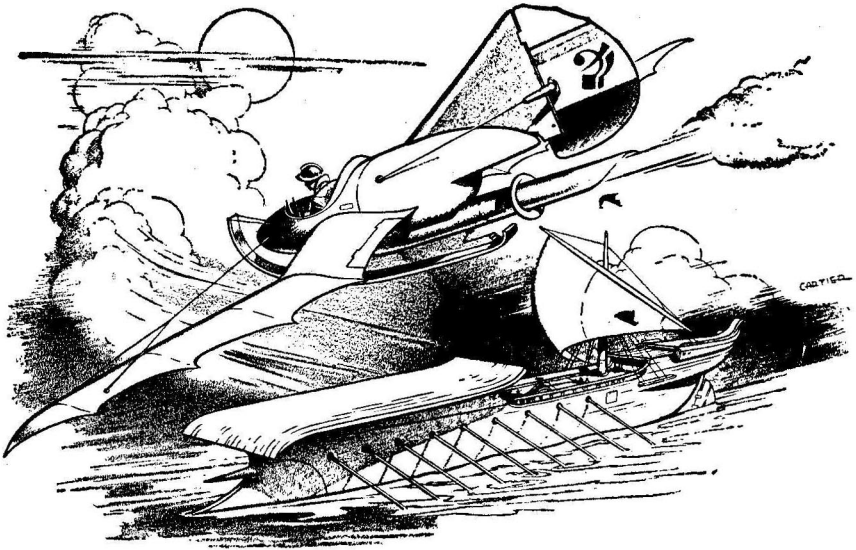
millimeter Hayashi cameras, set in finger rings and looking more like jewels than optical devices.

At Novorecife, the Viagens Interplanetarias station on Krishna, the assistant security officer, Castanhoso, advises them to travel as natives of the South Polar land of Nich-Nyamadze, who shave their scalps. They thus need not wear green wigs or dye their hair, though they will still have to don false smelling antennae and ear points to pass as Krishnans. They buy costumes from Vizqash, the Krishnan clerk in the Outfitting Store. Vizqash, a native of Qirib, takes them on a picnic with Castanhoso's secretary. A gang of Krishnans under Vizqash's orders attacks Barnevelt and Tangaloo, who escape by swimming across the Pichidé River. Vizqash, thinking them dead, returns to Novorecife with the girl—who is in league with him—but is arrested when his victims also return to accuse him. However, he escapes before any information can be obtained from him.

Barnevelt and Tangaloo plan to go down the river to Madjbur on the Sadabao Sea, where they will present an introduction from Castanhoso to Gorbovast, the commissioner in the Free City of King Eqrar of Gozashtand. Gorbovast will give them an introduction to Queen Alvandi of Qirib, whence they expect to leave for the Banjao Sea. Qirib is a matriarchal monarchy where the females keep the upper hand over the males by the janrú drug, and where the king is chosen by lot each

year and then ceremonially killed at the end of his year's reign. The travelers pretend they are going to hunt the grám, a sea monster, the stones from whose stomach are believed by the Krishnans to confer Donjuanian powers on a man who carries one. Barnevelt takes the name of Snyol, a famous Nich-Nyami general, and Tangaloo another Nich-Nyami name, Tagde. As a present for Queen Alvandi they take a macaw named Philo, abandoned at Novorecife by his owner, Mirza Fateh, a Cosmotheist missionary from Iran—Earth—who once lost his wife—killed—and daughter—kidnaped—in a holdup of a Krishnan train.

They proceed to Madjbur by river barge and thence to Djazmurian, south along the coast, by bishtar-drawn train. At the inn in Djazmurian they are forced to room with Sishen, a tourist from the Procyonic planet Osiris, resembling a small bipedal dinosaur. At dinner their picture is taken by a Krishnan photographer with a primitive box-type camera, lately invented on the planet. An ill-mannered traveling-companion named Gavao sits with them and puts a knockout drop into Barnevelt's drink, but Barnevelt switches drinks with him and Gavao falls asleep. A masked aristocrat quarrels with Sishen, and Barnevelt saves the reptile's life by hitting the masked man over the head and stunning him. Barnevelt recognizes the masked man as Vizqash, the former clerk at Novorecife, who, not knowing who struck him, leaves the inn



in a rage. Sishen, expressing his gratitude, explains that he did not have time to use the pseudohypnotic powers of his species to gain mental control of the Krishnan.

Next morning Barnevelt and Tangaloo are confronted by a delegation from the local artists' guild who demand the pictures made by the old photographer. They are campaigning against the new art of photography on the ground that it threatens their livelihood. In the ensuing brawl the Earthmen rout the gang, and are then ready to resume their journey.

The travelers go on to Ghulindé, the capital of Qirib—narrowly escaping an ambush by a party of Krishnans led by Gavao—where they present the macaw to Queen Alvandi, a hard-bitten old harridan. The queen

approves the *gvám*-hunt and explains that after the forthcoming *Kashyó* festival she intends to abdicate in favor of her handsome daughter Zéi, who invites the two travelers back to the palace for an evening's visit.

Barnevelt and Tangaloo prepare their expedition to the *Sungar*, buying a small ship—the *Shambor*—and hiring sailors. Meanwhile they are taken up socially by Princess Zéi and by young *Zakkomir*, a ward of the throne who admires the supposed General *Snyol* for his military prowess. Barnevelt, though attracted by Zéi, is disconcerted to learn that at the forthcoming festival the king is not only executed but also ceremonially eaten.

During the festival the *Moryá Sungaruma*, or pirates of the *Sun-*

gar, raid Ghulindē looking for Barnevelt and Tangaloo by means of prints of the photograph made of them in Djazmurian. They meet little opposition, for the men of Qirib do not carry weapons and Queen Alvandi's women soldiers cannot cope with the pirates. In the ensuing fracas King Kádj is killed, Tangaloo wounded, and Zéi abducted. Barnevelt kills Gavao, who appears as a pirate leader, and in the darkness and confusion the pirates withdraw without the Earthmen they sought.

By seizing Tangaloo as a hostage, Queen Alvandi compels Barnevelt to set out in the Shambor with Zakkomir to try to rescue her daughter. They sail from the Sadabao Sea through Palindos Strait into the Banjao Sea, passing the island of Fossanderan, reputedly haunted by some sort of beast-men or demons. They gain access to the Sunqar by posing as couriers of the Mejrour Qurardéna, or Reliable Express Company, bearing an offering of treasure from Queen Alvandi and a letter asking terms for the release of Zéi.

The pirate High Admiral is another Osirian, Sheafasè. Barnevelt finds Shtain serving as a common pirate and, under Sheafasè's pseudo-hypnotic control, having forgotten Barnevelt and his former life as an explorer. During the parley Barnevelt and Zakkomir attack the pirate chiefs, kill three of them, tie up Shtain and put him in the treasure chest, and are on their way out with Shtain and Zéi, taking Sheafasè as

hostage, when Barnevelt is recognized by Vizqash. Vizqash, it transpires, is also a leader of the Moryá Sunqaruma—though originally a native of Qirib, as are many of the pirates who have fled from the queen's female tyranny. Sheafasè escapes their grasp and Barnevelt, Zéi, and Zakkomir, cut off from their ship, flee through the settlement. Zakkomir leaves the other two in order to draw the pursuit away from his princess.

Barnevelt and Zéi, having temporarily escaped the pursuit, hide in a store ship. They escape the settlement by walking over the weed on improvised skis, and are picked up on the edge of the Sunqar by their ship. Barnevelt's seamanship enables the Shambor to escape the pursuing Sunqaro galleys, and Barnevelt insists on landing on the island of Fossanderan, in Palindos Strait, for water.

Since Fossanderan is reputedly haunted, the terrified sailors mutiny and sail off, leaving Zéi, Barnevelt, and their boatswain Chask marooned. The "beast men"—Krishnans of the primitive tailed species wearing masks—chase the party and kill Chask, whom they eat. The remaining two escape by setting the island afire. They paddle to the mainland on a raft and hike to the nearest road, suffering hunger and exhaustion.

While waiting to thumb a ride back to Qirib they discover they are in love. For obvious reasons Barnevelt rejects Zéi's offer to make him

her first consort when she accedes to the throne. When she goes on to offer any arrangement he likes, he still refuses on various pretexts, but actually because he knows he is a human being and she a Krishnan, a member of a different species. He dares not tell her this, however, before his missions are accomplished, because he knows the strong anti-Earthman prejudices of many Krishnans, and fears the news would leak out. While the question is still under dispute they are given a lift in a cart towards their destination.

Back in Ghulindé they are welcomed with enthusiasm, and learn that they have arrived in the midst of a conference called by Queen Alvandi with the heads of the other powers of the Western Sadabao Sea to organize a joint naval expedition against the pirates of the Sunqar. As the various kings, presidents, and other dignitaries are too suspicious of one another to elect any one of them commander in chief, Queen Alvandi proposes Barnevelt for the post, on the ground that he, being from a distant country—he is still thought to be the famous General Snyol of the Nich-Nyamadze—would be impartial. The representative of King Eqrar of Gozashtand refuses to go along with the plan because of his master's close relations with Dur on the Va'andao Sea—which protects the pirates—and King Rostamb of Ulvanagh walks out in a jealous rage. The rest, however, agree to go ahead with the expedition with Barnevelt as High Admiral.

As a result of the delays that plague every large-scale operation, more than a ten-night passed before the skis were built, the men taught to use them, the organizational wrinkles smoothed out, and the expedition against the Moryá Sunqaruma squared away. Barnevelt—having deposited his reward from the queen with the banking firm of Ta'lun & Fosq—worried because the hurricane season in the Banjao Sea was drawing close. He found, however, that there was little he could do either to help or to hinder; the commanders under him went about their several tasks regardless.

He was, he thought, a figurehead, though a necessary one to keep the others from trying to boss one another and quarreling. Even at the job of resolving disagreements he found he could do better by delegating the task to George Tangalao, whom he made his aide. For George with his linguistic fluency and unflinching good humor proved an ideal soft-soaper of wounded feelings and reconciler of divergent views.

One day Tangalao said: "Dirk, I think we can stoush the Sunqaruma all right. But how are we to keep our troopers from doing in Igor Shtain along with the rest?"

Barnevelt thought. "I think I know; we'll take a leaf out of the pirates' own book. Have you still got that photograph of Igor I left with you when I went after Zéi?"

"Yes."

Then Barnevelt went to the queen and said: "Your altitude, there's an old photographer in Djazmurian—"

"I know the one, for but lately did the Artists' Guild of Djazmurian hale him into court on charges that he'd hired a band of bravoos to assail them in the streets, their competition to abate. But when the case came up it transpired that the bravoos were but a pair of travelers named Snyol of Pleshch and Tagde of Vyutr—names possessing a familiar sound—who did nothing but resist this Guild's extortionate demands. So my judge dismissed the case with a warning to these overweening daubers. What about him?"

"He's a spy for the Sunqaruma, and I wish you'd have him arrested—"

"Arrested, forsooth! I'll have the blackguard boiled alive till the flesh sloughs from his bones! Be this his gratitude for our even-handed justice? I'll have his head sawn off with a jeweler's saw, a hair's breadth at a stroke! I'll—"

"Please, Queen! I have another use for him."

"Well?"

"There's an Earthman in the Sunqar I particularly want taken alive—"

"Why?"

"Oh, say he did me a bad turn once and I want to work him over little by little, for years. So I don't wish one of our soldiers to give him a quick death. Now, I want the old photographer allowed to keep his head and go scot-free in return for a piece of work: to reproduce a pic-

ture of this Earthman. He can have all the help and materials he needs, so long as he turns me out three thousand prints before we sail. Then I'll distribute them among the assault troops, with word there's a five-thousand-kard reward for this Earthman alive, but not dead."

"You have strange ideas, Master Snyol, but it shall be as you desire."

On the appointed day Barnevelt led those who were seeing him off onto the deck of Madjbur's *Junsar*, which he had selected as flagship. (The queen had been surprised and disappointed, expecting him to choose her own *Douri Dejanai*. He persisted in his choice, however, to avoid any appearance of partiality. Besides the *Junsar* was bigger.) Everybody came aboard to drink and chatter like any sailing party.

Barnevelt wanted a private good-by with Zéi, with whom he had hardly had a private word since their return to Ghulindé. However, for a long time both he and she were enmeshed in polite conversations with others. At last he took the shaihan by the horns, excused himself, and said: "Will you step in here a minute, Princess?"

He led her into his private cabin, stooping to avoid hitting his head on the crossbeams.

"Good-by, darling," he said, and swept her into his arms.

When he released her she said: "You *must* come back, my dearest love; life will otherwise be savorless. Surely we can come to some agree-

ment to meet your stipulations. Why should I not make you paramour permanent, when I'm queen, to reign over my affections perennially whilst my wittol spouses come and go?"

"'Fraid not. Don't tell anybody, but I'm really a very moral fellow."

"If that concordat suits you not, such is the burning passion in my liver that I'd cast away my royal rank to tramp the world with you, or plunge into the dread deeps of space whence come the exotic Ertsuma. For my secret hope has ever been to be mastered by a man of might and mettle such as you."

"Oh, come, I'm not that good—"

"There's none like unto you! Qarar, if indeed he lived and be no figment of a poet's fancy, were no stauncher hero. But say the word—"

"Now, now, stop crying. We'll settle that when I see you again." He neglected to add that if his plans worked out that time would never come.

Her praise made him uncomfortable, for he could not help a guilty feeling that much trouble might have been avoided had he handled the *Shambor's* crew more skillfully. Including the death of Chask. Although he did love her he still thought the course he planned the best for all. He hoped, once Shtain were secured and the film shot, to fade quietly out of the Krishnan landscape and return to Earth.

He kissed her with a fervor that would have done credit to the great actor Roberto Kahn, dried her eyes, and led her back on deck. The party

broke up, those who—like Prince Ferrian—were going along, to scatter to their own ships; those who—like King Penjird of Zamba—weren't, to go ashore. With flags flapping, bands blaring, fireworks fizzing, thousands waving from the docks of Damovang, oars thumping, and one of Ferrian's rocket gliders circling overhead, the combined armada filed out upon the smaragdine sea.

XIV.

Again the hills of Fossanderan came into view, this time covered with black stumps like an unshaven chin seen under the microscope. Only away to the left, towards the eastern end of the island, did the greens and browns and mauves and purples of growing Krishnan vegetation persist.

Barnevelt, leaning against the forward rail of the Junsar, said: "George, pass the word we're putting in to the cove on the north shore of Fossanderan to top off our water. I don't want to be caught short again."

"If they make a stink about the demons?"

"Oh, foof! Remind 'em I'm the guy who cleaned up on the demons singlehanded. Of course the water-parties will need guards."

The fleet drew up along the north shore of the island and gathered water while hundreds of rowers went ashore to catch a few hours' sleep on solid ground after putting up with crampsome dozes on their benches

since leaving Damovang. Of the tailed men there was no sign, and the story of Barnevelt's exploit seemed to have killed much of the popular dread of the place.

When the leaders gathered aboard the *Junsar* for a conference, the Dasht of Darya asked: "Suppose these villains ask terms?"

"Heave their emissaries into the sea!" said Queen Alvandi.

"Not in accord with the practice of civilized nations—" began the Madjburo admiral, but the queen interrupted:

"Who cares? Who calls these sanguinary filchers civilized?"

"A moment, madam," said Prince Ferrian. "A proper moral tone is no small advantage to an enterprise like ours, sobeit it costs but little. Offer 'em, say I, terms they'll refuse. Like . . . say . . . their bare lives alone."

And so it was decided.

When the water had been replenished and the sleeping oarsmen roused, the fleet put forth again. Behind the leading *Junsar* plowed the grotesque shape of Ferrian's oared aircraft carrier, the *Kumanisht*. The catapult in the latter's bow whanged, hurling a rocket-glider into the air on a practice flight, to circle over the fleet and drift in over the tail of the flight deck, where the handling crew caught it.

As they rounded the eastern end of Fossanderan into the larger channel of Palindos Strait, Barnevelt touched Tangaloo's arm and pointed. A small group of tailed men were spear-fishing in the shallows. The

instant they saw the *Junsar* they scampered back to shore, to disappear among the trees.

Tangaloo said: "I say, couldn't we stop long enough for me to interview them? I'll take a guard—"

"No! If we win the war, maybe we can stop on the way back. Yes?"

An officer had come up to report that Captain So-and-so had sprung a seam and asked permission to turn back.

"Zeus!" said Barnevelt. "That's the fourth or fifth that's aborted. We started out with plenty of margin, but Rostamb ratted on us, and at this rate we'll be tackling a larger force than our own."

"We inspected them at Damovang," said Tangaloo.

"Sure. I suspect some of 'em have been sabotaged by people who want to stay out of the fight. I'll go look at this sprung seam."

Barnevelt made his inspection, told the captain to caulk his leak with sailcloth, and returned to the *Junsar*. As they emerged from the Strait into the Banjao Sea he detached a couple of empty cargo ships to sail straight for Malayer, fill up with food and water, and then rejoin the main fleet at the *Sunqar*. Then he resumed his former position, elbows on the forward rail, staring somberly over the sea.

"What makes you so gloomy?" said Tangaloo. "You weren't this way when you set out before, though you were running a worse risk."

"Oh, am I? It's not the fighting."

"What then?"

"Hollow, hollow, all delight."

"I know, you're in love!"

"Uh-huh," Barnevelt admitted.

"Well, what's that to be sad about? I have always found it fun."

"I've said good-by forever to her."

"Why?"

"She had the idea I'd make a good consort. And—" Barnevelt struck his neck with the edge of his hand.

"I had forgot that angle. It could have been arranged."

"It *was* arranged! That was what I objected to."

"No, no; I mean if you played your cards right you could overthrow the matriarchy and end the custom. It is not a really stable setup, the one they have in Qirib."

"You mean because the males are bigger than the females, as among us?"

"Not exactly, though that helps. Ahem. I meant this female-dominated society didn't grow naturally, but was suddenly imposed upon a different culture-pattern as a result of a couple of historical accidents. The people's basic cultural attitudes are still those of the surrounding Krishnan states, where the pattern is approximate sexual equality."

"I see. It is the little rift within the lute, that by and by will make the music mute."

"Precisely. Now in Nich-Nyamadze, on the other hand, I understand that—"

"Haven't the people's . . . uh . . . basic cultural patterns changed since

Queen Dejanai set up the matriarchate?"

"No; that will take centuries yet. You see most people get their basic cultural attitudes before they reach school age, and never change them thereafter. That is why on Earth there are still traces of racial hostility and discrimination in spots, after all the good-will propaganda and legal measures of the last few centuries. And apparently culture patterns are transmitted on Krishna in the same way. So if you want to break up this pattern of basilophagous gynecocracy before it hardens—"

"Of *what*?" said Barnevelt.

"Sorry, bod, I forgot this isn't a meeting of the Anthropological Association. This pattern of king-eating petticoat-rule, I should have said, can be overthrown by a resolute man, and you will have all the advantages: an inside position, a hero's prestige—"

Barnevelt shook his head. "I'm a quiet sort of guy, and don't care for the fierce light which beats upon the throne and blackens every blot."

"Oh, nonsense, Dirk. You love leadership. I have been watching you."

"Well, I don't intend to put my head in that particular noose so long as the queen uses that Unbridled Lust perfume to keep the men subdued. Anyway there are my obligations to the firm."

"True; I'd forgot Igor Shtain Limited. Couldn't you persuade the sheila to chuck her job? Then you wouldn't have to be consort."

"Matter of fact she's already offered to. She'd have gone back to Earth with me."

"Why didn't you take her up on it?" said Tangaloa. "She's a bonzer little squid; I shouldn't mind a bit of a smoodge with her myself."

"She's a Krishnan."

"So what? Is there some silly rule in *Deuteronomy* against it?"

"It's not that."

"A sentimental yearning for vicarious immortality, eh?"

"Not at all. I prefer a stable family life."

"Ha ha," said Tangaloa. "You're still full of irrational Judaeo-Christian inhibitions, my boy. We Polynesians have found—"

"I know. Your system of progressive polygamy may be all right for you, but I'm not built that way."

"A bigoted, race-conscious attitude."

"I don't care, it's *my* attitude. Good thing this expedition came along to separate us, or I should never have had the will power to leave her."

"Oh, well, it's your life." Tangaloa wiped his forehead. "This is hotter than the Northern Territory of Australia in January."

"South wind," said Barnevelt. "It'll make it tough for us all the way to the Sunqar."

"We ought to do like those blokes from Darya. As soon as we were out of Damovang Harbor they reverted to their native costume, a coat of grease, and now they just leave the grease off."

At last the Sunqar appeared again upon the hazy horizon. Barnevelt, beginning to feel as if he knew these waters well, gave the course for the northwest coast of the floating island where lay the entrance to the pirate settlement.

A glider returned to the *Kumanisht* with word—passed on to the *Junsar* by flag signals—that a ship was coming out to meet them. The ship itself followed hard upon the word of its coming. As she approached she furled her sails and headed straight for the *Junsar*, both slowing until they rested motionless with bows almost touching. The green truce-pennon flew from the pirate's mainmast.

"Who be ye and what do ye here?" came a rasping voice in the Qiribo dialect from the bow of the Sunqaro ship.

Barnevelt told the herald with the megaphone beside him: "Tell him we're the allied navies of the Sadabao Sea, come to clean out the *Sunqar*."

"*Clean us out!*" came the yell from the other ship. "We'll teach ye—" the spokesman for the Moryá Sunqar-uma mastered himself with an almost audible effort. "Have ye terms to present ere the hand play begins?"

"If you surrender we'll guarantee your lives, but nothing more—not your liberty or property."

"Very kind, ha ha! I go to carry your generous offer to our chiefs."

The Sunqaro galley backed oars until she was several lengths away before turning; her captain evidently did not care to expose his vulnerable

side to a hostile ram at close quarters, truce or no truce. Then the pirate's oars thumped and splashed furiously as the ship raced for the entrance to the weed.

The *Junsar* started to follow at a leisurely pace to give the Sunqaruma a fair chance to consider the ultimatum. Then Barnevelt became aware of another rapid thumping on his left, as Queen Alvandi's *Douri Dejanai* foamed past in pursuit of the pirate.

"Hey there!" Barnevelt called across the water. "Stay back in line!"

Back came the queen's hoarse bawl: "That's Gizil the Saddler who served as herald! I'll sink his ship and—"

"Who's Gizil the Saddler?"

"A saucy runagate from Qirib and a notorious fomenter of discontent among our males! We'd have hanged the losel but that when he heard there was a warrant out for him he fled. He shan't escape us this time!"

"Get back in line," said Barnevelt.

"But Gizil will escape!"

"Let him."

"That I'll not! Who think you you are, to command the Queen of Qirib?"

"I'm your commander in chief, that's who. Now stop where you are, or by Qondyorr's toenails I'll sink you myself!"

"You'd never dare! Faster, boys!"

"Oh no?" Barnevelt turned to Tangaloo and said: "Pass the word: Full speed ahead; load the forward

catapult; secure to ram."

Although the *Douri Dejanai* had drawn ahead of the *Junsar* during this exchange of unpleasantries, the larger ship soon overhauled the smaller. Barnevelt said:

"Fire one shot over her poop; try not to hit anything."

Whang! went the catapult. The great arrow as long as a man screeched across the narrow space between the two ships. Barnevelt had intended to miss the queen by a comfortable margin. However, whether because the target was too tempting or because the motion of the ship affected the crew's aim, the point of the missile struck Alvandi's cloak, ripped the garment from her shoulders, and bore it fluttering far out into the sea, where missile and cloak disappeared with a single splash. The queen spun and sprawled on the deck. One of her Amazons rushed to help her up.

She stopped her ship's oars, then shook a fist at the *Junsar*. Barnevelt saw grins everywhere, for Queen Alvandi's high-handedness was notorious even in a fleet whose leaders included such uninhibited individualists as Prince Ferrian of Sotaspé. Thereafter there was no more disobedience to Barnevelt's orders.

Me and Napoleon! he thought. If they only knew who he really was—

As they neared the Sunqar the patches of terpahla became commoner until they occasionally fouled an oar in the stuff. Through a long brass Krishnan telescope Barnevelt

saw that the ship that had met them was the one that stood guard at the entrance. This ship had resumed her former position and was pulling the detached floating mass of terpahla into the mouth of the entrance. Meanwhile a longboat was rowing up the channel.

The Sunqaruma were standing on the defensive. Barnevelt passed the word: "Carry out Plan Two."

With much signaling and trumpeting the fleet changed formation. Two groups of ships that had been modified from regular galleys to troop carriers by cutting down their oarage drew off on the flanks, while Barnevelt in the *Junsar* led the Madjbuo squadron straight for the plug that blocked the channel into the Sunqar.

The pirate galley still stood guard inside the channel, a tackle of ropes connecting her with the plug. Beyond her other ships moved about the channel.

Barnevelt wondered if the Sunqaruma would try a further parley, but then the *Junsar's* captain pointed out to him the maroon war pennant flapping lazily from the mainmast head of the guard ship.

"There's your answer, my lord," said he.

An instant later a catapult thumped, and lead balls and feathered javelins began to arc across the intervening water. As they got closer these were accompanied by arrows and crossbow bolts. Under the *Junsar's* captain's directions some men of the crew rigged a bulwark of



shields around the bow so that Barnevelt and the others could watch more safely.

"Shall we shoot?" said the captain.

"Not so long as they're kind enough to do our ranging for us," said Barnevelt.

He swung his telescope, trying to see if the squadrons were following the plan, though with the haze that the warm wind had brought he could do almost as well with his naked eyes.

A missile plunked into the water between the *Junsar* and her starboard neighbor. "Shoot," said Barnevelt, and the catapults on the bows of the Madjbuero squadron went off.

Barnevelt knew that frustrated feeling that comes upon commanders in chief when they have given the last order they can expect to have obeyed with reasonable fidelity at the beginning of a battle. They want to make last-minute improvements in plans, but then it is too late and the outcome must be left largely to common fighting men.

Things began to hit the bulwark of shields with resounding, bangs. Aft, a crash and an outburst of yells told that the defenders' fire had gotten home.

Barnevelt, peering over his breastwork, found that only the plug of weed and a few meters of open water separated him from the galley that guarded the portal. This galley shot fast, things going overhead with a continuous swish and hum. Four Madjbuero galleys had come up to the plug and were shooting back,

though being end-on they could only use their forward catapults, and there was not much room for archers to deploy on their forecastles.

Men scrambled down the bows of the attackers onto the rams with hooks and rakes, dug these into the *terpahla*, and pulled up streamers of the golden-brown slimy stuff with its purple floats. These they passed up to others above them in an effort to get a firm grip on the plug. In front of Barnevelt a man gaffing the sea vine was transfixed by a shaft and fell into the water. Another took his place.

A prolonged swish overhead made Barnevelt look up. It was one of Ferrian's gliders making a sweep over the enemy, its rockets leaving a trail of yellow smoke. As it passed over the guard-ship something like rain fell from it. Barnevelt knew that this was a handful of steel darts, of which Prince Ferrian had prepared great numbers for his aviators.

Another glider went on to the main settlement, where it dropped something. There was a burst of smoke and the sound of exploding fireworks, though Barnevelt could not see whether these pyrotechnics had done any real damage.

Bang! A leaden shot from a hostile catapult smashed through the bulwark, two-shields away from Barnevelt, and went rolling along the fore-castle like a bowling ball. A couple of men struggled to replace the broken shield. Below, other men were lying in the water among the

vines. Barnevelt saw one of them jerk in a peculiar fashion and caught a flash of spotted hide. The fondaqa, the venomous eels, drawn by the blood, were gathering.

A Madjburo galley had belayed a number of strands of sea vine to its decks and began to back oars, but as the tension increased the vines broke one by one until none was left. Another glider hissed overhead. As it passed over the guard ship a spray of missiles reached up ineffectively for it.

"My lord Snyol!" cried the *Junsar's* captain. "Here comes Prince Ferrian."

Barnevelt ran aft just as Ferrian, slim and swarthy, the sun gleaming on his damascened armor, popped over the stern. Below, the crew of the longboat that had rowed him over from the *Kumanisht* rested on their oars under the *Junsar's* stern.

Ferrian took a few seconds to get his breath back, then said: "A strange fleet nears from the North, my lord. One of my fliers saw it from his height."

"What sort of fleet?"

"We know not yet, but I've dispatched another glider to see."

"Who's it likely to be? King Rostamb, ashamed of himself, come to help us?"

"All things are possible, but more likely 'tis the fleet of Dur, come to save their piratical friends."

Dur! Barnevelt had not thought of that possibility. Up forward the racket of the fire fight with the *Sunqaruma* continued.

He said: "I'll go back to the *Kumanisht* with you to see about this. Carry on here," he told Tangaloa. "Send out a signal for the troop ships not to disembark their ski troops until further notice."

It would hardly do, he thought as he climbed down the rope ladder into the longboat, to be attacked from the seaward side in the midst of that delicate operation.

Aboard the carrier he fidgeted on the flight deck, ducking out of the way during glider operations. Finally the glider that had been sent north to scout came back, drifting in with butterfly grace until seized by the deck crew. The aviator climbed out, saying:

"Another quarter hour and I should have been in the sea for want of fuel. My lords, the approaching fleet's indeed that of Dur, as could be ascertained from their sails, cut square in the fashion of the stormy Va'andao."

"How many?" asked Ferrian.

"I counted fourteen of their great ships, plus perhaps an equal number of small craft."

Barnevelt calculated. "If we can keep the *Sunqaruma* bottled up, that should leave us a margin to deal with Dur."

"You know not the great ships of Dur," retorted Ferrian. "Their biggest galleys are manned by nearly a thousand men, and one of those could destroy a squadron of ours as a man treads bugs under heel. With due respect, therefore, my lord, let's see a demonstration of your preter-

natural resourcefulness in things military whereof Queen Alvandi told us, lest the setting sun illumine the unjoyous spectacle of you, me, and all our brave people furnishing food for the fondaqa. What, sir, do you command?"

XV.

Food for the fondaqa? Barnevelt pondered, his long chin in his hand. Maybe two could play at that game.

"Tell me," he said. "For nearly an hour your gliders have been dropping things on the Sunqaruma without effect—"

Ferrian replied hotly: "My gliders are the greatest military invention since Qarar smote the dames of Varzeni-Ganderan with his magic staff! They'll make us as fearsomely puissant in the art of Qondyorr as the Earthmen! But as you say"—he calmed down—"they're not fully perfected. What would you do?"

"How much load do they carry?"

"For a short flight, the equivalent of one man besides the pilot. What's in your mind?"

"We have a lot of water jars in the supply ships. If we dumped half or two thirds of the water out they'd weigh about as much as a man—at least the smaller—"

"But wherefore a bombardment of water jars? Though you yerk the nob of one or two foes—"

"But if the jars were full of fondaqa?"

"*Hao*, now speak you sooth!" cried Ferrian. "We'll cut up the

cadavers of the fallen for bait, and use those hooks wherewith your sturdy Madjburuma seek to claw apart the sea vine. Captain Zair, more ship's boats! Our admiral has an order for the fleet! Yare, yare!"

"But my lords!" cried Captain Zair with an expression of horror. "The men mortally fear these creatures, and with good reason!"

Barnevelt took a hitch in his mental pants. "Oh, foof! I'm not afraid of them. Get me a thick leather jacket and a pair of gauntlets and I'll demonstrate."

As usual, once he had grasped the basic idea, Prince Ferrian took the bit in his teeth and ran away with it. He rushed about, haranguing everybody to break out fishing tackle, to bend the heads of spears for gaffs, and to get the order to the rest of the fleet.

All this took time. First Barnevelt had to demonstrate how to handle a fondaqa without getting bitten, thanking the gods for his experience with Earthly sharks and eels. By the time the crews of the ships along the edges of the weed were hooking, gaffing, and spearing the wriggling, snapping monsters and popping them into water jars, another glider returned to report that the Duro fleet would soon be in sight.

Barnevelt glanced at the high, hot sun. "With this south wind," he told Ferrian, "we should have another hour to get organized. I'm going to divide the fleet and put you in charge of the part sent against the Duruma."

Seeing Ferrian's antennae rise quizzically he added: "Our main weapon against them will be the gliders, which you understand better than anyone. I'm going back to the *Junsar* because I think when the pirates see most of the fleet going off they'll try a sortie." He turned to the skipper of the *Kumanisht*. "Captain Zair, signal all admirals to come here."

A longboat loaded with jars pulled up under the stern of the *Kumanisht*, the coxswain chanting: "Fish for sale! Nice fresh fish for sale! One bite and ye're a dead carcass!"

The sailors fell to work transferring the jars to the carrier. One of the smaller ships pulled alongside with another load of amphorae. The rows of jars along the flight-deck began to grow.

The commanders came aboard, one by one. Barnevelt explained his plans, cutting short arguments. "That's all; carry on."

As he lowered himself into the longboat, hails came from the masts-heads of the allied fleet: "Sail ho!" "Sail ho!" "SAIL HO!"

The Duro fleet had been sighted.

On the *Junsar* the missile fight went on. All the ships were looking battered where catapult-bullets had carried away parts of their rails or stove in their deckhouses. One Madjbuero ship had her mizzen mast knocked over, another her forward catapult smashed, while the decks of the enemy seemed to be heaped with wreckage.

From the *Junsar's* poop Barnevelt and Tangaloo watched the main fleet get under way, the big *Kumanisht* in the middle, the others spread out across the sea in a crescent formation with horns forward. On the horizon little pale rectangles appeared: the sails of Dur.

After two hours the men of the Madjbuero squadron had torn away about half the weed of the plug, which brought them closer to the Sunqaro guard ship and made the fight hotter.

The Madjbuero admiral said: "My lord Snyol, methinks they make a sally, as you predicted."

Beyond the guard ship, down the channel came the galleys of the Sunqar in double column. Barnevelt could not count them because the hulls of the leading pair obscured the rest, but he knew he was outnumbered. The allied armada was caught between Dur and the pirates as in a nutcracker.

Tangaloo paused in his motion-picture-making to say: "Those blokes will try to make contact with us, then line up, ship to ship, so they can pour an endless supply of boarders into us."

"I know. Wish I could persuade you to wear some armor."

"And if I fell into the water?"

Barnevelt somberly watched the Sunqaruma approach. If he could only think up some bright idea— If the pirates did break through his blockade, would they fall on the allied fleet from the rear or flee to parts unknown? It wouldn't matter

to him; he'd be dead.

The noise forward died down. The guard ship's people had stopped shooting in an effort to turn her around so that she should not block the way for her sisters. Her oars moved feebly, leading Barnevelt to guess that most of them had less than their normal three rowers each.

Barnevelt told the Madjbuero admiral: "Have 'em stop shooting to clear wreckage, build up the bulwarks, and gather more ammunition. How's it holding out?"

"Well enough, sir, with all the bolts and arrows that prickle my ship like the spines of the irascible 'evashq."

"Lash our six ships together the way I told you and push forward against the plug. And remind the men about that man we want taken alive." Barnevelt felt his sword edge.

The Madjbuero ships made fast, all the rowers except those on the outside banks of the outside pair shipping their oars because there was no longer room to ply them. The remaining rowers began to drive this supercatamaran forward, pushing the plug of weed and the crippled guard ship ahead of it up the channel.

But soon the two leading pirate ships thrust their rams into the weed from their side and began to push back. Having more oars in use, they halted the movement of the plug and started it back towards the open sea.

Barnevelt asked: "What are you doing, George?"

"Just an idea of mine," said

Tangaloo. He held a broken length of catapult-arrow about a meter long, to the end of which he was tying a light rope several meters long.

"Here they come," said Barnevelt.

The two leading Sunqaro galleys had pushed the plug and the six Madjbuero ships back far enough down the channel so that it opened out enough to let one of the smaller following pirates slip past and work around the plug, albeit fouling its oars in the vine at every stroke. Little by little it crawled through the narrow lane in the terpahla until its bow touched that of the outermost starboard ship of the Madjbuero squadron.

Barnevelt and Tangaloo had hurried to the outermost ship, crowded with men released from oar duty. As they arrived, spiked planks were flung across from ship to ship. Trumpets blared and boarding parties rushed from each end of the planks. They met with a crash in the middle. Men clinched and tumbled off the planks, to thump against the rams below or splash into the weedy water. Others pressed up behind them, while on the forecastles of both ships archers and crossbowmen sent missiles into the thick of the opposing fighters. The archers of the Madjbuero ship's neighbor added their weight to the fire.

Tangaloo elbowed his way through the throng at the bow. At the rail he unlimbered his improvised whip and sent it snaking across the gap.

Crack! The end coiled around the

neck of a Sunqaru, and a jerk pulled the man over his own rail. *Splash!* He gathered up the rope and let fly again. *Crack! Splash!*

Barnevelt had worked himself into an adrenal state where he was eager to fight, but the crowd at the bow blocked his way. Between the superior fire power of the Madjburuma and Tangaloo's whip, the Sunqaruma on the planks began to give way, until the Madjburuma poured into the waist of the pirate galley, sweeping Barnevelt along in the current. He stumbled over bodies, unable to see for the crowd or hear for the din.

The pressure and the noise increased as another force of pirates swarmed over this ship's stern from another Sunqaro ship. As Tangaloo had predicted, the pirates were passing from ship to ship to bring their full force into use. Barnevelt found himself pushed back towards the bow of the Sunqaro ship, until the rail pressed against the small of his back. Now, while a sudden push might send him over the side, he could at least see. The after half of the ship was full of Sunqaruma fighting their way forward.

Unable to reach the crowded gangplanks, Barnevelt put his sword away, climbed over the rail of the Sunqaro ship and down onto the ram, stepped over a corpse, leaped to the ram of the Madjbuero ship, and climbed up. The forecastle was still crowded, the Madjbuero admiral, armored like a lobster, bellowing orders in the midst of it all. Tangaloo

leaned against the rail, smoking. The latter said:

"You shouldn't have done that, Dirk. The commander in chief ought to stay back where he can command in chief, and not get mixed up in vulgar fighting."

"Matter of fact I haven't been near the actual fighting."

"You will be soon. Here they come!"

A wedge of Sunqaruma had bored through their opponents and gained the planks. The Madjburuma on the planks were struck down or hurled off or pushed back onto their own ship, and then the pirates were after them, fighting with insensate ferocity. At their head stormed a stocky Earthman with a red face seamed with many small wrinkles.

"Igor!" yelled Barnevelt, recognizing his chief behind the nasal of the helmet.

Igor Shtain saw Barnevelt and rushed upon him, whirling a curved blade. Barnevelt parried slash after slash, and now and then a thrust, but the blows came so fast he could do no more than defend himself.

Step by step Shtain drove him back towards the stern of the Madjbuero ship. Barnevelt's helmet clanged from a blow that got home. Once or twice Shtain laid himself open to a riposte, but Barnevelt's hesitancy cost him his chance. If he could only hit the guy with the flat over the head, as he had done with the artist in Djazmurian— But he'd break his sword on Shtain's helmet.

Barnevelt was vaguely aware that fighting had spread throughout the mass of Madjbuero ships. He threw occasional glances over his shoulders lest somebody stab him from behind. He caught a glimpse of Tangalooa staving a pirate skull with his mace; of a pirate thrusting a Madjburu over the side with the point of his pike.

Shtain continued, with demonic force, to press him back. Barnevelt wondered where a man of Shtain's age got such physical endurance. Though much younger and a better fencer, Barnevelt was beginning to pant. His aching fingers seemed hardly able to hold the sweaty hilt, and still Shtain came on.

The poop of this ship was raised only half a deck. Barnevelt felt the steps to the quarterdeck behind him and went up them, step by step, parrying Shtain's swings at his legs. It was unfair to have to fight a man who wanted to kill you while you were trying to avoid killing him.

Back across the quarterdeck they went. Barnevelt thought that if he didn't disable Shtain pretty soon Shtain would kill him, and began thrusting at Shtain's arm and knee. Once he felt his point hit something, but Shtain kept coming as furiously as ever.

The rail touched Barnevelt's back. Now he had no choice between the wicked blade in front and the Banjao Sea behind. In back of Shtain appeared the bulk of Tangalooa, but for some reason George simply stood there on the quarterdeck.

Shtain paused, glaring, shifted his grip on the saber, and threw himself upon Barnevelt. Still Tangalooa stood idly. This time it would be one or the other—

There was an outburst of trumpet calls, and at the same time something flicked out, cracked, and coiled itself around Shtain's left ankle. The rope tautened with a jerk, yanking Shtain's foot from under him and sending him sprawl on the deck. Before he could rise, the huge brown form of Tangalooa landed on him, squeezing the wind out of him like an accordion.

Barnevelt leaped forward, stamped on the fist that held the saber, and wrenched the weapon out of Shtain's hand. He pulled off the helmet and smote Shtain smartly with the flat of his blade. Shtain collapsed.

All over the Madjbuero ships the Sunqaruma were running back towards the gangplanks leading to their own vessels. A little fighting still flickered, but for the most part the Madjburuma, having lost a quarter of their number, were glad to let their foes go unmolested. The ships were littered with swords, pikes, axes, helmets, and other gear, and with the bodies of friends and foes.

As Tangalooa tied Shtain's hands behind his back, Barnevelt asked: "How'd you get so handy with a whip, George?"

"Something I picked up in Australia. Beastly business, fighting. A scientist like me has no business getting mixed up in it."

"Why did you stand there like a

dummy when you first arrived? The guy nearly got me!"

"I was shooting film."

"What?"

"Yes, I got a marvelous sequence of you and Igor battling. It will make our Sunqar picture."

"I like that!" cried Barnevelt. "I'm fighting for my life and losing, and all you think of is to shoot film! I suppose—"

"Now, now," said Tangaloo soothingly. "I knew such an expert fencer as yourself was in no real danger. And it came out all right, didn't it?"

Barnevelt hardly knew whether to rage, to laugh, or to be flattered. He finally decided that since George was incorrigible he might as well drop the subject. He asked:

"Why are the Sunqaruma running away? I thought they'd won!"

"Look behind you!"

Barnevelt looked around, and there came the entire allied fleet, gongs beating time for the oars. In the center wallowed the carrier *Kumanisht*, towing a huge square-rigged galley with great eight- or ten-man oars staggered in two banks.

The pirates, having all regained their own ships, pried the gangplanks loose and pushed off from the Madj-buro galleys with poles, pikes, and oars. Presently the whole lot were splashing back up the channel towards the main body of pirate ships.

For the first time in hours Barnevelt noticed the sun, now low in the west. The fight had lasted most of the afternoon.

The sun had set. Shtain was safely stowed in the *Junsar's* brig, and Barnevelt's wounds—a couple of superficial cuts—had been bandaged. Barnevelt presided over a meeting of his admirals in the big cabin on the *Junsar*.

"How about it, Lord Snyol?" cried Prince Ferrian. "The men will have it you led the boarders into the Sunqaro ship, smiting off three piratical heads with one blow and generally winning the fight single-handed. Is't true?"

"They exaggerate, though Tagde and I did personally capture that Earthman we were looking for."

"Won't you let me boil him in oil?" said Queen Alvandi. "The pirates of our own world be bad enough, but—"

"I have other plans, your altitude. Prince Ferrian, tell me what happened at your end."

"'Twas no great affray; rather a comedy worthy of Harian's genius. You know that Dur uses slave rowers on those monstrous ships, for not even their ill-gotten wealth suffices to hire so many thousands of free oarsmen. And the usage is, when going into action, to run a chain through a shackle on the leg of each slave, binding him securely to his bench by means of a bronze eye set in the wood.

"Now, these Duro ships were bearing down upon us like a charge of wild bistars, but seeing nought but our masts on the horizon, like a picket fence, they thought themselves well provided with time to

make ready, when down upon them swooped the first of my intrepid lads in his glider, to drop his jar upon the flagship. It struck square among the rowers' benches ere the slave-masters had half finished shackling their rowers, and wrought most wondrous confusion, the fondaqa squirming and snapping, the slaves screaming and those bitten writhing in their death agonies, the slave drivers rushing about with their whips, and all in turmoil.

"Then came two more such love epistles, and the slaves went genuinely mad and mutinied. Those still free unshackled the rest, whilst others assailed the drivers and marines with bare hands, hurling some to a briny doom and others rending in bloody bits. The Duro admiral saved his gore by doffing his cuirass and leaping into the sea, where a dinghy picked him up.

"Meanwhile other fliers had dropped their jars. While some of these fell in the water, others struck home, with admirable results. For even if the slaves in the other ships were bound, still the presence of these loathsome sea creatures destroyed all order and made maneuver flat impossible. In short, the novel nature of this onset so demoralized the foe that some of their ships began to flee before we came upon them.

"Others, seeing the carnage still raging on the flagship and not knowing that the admiral had been saved—for he'd left his personal flags behind—hesitated, and when the *Saq-*

qand of Suruskand rammed another of the great ships, the latter doing nought to avoid the dolorous stroke, and breaking up in consequence, away the rest of 'em went. We boarded the flagship, where still the anarch battle raged, quelled both disputing parties, and towed her back with us. Our total loss was one of my fliers, who missed his alighting and drowned, poor wight."

XVI.

Next morning, as Roqir redly burst the bounds of the hazy horizon, the trumpets of the allied fleet sounded the assault. Up the channel rowed the Madjburo squadron, the battered *Junsar* in the lead.

Meanwhile along the edge of the solid terpahla on both sides of the entrance to the pirate stronghold, in a far-reaching crescent, troops with skis on their feet lowered themselves from their ships onto the terpahla. They teetered and splashed on the wet and wobbly footing. Some fell and had to be helped up again. At length they began to move forward, hundreds of them in three lines: the first line carrying huge wicker shields to protect themselves and those behind them from missile fire; the second line with pikes; the third with bows.

From the pirate stronghold came no sound. During the night the Sunqaruma had drawn most of their ships together in a kind of citadel, the biggest galleys in the middle, around them a ring of smaller ships,

and around these again an outwork of rafts and scows. This formation would prevent the attackers from sinking the pirate ships by ramming, at least until the low craft around the edge had gotten out of the way.

Closer came the *Junsar*; still an ominous silence. The men splashing over the terpahla came closer from their side, lapping around the settlement so as to approach it from opposite sides.

As she came within catapult-range the *Junsar* slowed to let the bireme *Saqqand* pass her—the same ship that had so doughtily rammed a Duro galley thrice her size the previous day.

From the outlying houseboats around the edges of the settlement came the thrum of crossbows, and bolts streaked towards the lines of advancing ski troops. Barnevelt realized that not all the pirates had withdrawn to the central citadel, but would fight delaying actions around the edges of their city. The archers among the ski troops fired back over the heads of their own men.

A catapult went off in the citadel. A giant arrow soared down the channel to dive into the water beside the *Saqqand*. And then the creak and thump of catapults and the snap of bowstrings began their din again.

The *Saqqand* nosed up to the nearest of the rafts around the citadel. The *Junsar* made her bow fast to the starboard quarter of the smaller ship, while Queen Alvandi's *Douri Dejanai* made fast to her port quarter. Other ships nosed up be-

hind these two, like a parade of elephants, and their people threw planks from rail to rail so that fighters could pour up towards the citadel as they were needed.

Barnevelt, in the *Junsar's* bow, heard the yell and clatter of combat around the far fringes of the settlement as the ski troops reached the outlying ships and strove to secure a lodgment on them. He could see little of this, however. Behind him his warriors lined up to go down the rope to the *Saqqand's* deck, while on the *Saqqand* herself they began to climb over the bow to the raft.

Then from the citadel burst the greatest storm of missile fire Barnevelt had seen—catapult missiles, bolts, arrows, and sling bullets. The whistle of missiles merged into a continuous ululation. The deadly rain swept over the raft, and over the *Saqqand's* deck, dropping men everywhere. The survivors pushed forward and closed up, to be mown down in their turn. The lucky ones dashed across the raft to climb the rail of the small galley on the other side. Sunqaruma rose to meet them.

Barnevelt found himself yelling: "Go on! Go on!"

Now another element appeared: From the citadel a large rocket with a spear shaft or catapult arrow for a stick soared down the channel, leaving a trail of thick smoke. It went wild, as did the next, but then one struck the *Junsar's* deck forward of the poop and burst with a roar, showering the ship with burning



fragments. The men lined up on the catwalk, awaiting their turn to attack, scattered, and the *Junsar's* crew had to turn to put out a dozen small fires. Another such rocket hit the bow of the *Douri Dejanai*. The smoke and flame broke up the supporting fire from the ships.

Finally the attack broke. The men streamed back, dozens of them hobbling with arrows sticking in them, while other dozens lay scattered about the *Sagqand* and the raft, dead or too badly hurt to flee.

Under the bombardment from the citadel it took hours to organize another attack. Barnevelt saw that the men of the leading group were furnished with big wicker shields like those of the ski troops. These latter had secured a footing here and there around the settlement. More than

that Barnevelt could not find out, as communication between them and the ships from which they had come could only be effected by a runner plodding over the *terpahla* on skis.

The second attack got under way shortly after noon. The men with the big shields got into the small galley on the other side of the raft and almost drove the pirates out of it before a counterattack sent them running.

The long Krishnan day wore on. Barnevelt got out all the rowboats in the fleet and ordered a combined attack, the longboats to row around the citadel and disembark their men at various points.

This time the attackers did secure a foothold on the small galley nearest to the channel, which they still held when the sun went down and

the longboats, those still afloat, rowed back down the channel. But then another counterattack in the fading light drove the allied troops out of the ship they had occupied, and everything was as it had been at the start.

At the evening conference, the Dasht of Darya reported that the ski troops had occupied most of the outlying ships. Queen Alvandi said:

"Ferrian, why don't your brave fliers land their kites in the middle of the citadel, thus taking our foes in the only rear they present to us?"

"'Twould serve no good purpose. Coming down singly, and mayhaps smashing their craft and having to crawl by degrees from the wreckage, they'd be butchered like unhas at a country fair."

"Or do they fear the hand-play, preferring to do their fighting at a safe distance? A mort of my brave girls lie dead out yonder because your delicate heroes'll fight only when they can drop things on the heads—"

"Enough, hag!" shouted Ferrian. "Who put the Duro fleet to rout? I'll match my fliers against your pseudo-warriors—"

"No warrior you, but a contriving calculator—"

By banging on the table and shouting, Barnevelt restored order. But the admirals were quarrelsome over their failures and snarled at each other and at Barnevelt for hours without getting anywhere. Barnevelt realized that his ski-troop idea, while bright, had not been quite good

enough to carry that strong defense with one push, at least not with the number of men he had available.

He stood up with the air of one who has listened long enough. "Tomorrow we attack again, using everything at once. Prince Ferrian, load up your gliders with darts and fireworks, and get more jars of fondaqa to drop. My lord Dasht, make your ski troops move forward from their present positions even if you have to poke them. Post ski-archers around the inner edges of the terpahla to throw more covering fire into the citadel. Queen Alvandi—"

After the admirals had returned to their ships, Barnevelt strolled out upon the deck of the *Sunqar*. He looked at the wan stars and thought of Zéi. The few days since he had seen her last had done nothing to abate the fires within him; on the contrary. Fantastic thoughts ran through his mind, of swooping down on Ghulindé with some personal followers, snatching up Zéi, and bearing her off to Earth. Silly, of course—

Sounds in the darkness indicated that men were fetching back dead and wounded from the *Saqqand* and the adjacent raft, the live ones to be tended and the dead to be stripped of usable equipment before being consigned to the fondaqa. Sounds of carpentry came from the pirate citadel of ships.

"Have a cigar?" said Tangaloo's musical voice.

"Thanks. If I could get away with it, I'd call this off."

"Why? You are doing fine; a bosker hero and all that rot."

"We've got Igor, and our film; and that money the queen gave us—"

"You mean you've got it! It belongs to you, not the firm."

"A nice idea," said Barnevelt. "Whether Panagopoulos would agree is something else."

"Don't tell him. Speaking of money, do you suppose we could claim that reward we offered for the capture of Igor, since we did the capturing? It would have been charged to the company if somebody else caught the bloke."

"I'm sure Panagopoulos wouldn't allow that! But as I was saying, it's not our fight any more; all we're doing is to help these poor benighted Krishnans to kill each other, and maybe stop a stray arrow ourselves. Why don't we load Igor into a boat and silently steal away?"

Tangaloo said: "I should like to get some proper pictures inside the settlement. Those you took are half-pie articles."

"What about those you've been taking?"

"Inadequate; Cosmic wouldn't accept them. Besides, anything like that would rouse the suspicions of the admirals, and with gliders to scout for them they'd easily catch us. Some of them are violently anti-Earthman, and I hate to think what would happen if we were dragged back and . . . ah . . . unmasked."

"I could say I'm feeling poorly and turn the command over to Ferrian, since he thinks he can do any-

thing better than anybody else."

"You forget—Igor is still under Osirian pseudohypnosis. I don't know whether it wears off—"

"It does," said Barnevelt, "but I understand it leaves you full of neuroses unless you get another Osirian to break the spell."

"Precisely! Therefore we must get Sheafasè alive and force him to restore the Old Man's mind."

"I don't know. There are other Osirians, and I've drunk delight of battle with my peers enough to last me for some time."

"Look here, battler, while I don't like to throw my weight, I fear we must go on with this. Even if you are admiralissimo of the fleet, don't forget I'm your boss in Igor Shtain Limited."

Barnevelt was astonished to see the easy-going Tangaloo, for the first time, pull rank. George must take his xenological investigations—if nothing else—seriously. Barnevelt answered:

"Oh, *tamates!* I've taken most of the responsibility and you know it. If it comes to a fight, I know worse fates than not working for Igor."

"Then let's not fight, by all means," said Tangaloo pacifically. "If you can arrange one sunny day in the citadel for me, I'm easy as far as the war is concerned."

"O.K. I'll watch for a chance to effect such an agreement."

"Good-o. And now if you will excuse me, I have a date."

"You *what?*"

"A date. With one of Queen Al-

vandi's lady troopers, for some xenological work. I find them really quite feminine, in our sense of the term, under the warlike getup. Which . . . ahem . . . merely proves what I said the other day about the stability of basic cultural attitudes. Cheerio!"

Next morning a heavy overcast, a high fog that barely cleared the mastheads, confined Ferrian's fliers to their ship and reduced the effectiveness of long-range missile fire. By the leaden light it was seen that the besieged had erected bulwarks of timber, slotted for archery, around the outer rails of the ships forming the citadel. They had also rigged boarding-nets and had fixed numbers of pikes with their points projecting outward, to aggravate the hazards facing the attackers.

After the usual delays the trumpets sounded. Again the men advanced. Bows twanged, catapults thumped, swords clanged, and wounded men screamed.

By evening the allied forces had cleared the Sunqaruma out of all the outlying positions and had secured a precarious lodgment in the citadel itself. But again the cost had been heavy, and the Sunqaruma could by no means be deemed beaten.

The admirals, a couple of them nursing injuries, gathered for the post-mortem in a worse mood than ever, snapping at each other like crabs in a bucket. "Why supported you not my men when I signaled for help?" "My lord Ferrian, what

good are your idlers lounging on the *Kumanisht* while better men and women die among the spears?" "Madam, should I use a scalpel to split kindling? One of my fliers is worth six common soldiers—" "Where's the genius of the great General Snyol?" "We should cease these vain assaults and starve the dastards out!" "A cowardly counsel!" "Who's a coward? I'll have your liver—"

Barnevelt was trying without much success to establish order when the sentry announced: "A boat from the Sunqaruma, my lords, seeking a parley."

"Send them in," said Barnevelt, glad of the interruption. If the enemy were softening up to the point of asking terms, the battle should soon be over.

Steps sounded outside. The sentry announced: "Gizil bad-Bashti, High Admiral of the Moryá Sunqaruma!"

"Gizil the Saddler!" shrieked Queen Alvandi. "Recreant traitor! Just wait till I—"

"Vizqash!" said Barnevelt, for the small scarfaced fellow in the doorway was the Krishnan he had known off and on as Vizqash bad-Murani.

The man, wearing his lordly hidalgo manner, took off his helmet and made a mock bow. "Gizil bad-Bashti, otherwise Gizil the Saddler, otherwise Vizqash the Haberdasher, at your service," he rasped. "I greet my old acquaintance Snyol of Pleshch, otherwise Gozzan the Ex-

press Courier, otherwise—”

He trailed off and sent a knowing grin at Barnevelt, who introduced him round and said: “Since when have you been chief of the Sunqaruma, Gizil?”

“Since the fourth hour today, when our former chief, Sheafasè the Osirian, expired of an arrow-wound received yesterday.”

“Sheafasè dead!” said Barnevelt, and exchanged a look of consternation with Tangaloa. If the Osirian chief no longer lived to cure Shtain of his affliction, there would have to be a radical alteration in their plans.

“Yes,” continued Gizil-Vizqash. “Promotion has been swift, for grievous has been the loss among our chiefs. Gavao did perish in our raid on Ghulindé; Qorf and 'Urgan the mighty Snyol did slay when he snatched the princess from our grasp; and even the Earthman, Igor Eshtain, who'd risen swiftly after his late enrollment in our company, was missing after the first day's battle. So—here am I, High Admiral.

“And speaking of the raid of Snyol upon our stronghold: In going through one of our provision ships in preparation for this siege, we found a youth asleep upon a sack of tunesta, clad as an expressman. Questioning revealed that he was the companion of your General Snyol, the suppositious Gozzan, on their foray; becoming separated from his comrades he'd hidden in this ship since then, subsisting on our stores. He says he's Zakkomir

bad-Gurshmani, a ward of Qirib's throne. Be that the truth, Queen Alvandi?”

“It could be. What have you done with the boy?”

“Nought as yet. His safety answers for my own, in case you should by reasoning sophistical convince yourselves that faith need not be kept with such as we.”

Barnevelt said dryly: “Interesting, but that's not why you came here. Are you surrendering?”

“Surrender?” Gizil's antennae rose. “A horrid word. I speak, rather, of honorable terms whereby this bloody conflict may be terminate.”

“A pox upon this chaffering!” cried the Suruskando admiral. “Let's terminate him with a length of rope, and press the attack with pitiless ferocity. They must be low on men or muniment, to offer terms.”

“Wait,” said Queen Alvandi. “You do forget, sir, they hold my sweet ward Zakkomir.”

“What, you turning soft?” cried Ferrian. “You speaking for prudence and moderation, old battle-ax?”

Barnevelt broke in: “Say your say, Master Gizil.”

“Let's consider our positions,” resumed the pirate admiral unruffled. “By the grace of Da'vi you did rout our rescuers, the fleet of Dur. But it follows not they'll scamper all the distance to their stormy home. Rather is't likely that their admiral will think him of the loss of rank or

head awaiting him at home, and turn again for one more blow.

"Now, one need not be able to see through a plank of qong-wood to know that you've had grievous losses in the last three days of combat, perhaps a quarter of your total force dead or disabled. Therefore I now expect, even did you set out at once on your return, you'd find many ships with oars but partly manned. Another day of this contention'll find you in a parlous plight indeed.

"Then as to our situation: 'Tis true we are surrounded and, supposing Dur does not return, we must depend upon our own resources, while you can replenish and reinforce. 'Tis also true that we've expended men and weapons. 'Tis even true that we've been driven from our outposts by that shrewd scheme of sending men across the weed with boards upon their feet. Who thought of that must be a very Qarar reincarnate.

"Still, by making use of cover have we kept our losses small. As for weapons and missiles, we'd taken the precaution, in setting up our floating citadel, to include within it all supplies of such contrivances, and also ample food and water.

"Let us assume, to make your case most favorable, that you can in the long run overcome us. What then? Remember that your troops confront despairing men with nought to lose, and who will therefore fight to death, while yours, however brave, are not inflamed by such a desperate animus. This, combined with the advantage

of a strong defensive stand, means that you will lose a pair or trio for every one of us you slay. You'll be lucky if such slaughter, in addition to bleeding your realms of their most stalwart battlers, do not to blank dissent and open mutiny incite them ere the siege be over.

"Then, what seek you here? Queen Alvandi, we surmise, covets the Sunqar itself, and also her ward Zakkomir unperforate. You others seek our treasury and fleet, and also wish to rid yourselves of the menace of our jolly rovers on the seas. Speak I not sooth? So if you can center the shaihan's eye without further blood-letting, were't not sheer perversity and madness to refuse?"

"What are your terms?" asked Barnevelt.

"That all surviving Moryá Sunqaruma, unharmed, be set ashore upon the mainland, each man to be allowed to take family and personal possessions, including cash and weapons." Gizil looked narrowly at Barnevelt and chose his words with care. "Snyol of Pleshch is widely known as a man of most meticulous honor, a quality sadly lacking in these degenerate days. For that reason alone do we propose to place ourselves upon your mercy, for if the veritable Snyol avers he will protect us, we know he will."

Again that knowing look. Barnevelt realized Gizil was saying: Carry out your end of the bargain, as the real Snyol would, and I won't spill the beans about having known you at Novorecife as an Earthman.

Smart gloop, Gizil-alias-Vizqash.

"Will you step out, sir?" said Barnevelt. "We'll discuss your offer."

When Gizil had withdrawn the admirals sounded off: "'Twere a shame to let slip the prize when 'tis almost in our grasp—" "Nay, the fellow has reason—" "That stipulation about personal moneys will never do; what's to hinder them, when Gizil goes back, from dividing the entire treasury amongst 'em?" "The same with their weapons—" "They must be nearly spent; one good push—" "We should at least demand the leaders' heads—"

After an hour's argument Barnevelt called for a vote, which proved a tie. The queen was now for peace, since the Sunqarumã held Zakkomir.

"I say peace," said Barnevelt. "As for details—"

When Gizil was readmitted, Barnevelt told him they would take the terms with two exceptions: the Moryá Sunqaruma might not take their money and weapons, and those originally from Qirib should be set ashore as far as possible from that land—say on the southeast shore of the Banjao. This last was at Alvandi's behest, as she did not want them to drift back to Qirib to make trouble.

Gizil grinned. "Her altitude seems to think that, having once escaped her yoke, we *wish* to return thereunder. Howsomever, I'll take your word to my council. Shall we prolong this truce until the matter be decided?"

So it was agreed, and out he went.

Next day the opposing forces lay in uneasy silence, both of them repairing damages and strengthening their positions. Shortly after noon Gizil came out again, and a flutter of flag-hoists called the admirals to the *Junsar*.

Gizil said: "My lords, your counter-terms are hard; too hard to be endured by warlike men with weapons in their fists. Therefore do I present to you an amended offer, thus: That our men take with them money to the sum of one gold kard apiece, that they shall not starve while seeking honest work, and weapons to the extent of one knife or dagger each, that they shall not be utterly defenseless. And that only able-bodied ex-Qiribuma like myself be sent to those distant shores whereof Alvandi speaks, wounded ones being set ashore nearer home in civilized regions."

"We accept," said Barnevelt quickly before the admirals had time to speak. Some of them looked blackly at him, the queen especially assuming the appearance of a snapping turtle. But with peace so nearly in his grasp he did not intend to let it slip. If they didn't like it, well, George and he would soon be going, and it mattered little to him if future Krishnan history books denounced him.

"Do you give your solemn promise, Snyol of Pleshch?" said Gizil.

"I do."

"Will you come with me aboard

my ship, and repeat your promise to my chiefs?"

"Sure."

"*Ohé!*" said Prince Ferrian. "Art not thrusting your head into the yeki's mouth? Trust you the rascal so far?"

"I think so. He knows what they'd have to expect if they tried any monkey-business at this stage. If I don't come back, you're boss."

Barnevelt went with Gizil to the citadel and climbed through the pikes and outer defenses to the big galleys forming the keep of this floating fortress. He saw signs of much damage, and dead and wounded pirates, but there were lots of live ones left. Gizil had not stretched the truth too far.

He was introduced around the circle of officers, and repeated his promise. "Of course your men must submit to search," he said.

They drew up a written agreement covering the terms of capitulation and signed it, and took it back to the *Sunqar* for the admirals to sign, too: all a tedious and time-consuming business.

Zakkomir, perky as ever but with the pussy-cat roundness gone from his face, was released. Barnevelt got him aside, saying:

"Want to do me a favor?"

"My life is yours to command, Lord Snyol."

"Then forget that the pirates were interested in getting hold of Tagde and me. Get it?"

The business of searching the Moryá Sunqaruma to make sure

they were not carrying more money and weapons than they were allowed, and loading them into various allied ships, took the rest of the day. Because the wounded pirates from Qirib—who comprised nearly half the total—were to be sent to a special destination, Barnevelt borrowed a troopship, the *Yars*, from the Suruskando admiral. Queen Alvandi insisted upon manning it with her own people: men to row and Amazons to guard the passengers. She said:

"I shan't be satisfied until I hear from my own girls that these villains have been landed at a place whence it'd take 'em years to regain Qirib."

By the red evening light of Roqir the unwounded ex-pirates filed aboard the *Yars* near the mouth of the channel. There were three hundred ninety-seven men and one hundred twenty-three women, and eighty-six children, which crowded the ship even without the Qiribo rowers who were going along to bring her back.

Barnevelt ate alone, Tangaloa being off shooting movie film. After his meal Barnevelt had himself rowed from the *Junsar* down channel to Alvandi's *Douri Dejanai*. He had not previously seen the queen's private cabin, now streaked with black from a fire set by the Sunqaro rockets. He was surprised to be greeted by a raucous cry of "*Baghan! Ghuvoi zu!*"

There was Philo the macaw

chained to a perch at the side of the room. He looked at Barnevelt first with one eye and then the other; finally seemed to recognize him and let his feathers be scratched.

In came Queen Alvandi, saying: "You and I are the only ones who can handle yon monster. You have a subtle power over such creatures, and me he fears. Guzzle yourself a mug of prime falat, in the carafe yonder. I suppose you'll preside over the meeting to divide the spoils this eve?"

"Yes, and I dread it. Everybody'll be grabbing at once. I'm comforted, however, by the knowledge that this'll be about my last act as commander in chief."

"Oh, no need for dissonance: Tell 'em your decision and make it stand. I ask but my fair share—all the Sunqar, plus my proportionate part of ships and treasure."

"That's what I'm afraid of."

She made a never-mind gesture. "So that you demand not a fourth for your private portion there'll be no discord."

"Matter of fact I wasn't going to ask any for myself," he blurted.

"What? Art mad? Or be this some subtle scheme to rive one of us of our throne? Seek you to subvert the popinjay of Sotaspé?"

"I never thought of such a thing! I like Ferrian!"

"What have likes to do with high politics? No doubt Ferrian likes you too, which fact wouldn't hinder him from slitting your weazand for the good of Sotaspé. But then it mat-

ters not, for I have other plans for you."

"What?" said Barnevelt apprehensively. Alvandi had a way of carrying through her plans in spite of hell or high water.

"Relinquish your share of loot, if you will, with a hoity-toity affectation of simple honesty, like Abhar the farm lad in the fable. But see to it that what would have been your share goes to me. Then 'twon't matter for 'twill all be in the family. Though you did vex me sore this afternoon when you gave in to the thieves on their demand to let wounded Qiribuma land upon the nearer mainland."

"I came here to ask about that," said Barnevelt. "The wounded ones are no problem, since they'll be mixed in with the rest. But I've been calculating, and the *Yars* with the unwounded ones will never get to where you want to send them with enough food and water for all those people. Therefore we must either divide them among two ships, or—"

"Nonsense!" cried Alvandi in her Queen-of-Hearts manner. "Think ye for an instant I mean to set these ravening predators ashore, my realm to infiltrate and subvert? Am I daft?"

"What d'you mean?"

"The captain of the *Yars* has my orders, as soon's he's out of sight, to pitch these miscreants into the sea, and their drabs and brats with 'em. For a carbuncle nought serves but the knife."

"Hey! I can't allow that!"

"And why not, Master Snyol?"

"I gave them my word."

"And who in Hishkak are *you*? A foreign vagabond, elevated by my contrivance to command of this expedition; and now our labor's over, chief no more, but one of my subjects, to do with as I will. And my will in this case—"

Barnevelt, feeling as if a cold hand were clutching his windpipe, jumped up, spilling his wine. "What's that about it's being all in the family?"

"So you've guessed? 'Tis plain as the peaks of Darya that my daughter Zéi's in love with you. Therefore do I choose you as her first husband, to serve in accordance with our ancient and unalterable custom until your function be performed. The lot's a fake, of course. And let's hope you provide a better meal at the end of your service than would the unlamented Kádj have done!"

XVII.

Barnevelt stood, breathing hard. At last he said: "You forget, madam, I'm not a Qiríbu, nor is this Qiríb. You have no jurisdiction over me."

"And *you* forget, sirrah, that I conferred Qiríbo citizenship upon you when you returned to Ghulindé with Zéi. By not refusing then you did incur the usual obligations of such status, as the most learned doctor of laws would agree. So let's have no more of this mutinous moonshine—"

"Excuse me, but we'll have a lot more of it. I won't marry your

daughter and I won't let you massacre those surrendered Qiribuma."

"So? I'll show you, you treasonous oppugner!" Her voice rose to a scream as she hurried across the cabin to fumble in a drawer.

Barnevelt at once guessed that she was after a container of janrú-perfume—perhaps a bottle or a water-pistol—to spray him with. One whiff and he'd be subjected to her will as if he were under Osirian pseudo-hypnosis. She was nearer the door than he at the moment; what to do?

"Grrrrrk!" said Philo, aroused by the shouting.

Barnevelt thought of the one defense he had against such an attack. He leaped to the parrot's perch, seized the astonished bird, pressed his long nose in amongst its breast feathers, and inhaled vigorously.

Philo squawked indignantly, struggled, and bit a piece out of the rim of Barnevelt's left ear, as neatly as a conductor punching a ticket.

Barnevelt released the bird as Alvandi rushed upon him with an atomizer, squirting at his face. His eyes were red, his nose was dripping, and blood ran down his ear from the notch the bird's beak had made. He whipped out his sword, grinning.

"Sorry," he said, "but I cadt sbell a thig. Dow get back id your bed-roob, ad dot a word out of you, or Zéi'll be queed without your havig to abdicate."

When he reinforced the command with a sharp jab in her midriff, she went, muttering maledictions like a

Gypsy grifter being marched off to the paddy-wagon. In the royal bed-chamber he collected sheets, which he tore into strips: "My best sheets, inherited from my grandmother!" wailed Alvandi.

Soon her complaints were smothered by a tight gag. In another quarter-hour he bundled her, trussed and bound, into her own clothes closet and locked the door thereof.

He told the sentry at the cabin door: "Her altitude feels udwell, ad seds word that od do accout is she to be disturbed. By boat, please?"

He returned to his own ship filled with an odd bubbly elation, despite the peril in which he stood, as if in quelling the queen he had also defeated his own mother once and for all.

On the *Junsar's* deck he found Tangaloo, who began: "I've been looking for you—"

"Matter of fact I've been looking for you, too. We've got to get out of here. Alvandi thinks she's going to massacre all those surrendered Sunqaruma from Qirib, and make me her son-in-law. Complete with chopping block."

"What shall we do then? Where is she?"

"Tied up in her closet. Let's load Igor into our boat and . . . let me see . . . the *Yars* is at the mouth of the channel, isn't it? We'll row down there; you distract Alvandi's girl warriors while I arrange with Vizqash . . . I mean Gizil . . . to take over the *Yars* and sail back to Novorecife."

"With the ex-pirates as crew?"

"Why not? They're homeless men who'll probably be glad of our leadership. They'll believe me when I tell 'em I've switched to their side rather than let 'em be killed, because that's the sort of thing the real Snyol would do."

"Good-o!" said the xenologist. They hurried below.

"Get me a pair of handcuffs," Barnevelt told the sergeant at arms. With these they went into the brig, where Shtain sat apathetically upon his bunk.

"Put out your hands," said Barnevelt, and snapped the cuffs on Shtain's wrists. "Now come."

Shtain, who had sunk into a torpor, shambled back up on deck with them, and over the side into the longboat.

"Pull down the channel to the *Yars*," Barnevelt told his rowers. "Quietly."

"How did you avoid a whiff of that *nuit d'amour* perfume while you were tussling with the queen?" asked Tangaloo. When Barnevelt told him, he laughed. "That is the first time I ever heard of a bloke being saved from a fate worse than death by feathers!"

To facilitate loading, a small floating pier had been towed down the channel and made fast to the side of the *Yars*. The rowboat pulled up to this and its passengers got out.

The sentry on the pier flashed her lantern towards them and challenged; then said: "I crave pardon, General Snyol. Oh, Taggo! Girls, 'tis Taggo

come to sport with us!"

"So that's what they call you?" said Barnevelt. "Try to inveigle 'em into the deckhouse. Tell 'em you'll teach 'em strip poker or something." He raised his voice. "Admiral Gizil!"

"Here I be. What would you, General Snyol?"

"Come down here and I'll tell you. It's all right, girls; everything's under control. Go topside and play with Taggo while I hold a conference."

The Krishnan dropped lightly from the rail of the *Yars* to the pier. When the Amazons were out of earshot Barnevelt told him what had happened.

Gizil struck his palm with his fist. "A prime fool I, not to have thought

of such waggery! Now that we know, what's to be done? Here lie we with nought but eating-knives to fight with, under guard, surrounded by unfriendly ships. What's to stop them from working their will upon us?"

"I'll stop them."

"You?"

"Yes. Will you and your men follow me?"

"You mean you'll take our side instead of theirs, solely on a matter of honor?"

"Certainly. After all I am who I am," said Barnevelt, using a favorite Krishnan cliché.

"Let me grasp your thumb, sir! For now I do perceive that, though you be no more Snyol of Pleshoh than I, but a vagrant Earthman, yet have you the true spirit that rumor credits to the great Nich-Nyamè.



Fear not; your secret's safe with me. 'Twas for such urgency as this I did withhold it in the council with your admirals. What's to be done?"

"When Tagde gets those women into the cabin, we'll call a conference with your officers . . . have you still got an organization?"

"Of sorts."

"We'll tell them what's up, and at the proper time we'll bar the cabin door, cut the mooring lines, and shove off. If anybody asks questions I'll handle 'em."

From the cabin came sounds of ribald revelry. Barnevelt reflected that discipline had sure disappeared in the fleet in the last few hours, but he supposed that was a natural let-down after the tension of the campaign.

The word was passed. Barnevelt added: "Assign the men to the benches, and have 'em get their oars ready to thrust through the ports. The first man who drops an oar gets left. Who's got a sharp knife? Cut the ropes and push the pier away with a boathook. The first pair of oars out first— Cut the lines to the weed— Now row. Softly; just enough force to move the ship— Here, stuff rags into the ports to deaden the sound. No rags? Use your women's clothes. If they object smack 'em— That's right. Now another pair— Take that kid below—"

As the *Yars* crept snaillike into the fairway and down the channel, a hail came from close aboard.

"What is it?" asked Barnevelt,

peering over the rail at the ship they were passing. A man's head showed in the light of a riding lantern. "I'm Snyol of Pleshch, and all's well."

"Oh, my lord Snyol . . . I thought— Be that not the *Yars*, with the pirate prisoners?"

"It's that *Yars*, but with her regular crew. The prisoners haven't been put aboard yet, and we're going out for a practice row."

"But I saw them filing aboard this afternoon—"

"You saw them boarding the *Min-yán* of Sotaspé, where they'll be quartered for the time being. There she lies now!" He pointed up-channel towards the vague black mass of hulls.

"Well," said the man in a puzzled tone, "if we say all's well, it must be so."

And the ship dropped astern to mingle with the rest of the fleet.

"*Whew!*" said Barnevelt. "Right rudder; steady as you go. All oars out. Number three port, you're fouling up the stroke! Now pull! Stroke! Stroke!"

They issued from the mouth of the channel, leaving behind the mass of the allied navy moored along the edges of the terpahla, the ships' lanterns showing like a swarm of fireflies frozen in position. As the breeze still blew from the South, Barnevelt ordered the sails set wing-and-wing to take full advantage of it, and turned the *Yars* north. Under the blanketing overcast the Sunqar

receded into the darkness.

Barnevelt watched it go with mixed feelings. If their luck held, they'd stop at Madjbur and then go straight up the Pichidé to Novorecife, where he'd pay off the Sunqaruma.

Sometimes he thought he was tired of blue-green hair and olive-tinted skins, bright skimpy clothes, clanking cutlery, and windy speeches delivered with swaggering gestures in rolling, rhythmic, guttural Gozash-tandou. He glanced towards where Sol would be were it visible. New York with its labyrinthine tangle of transportation, its suave eating and drinking and living places, and its swift wise-cracking conversation, would look good.

Or would it? He'd be returning to a New York almost twenty-five years older than the one he'd left. Although most of his friends and relatives—thanks to modern geriatrics—would be still alive, and not much aged, they'd have scattered and forgotten him. He'd be separated from them by a whole generation, and it would take him a year just to get oriented again. Shortly before he left he'd bought a hat of the new steeple-crowned shape; now such hats were probably as archaic as derbies—which might in their turn have been revived. He understood why people like Shtain and Tanga-loa, who made a business of interstellar trips, formed a clique of their own.

And his mother would probably be there. While he had accomplished

the tasks formally set him—to solve the Sunqar mystery, rescue Shtain, and fulfill the Cosmic Features contract—he had not yet solved his personal problems of familial relationships. Or rather he'd solved his mother-problem by removing himself light-years away from her, but his impending return would cancel that solution.

He also suffered an odd feeling of loss, as if he were missing a chance. One of his old professors had once told him that a young man should obey the romantic impulse at least once:

“Come, fill the Cup, and in
the fire of Spring
Your Winter-garment of
Repentance fling—”

And here he was, letting prudence and foresight get the better of him.

On the other hand George's suggestion that he bring a creature of another species to Earth and live in sin with her there daunted him utterly. Such a life would be just too complicated for him to cope with, especially if his mother—

At least, he swore, this time he'd use his head in his relations with his crew: Be kind and affable, but firm and consistent, allowing no undue familiarity.

Gizil came up to report. Barnevelt asked:

“Weren't you the masked man I conked with the mug in Djazmurian?”

Gizil grinned shamefacedly. “I hoped your lordship had not recognized me, but such is indeed the

fact. I was to make a disturbance—as you saw me do by picking a quarrel with the Osirian—while Gavao did drug your drink, but the lardhead must have doctored his own by error. 'Twas like an imbecile Balhibu so to do."

"Were you really going to kill Sishen?"

"No-o, I suppose not, though it did my liver good to see the eldrich monster quake with fear."

"One would think you didn't like Osirians, though you worked for one."

"Perforce; for once having clamped his claws upon our helm, Sheafasè gained such power over us by his talents fascinative that there was no shaking him, though many of us privately opined his reckless course would bring us to disaster, as indeed it did. Had the dice of Da'vi not turned up a double blank, thus terminating his existence, he'd have compelled us to the last man to resist."

"What were you trying to do to Tagde and me?"

"To abduct, or failing that to slay. I trust you'll hold it not against us, for we did but as Sheafasè commanded—commands we could not shirk—the mental grip he held upon us. By his acquaintanceship with Earth he knew full well the plans for Igor Eshtain the Sunqar to explore, and laid his gins accordingly."

Gizil went on to explain the inner workings of the janrú ring, an organization that included Earthmen,

Osirians, and Krishnans—how they had kidnaped Shtain and put him under pseudohypnosis on Earth; how they had planted Gizil, under the name of Vizqash, at Novorecife to watch for people sniffing on Shtain's trail, and so on.

"One of the heads of the ring is an officer on that *Viagens* ship—a *chivenjinir*, I think they call—What's that?"

Pandemonium from the cabin announced that the Amazons now knew they had been deceived.

Two ten-nights later the *Yars* put in to bustling Madjbur, having been blown out of her course by the tail of the season's first hurricane, and having twice fled from unidentified fleets on the horizon.

Leaving Gizil—for whom he had come to have a good deal of respect despite the Krishnan's lordly airs, piratical past, and assorted attempts to murder him—in charge of the ship, Barnevelt went with Tangaloo, dragging Shtain between them, to the office of Gorbovast, official agent in Madjbur of King Eqrar of Gozash-tand and unofficial agent for the *Viagens Interplanetarias*.

"By all the gods!" cried Gorbovast, startled out of his habitual suavity. "The Free City's fleet arrived two days gone with a wild and wondrous tale of how you twain did lead the allied fleet to triumph in the Sunqar and then, over some dispute with old Alvandi, did truss her like an unha on the way to market, steal a ship of Suruskand

manned by pirate prisoners, and vanish into air attenuate. And here you are! What led a man of proven probity to turn his coat in such amazing fashion?"

Barnevelt told the commissioner about the queen's plan to kill the surrendered Sunqaruma.

"Ah well," said Gorbovast, "'tis said you are to singular idealisms given. Who's this frowsy fellow in gyves? The Free City forbids unlawful restraint upon free men, even Earthmen—"

"This," said Barnevelt, "is the Shtain we were hunting."

"Igor Eshtain, eh?"

"The same. The janrú ring captured him, and the Osirian members of the ring made him into a pirate by their mental powers, so now he doesn't know his old friends. Sheafasé's dead, but we met another Osirian, Sishen, in Djazmurian some ten-nights back. I think he was on his way to Madjbur. D'you know if he's here?"

"No, but we can learn. Let's to the Chief Syndic's chambers, across the street."

The chief syndic, whom they had seen last in Ghulindé, greeted them with even more amazement than had Gorbovast. When the situation had been explained he sent for his chief of police, who sent for one of his subordinates, who said yes, this Sishen was staying at the Chunar, and could be brought in within the hour.

"Don't frighten him," said Barnevelt. "He's a timid soul; tell him

some old friends want to see him."

"Ahem," said the chief syndic. "While I mislike to dampen so auspicious an occasion, yet duty forces me to bring up certain matters." He fumbled in his desk. "I have here a letter from the President of Suruskand, requesting help in recovering his stolen ship."

Barnevelt dismissed the question of the *Yars* with an airy wave. "He shall get his ship back. Meanwhile I'll pay him rent for it. Have you a draft blank?"

After puzzling over the strange printed instrument, arranged quite differently from an Earthly check, Barnevelt wrote out a draft to the Republic of Suruskand on Ta'lun and Fosq for five hundred karda. "Send him this, and tell him I'll settle the balance later."

"I trust he'll take your . . . uh . . . rather cavalier treatment of the matter in good part," said the chief syndic. "I have here another letter that concerns you, sir. It arrived but this morn, in diplomatic cipher; from Zakkomir bad-Gurshmani, a word of Queen Alvandi. After the usual preamble he says:

"'Since our return to Ghulindé have I been doomed to grisly death, to wit: chosen by this false lottery as Princess Zéi's first consort, to wed her on the day of her accession, on the tenth of Sifta.' (That, as you'll perceive from yonder calendar, is six days from now.) 'You know, Master Syndic, the fate awaiting one on whom that honor falls at end of year. Nor is Zéi happier than I in

this predicament, but we are helpless puppets in my guardian's royal grip, for she will keep all the leading strings in her own fists even after she has nominally resigned. There is one, however, who might us rescue: the mighty Earthman traveling under the pseudonym of Snyol of Pleshch.' That, I take it, means you, sir?"

"That's right," said Barnevelt.

The chief syndic made a deprecatory motion. "Fear not to acknowledge the fact in the privacy of our chambers, for Gorbovast and I are enlightened men who strive against the prejudiced disfavor in which Earthmen are by many held. Some of our best friends are Earthmen, for we take the view: Because some of the louts act with unseemly arrogance, insolently boasting of the superiority of all things in their own fearsome world, should the whole en-seamed race be damned unheard?"

"Howsomever, let's to our embroidery return. I quote: 'I did not know this hero was an Earthman till Zéi told me after my rescue from the Sunqar, though I did before suspect it. Here's the kernel: He is an Ertsu, and so is Zéi—a fact I have long guarded as a courtly secret. She is no chick of Queen Alvandi, who is barren as the rocks of Harqain, but an Earthly waif procured from slavers and reared as the queen's own, being taught from early years to disguise herself as a native of this planet. For Qirib's law not only dooms the consort yearly; it

likewise damns the queen who within five years of her accession fails to lay a fertile egg.

"The princess tells me she did learn this pseudo-Snyol's true nature during the rescue, and assumed he likewise learned of hers. And therefore was she all the more perplexed by the inconsistent sentiments he manifested towards her—'" The Syndic looked up. "I presume you know to what he refers, sir? To continue: 'Since he is an Earthman, it seems likely that he would direct his course towards Novorecife and his fellows. We therefore beg you with all the ardor we command to watch for him. Should he reach Novorecife without your interception, essay to get a word to him in the stronghold of the Ertsuma. For thus you may save, not merely my own worthless life, but the happiness of my lady princess.

"I add that Queen Alvandi also knows of Snyol's true nature, and was therefore all the more eager to obtain him as a consort for her daughter, for she would rather have a foreign rule in this Qirib than jeopardize her matriarchal principles. Failing to hold him she has chosen me as second best—a choice I should find flattering did not the vision of the chopper spring uppermost in my thoughts. Since Zéi—for whom my feelings are of sib affection only—could not be fructified by one of my species, I ween Alvandi plans to smuggle in another waif to carry on the line.'

"There you have it," said the Syndic. "What you do now is up to

you. I beg you, if you turn your back upon this world, not to reveal these matters, which contain most dire subversive possibilities."

Gorbovast said: "I suspect who Zéi really is."

"Who?" said Barnevelt sharply.

"Know you that Earthly missionary for a cult of more than normal incoherence, Mirza Fateh? His wife was slain and daughter carried off by robbers in the Year of the Bish-tar."

The Syndic made the affirmative head-motion. "Zéi would be of the right age and type, though my information was the child was sold in Dur and there did die. Where's Mirza Fateh now?"

"He was in Mishé," said Gorbovast. "It transpires, Général Snyol, that you may be in a position to bring about a family reunion."

"We'll see," said Barnevelt, whose mind had been whirring like a generator. "I sort of think young couples are better off without too many parents cluttering up the landscape."

Tangaloo said: "If you want to check, say to Zéi: *Shuma fārsi harf mizaniid?*"

"What's that?"

"That's 'Do you speak Persian?' in Persian. I lived in Iran once. But you won't have a chance, because I don't see how you will see the sheila before we push off for Earth."

Barnevelt was still practicing the sentence when Sishen came in, took one look at Barnevelt, and leaped upon him as he had upon Tangaloo

that time in their room in Angur's Inn.

"Hey!" yelled Barnevelt, trying to wriggle out of the reptilian embrace.

"Oh, my dear rescuer!" hissed the Osirian. "How good to see you again! Not for a minute has my gratitude wavered in the time since we parted in Djazmurian! I love you!"

"Let's not be so demonstrative about it," said Barnevelt, detaching himself by force. "If you really want to do me a favor, here's an Earthman under Osirian pseudohypnosis who's forgotten his life on Earth and thinks he's a pirate of the Moryá Sunqaruma. Can you cure him?"

"I can try. May we have a room to ourselves?"

While the reptile led Shtain out, Barnevelt inquired after the *Shambor*. The little Marconi-rigged smuggler, however, seemed to have disappeared without a trace. Barnevelt suspected that the mutineers had probably capsized or otherwise wrecked her as a result of their unfamiliarity with the rig. At least that would save him from trouble with the *Viagens*.

Half an hour later Shtain came out of the room, shaking his head and rubbing his bristly scalp. He wrung the hands of Barnevelt and Tangaloo.

"It's good to be normal again!" he said. "It is the queerest fillink, to have part of your mind that

knows perfectly well what's goink on, but can't do a think about it. You boys were fine, wery fine; I could not have done batter myself. When do we shuff off?"

"I don't know about you two," said Barnevelt, "but I'm going back to Ghulindé with my Pirates of Penzance."

"What?" shouted Shtain. "Dunt be ridiculous! You're cahming back to Earth with us—"

"I am not!"

"Wait, wait, both of you," said Tangaloo. "Let me handle him, Igor. Look, here, cobber, don't take this business about Zakkomir and Zéi seriously. We've got our film; we've had our adventure; and now you can return to Earth to live on your laurels—"

"No," said Barnevelt. "In the first place my mother lives on Earth, and in the second I'm going to rescue Zéi."

"There'll be another sheila along in a minute!"

"Not the one I want."

"If you do rescue her, will you bring her to Earth on the next ship?"

"I think not. I've about decided to make my fortune here on Krishna."

Shtain had been hopping about with clenched fists in an agony of suppressed emotion. Now he burst out: "Are you crazy mad? What will Igor Shtain Limited do without you? Where would I ever get soch a ghawst writer again? I'll dawble your salary! You can't walk out on

us like that!"

"Sorry, but you should have thought how valuable I was sooner."

Shtain began to swear in Russian. Tangaloo said:

"Ahem. Dirk, you know these Earthly adventurers, who run around backward planets exploiting the natives, are inferior types who can't compete with their own kind back home. They take advantage of Earth's more sophisticated culture, which they themselves have done nothing to create—"

"Oh, foof! I've heard that lecture, too. Call me inferior if you like, but here I'm quite a guy, not a shy schizoid Oedipean afraid of his ma."

"It's still no life for a man of intellect—"

"And just think: Although we busted Sheafasè's gang, the Sunqar's still in Krishnan hands, so we haven't settled the janrú problem. Since Alvandi's a fanatical . . . uh—"

"Gynarchist?"

"Thanks, gynarchist, she'll go on making and selling the drug. Her objection to Sheafasè was not that he sold it to the interstellar smugglers but that he charged her all the traffic would bear."

"What of it? We have our information. The rest is up to the World Federation and the Interplanetary Council."

"But think how it'll simplify matters if I'm running the Sunqar!"

"There's that." Tangaloo turned to Shtain, whose lips were still spitting Slav consonants like a machine gun. "We might as well let him go;

the romantic bug's bitten him. In a couple of years he may get tired of it and drift back to Earth. Besides, he's in love."

"Why did you not say so? That's different." Shtain sighed like a furnace. "When I was yonk I was in lawv too—wit three or four girls at once. Good-by, my boy! I hate your gawts, but I lawv you like my own son."

"Thanks," said Barnevelt.

"If you come around in a year, I will first break your nack and then give you back your old job. George, how do we gat to Novorecife?"

XVIII.

Six days later two ships pulled into Damovang Harbor. One was the *Yars*, the other a stock boat full of ayas, which Barnevelt had bought for his private army with part of Alvandi's reward. The flag that flew from the masts of these ships caused the folk of Damovang to scratch their heads, for it was the ancient flag of Qirib, used back before the days of Queen Dejanai and the matriarchy.

The ships came quietly up to the vacant wharf. A line snaked ashore and was caught and belayed by one of the loafers to be found on any pier. Then out of the first ship tumbled a swarm of armed men. Before their points the people about the docks scattered with screams like a flock of frightened aqebats.

"Hurry up with those ayá!" yelled Barnevelt. From the second ship

more men were leading the beasts to the wharf. As they arrived, Barnevelt's most heavily-armed men climbed into the saddles. (After a long argument between Barnevelt and Gizil over the merits of an assault on foot from the sea versus one mounted from the land, they had decided to combine the two in an amphibious cavalry assault.)

"Follow me!" called Barnevelt. Gizil behind him blew a trumpet. The force clattered up the nearest street in double column. Behind them came the rest of the army on foot.

"What means this?" screamed a voice, and there came a trio of Amazon guards to block their way.

"The men of Qirib come back to claim their own!" said Barnevelt. "Out of the way, girls, if you don't want to get hurt."

One Amazon poked a pike at Barnevelt, who chopped off the spear-head with a swift slash, then whacked the brass helmet with the flat of his blade. The girl rolled on the cobbles. As his aya plunged forward he spanked the second. As the third turned to run he reached out and caught the hair that flowed from under the helmet.

"Just a minute, beautiful," he said. "Where's this wedding between the new queen and her consort?"

"At the t-temple of the Mother Goddess in the upper city."

"Gizil, lead the way. And make it snappy with those handbills."

Certain of Barnevelt's men began pulling fistfulls of handbills out of

saddlebags and tossing them fluttering into the air. They read:

MEN OF QIRIB, ARISE!

Cast Off Your Shackles!

The Day of Liberation Has Come!

Today, after five generations of female tyranny, a dauntless band of exiles has returned to Qirib to lead the glorious revolution for

EQUAL RIGHTS FOR MEN!

Arm yourselves and follow us! Today we shall hurl from its base the ugly image of the false vampire goddess whose degrading worship and obscene rights have so long served as an excuse for a vicious and unfair oppression.

Barnevelt held down his impulse to gallop madly ahead, leaving his foot troops behind. As the column, brave with pennon-bearing lances, wound up the slope to the spired city in Qunjár's lap, he looked back and saw that behind his own troops came a straggling column of male civilians waving chair-legs and other improvised weapons. Some of the people ran away as he approached, while others crowded up to see. Men cheered while women shook fists and spat threats.

In the plaza in front of the temple of Varzai, Barnevelt reined in. Across the plaza, ranged in a semi-circle in front of the entrance, a body of Amazons was getting into formation. An officer rushed up and down pushing the girls into place. All held their spears outthrust, those of the rear rank over the heads of those in front, who knelt, as on the night of

the pirate raid in Ghulinde.

Barnevelt signaled Gizil to hold the men back while he trotted across the plaza.

"How's the wedding coming?" he asked the officer.

"'Tis even now being solemnized. What's this incursion?"

Barnevelt looked back. The logical way to attack the Amazons would be by archery, holding his cavalry back in case they tried to charge on foot. But his foot troops were only now beginning to file into the square, and to organize such a barrage would take several minutes. He made up his mind.

"Disperse!" he shouted. "We're coming in!"

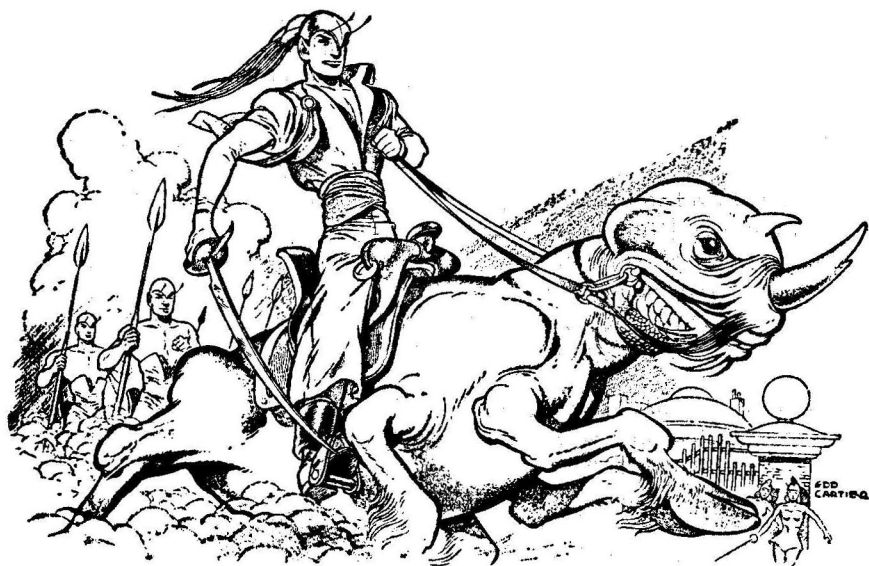
"Never! We defy you!"

Barnevelt whirled and galloped back. "Form a square. Ready? Walk!"

Plop-plop went the hoofs on the flagstones. It would be nice to work such a coup without bloodshed—but this was Krishna, where they had not attained the squeamishness towards violent death that Earth took pride in.

"Trot!" These six-legged creatures had a hard, jarring trot, as the saddle was right over the middle pair of legs.

"Canter!" The pikes looked awfully sharp. If the girls did not break before they arrived, and if the ayas did not shy back from the hedge of points — which Qondyorr forbend — there'd be a messy moment. He hoped he wouldn't be thrown off and trampled.



“Charge!” down came the lances. The gallop of the aya’s six-hoofs had a peculiarly drumlike roll. Barnevelt slacked up until he could see the points of lances on either side of him; no use being absolutely the first to hit the line.

Closer came the line and closer; he’d try not to kill the pretty girl facing him.

Crash! The pretty girl warrior disappeared. Barnevelt knocked one pike-point aside with his left arm while another glanced from his armor. His aya stumbled and was pulled up again with a furious yank on the reins braided into the animal’s mustache. For an instant the world was all Amazons and ex-pirates turning somersaults. The middle of the Amazon line disappeared as the ayas rolled over it; the

other girls dropped their pikes and ran.

A riderless aya ran past. A dis-mounted man was hitting an Amazon with a broken lance shaft. Another was getting back on his animal. There were a couple of dead ayas and several Amazons lying still. Barnevelt turned away from them and led his men into the temple.

The audience sat frozen as the animals clattered down the central aisle to where Queen Alvandi, Zéi, Zakkomir, and assorted priestesses of Varzai stood in a group.

“Saved!” cried Zakkomir, grinning.

Avandi spoke: “Never shall you carry through this antic enterprise, detestable Earthman! My people will tear you to pieces!”

“Yes? Come and see what your

people are doing, madam." He grinned down at her, then turned his aya and led the group back up the aisle, crowding past the column of his own men who had followed him in. At the portal he said: "See?"

His own men had formed a square around the portal, and beyond it the plaza was packed with male Qiribuma. Gizil was haranguing them, and from the way they yelled and waved their cudgels they seemed to like it.

"What mean you to do?" said Alvandi. "Frighten me with threats you cannot, for my superior social order is dearer to me than life itself."

Barnevelt said: "Madam, I admire your courage even if I can't approve your principles. First, you're a usurper yourself, because you've never laid a fertile egg and therefore should have been executed long ago." (The queen quailed.) "Instead, you bought a kidnaped Earth girl, a small child, and reared her as your own. Will you demonstrate, Zéi? Like this?"

He reached up to his forehead and wrenched off the false antennae. Zéi did likewise.

"Now," he continued, "I won't kill you merely because you should have been sent to the chopper by your own silly law. Since the present regime is proved illegitimate and unlawful, it's time the old order changed, yielding place to new. I'll help them draw up a constitution—"

"With yourself as ruler?" sneered Alvandi.

"By no means; I won't have the job. I'll just give advice; for instance to exile you. Then I'll take Zéi, some ships, and some volunteers, and take over the Sunqar."

"But that's mine by treaty with the admirals—"

"Was, you mean. It's state property, and my followers, who being both Qiribuma and Sunqaruma are qualified to decide its fate, have given it to me."

The queen turned to Zéi. "At least, Daughter, you'll not willingly yield to the wicked importunities of this crapulous vaper?"

"And why not? No daughter of yours am I, but one of another race whom you've sought to use as a puppet to prop your own power, even to forcing me into an alliance miscegenetic. I prefer my own."

"Zakkomir?" said Alvandi.

"The same for me."

"You're all against me," said the queen, drooping. She turned to Barnevelt with a last flicker of defiance. "What have you done with my warrior girls you carried off? Fed them to the fish?"

"Not at all, Queen. They're all married to my ex-pirates."

After doing what had to be done to secure order in Ghulindé—such as hanging a couple of liberated males who tried to celebrate their freedom by robbing shops—Barnevelt snatched a few minutes with Zéi in her apartment. When she could talk she said:

"My lord and love, if indeed you

love me, why, knowing I was of Earthly origin, did you hold off until Zakkomir's letter reached you? Another instant and the link had been forged."

"How was I supposed to know you were human? You couldn't expect me to yank your antennae to see if they'd come off!"

"By the same means I knew you for such."

"What was that? Did my ear points come loose or something?"

"Nay, but when we dried our apparel on the raft in the Sunqar I saw you had a navel!"

Barnevelt clapped a hand to his forehead. "Of course! Now that you mention it, I see how a person hatched from an egg would have no use for one."

"And knowing you knew I had one, I assumed you knew all, and could conceive no reason for your strange evasive difference than that you thought me ugly."

"Ugly! Oh, darling—"

"Yes. Said I not we were of the same kind?"

"I understand now. How'd you hide your navel when you went swimming?"

"I wore a patch of false skin, but for the kashyó I'd left off my little patch, seeing no need for it under those formal robes."

"I see. While we're confessing impostures, that wasn't a real yeki that growled on the road to Shaf, when you started to leave me. It was I doing imitations."

"Why, I knew that!" she said.

Another ten-day and the freshly-painted *Douri Dejanai* pulled out from its dock in Damovang Harbor. In the stern Barnevelt waved to his friends: Zakkomir, Gizil, and the others on shore. The remaining two ships of his little fleet followed.

When people could no longer be recognized for the distance and the sun was setting behind the Zogha, he turned away, threw an arm around Zéi, and went below with her to his saloon. He paused at Philo's cage to scratch the roots of the macaw's feathers—the queen having abandoned the bird when she left Qirib—and then at the cage of his latest acquisition, a pair of bidjara, bought at the same pet shop in Ghulindé where he had found Philo. He thought: if his mother could see him now!

Zéi said: "They all consider you a man of superhuman self-restraint, elevating Gizil to the presidency in lieu of taking it yourself."

"I'm not a Qiribu, remember," said Barnevelt, rubbing the male bidjar behind the ear. "They'd have gotten tired of being ruled by an Earthman and thrown me out. One reason they followed me was I'd promised them not to take any office in Qirib."

"Had you not ordained those provisions for periodical elections, they'd not have had the opportunity."

"Then they'd have murdered me. Besides, they asked for the latest model republican constitution, so I did my best. Though it was all I

could do to get 'em to give the women equal rights; they wanted turn about."

"Think you 'twill last like the rocks of Harqain?"

Remembering Tangaloo's remarks about basic cultural attitudes, he said thoughtfully: "Considering that they don't have a tradition of democratic self-government, I shall be pleasantly surprised if this shiny new constitution stands up to the strains of human weakness and ambition for many years. But this purblind race of miserable men will have to manage as best it can."

"What sort of rule will you establish in the Sunqar? Come, sir, more attention to me and less to your insenate beasts, specially since the Earthly monster makes you sniffle. At your present rate of accumulation I foresee the day when the Sunqar's greatest renown will be as a park zoölogical."

"Sorry." He drew out a chair and poured her a drink. "I think I'll set up what on Earth would be called a stock corporation, with us holding a majority of the stock. We'll be capitalists, which once were considered the ruling class on Earth. Say, Zéi—"

"Yes, dearest Esnyol . . . I mean Dirk?"

He smiled at her mistake. Then it occurred to him that "Zéi" was probably not her original name either—though if it suited both of them there was no point in digging up some forgotten Iranian praenomen. With so many pseudonyms in his circle—his own, Tangaloo's, Gizil's—it was hard

enough to keep track of names. To aggravate matters the men of Qirib had all changed their surnames from metronymics to patronymics, so that Gizil bad-Bashti was now Gizil bad-Haokar.

Out of curiosity, however, he said: "*Shuma fārsi harf mizanid?*"

She gave a little start. "Why yes I . . . *what* was that, beloved? 'Tis a tongue I seem to recall once knowing, but now all's hazy. Didst not ask me if I spoke something?"

"Tell you some day," he said, running his fingers luxuriantly through his new bristle-blush of hair. Since she had stopped dyeing hers, Zéi's, too, had begun to come in with its normal glossy black.

"Why did Alvandi adopt an Earthly child instead of a Krishnan one?" he asked.

"She did adopt a Krishnan babe, but it died a ten-night before the ceremony of Viewing the Heir. So Alvandi in great haste and secrecy besought the trafficker in slaves to give a surrogate. He sent me, not telling her I was of Earth, and by the time she learned her error 'twas too late and he'd vanished with his price. Ofttimes have I wondered who my authentic parents were."

Here was a chance to play God by reuniting a family, for there was no doubt in his mind now that she was Mirza Fateh's daughter. However, it might be well to let sleeping eshuna lie. He'd want to look Papa Fateh over with care before inviting him to move in with them; from what he'd heard about the missionary he doubt-

ed whether he'd be a vast improvement on his own mother or Queen Alvandi.

A hectic week of politicking had left him no time to turn his thoughts to the future. For one thing, to help finance his Sunqar projects he had made a deal with Shtain to shoot additional film and sent it to Earth from time to time, to pay for which Shtain had set up a drawing-account for him in the bank at Novorecife. Tangaloa particularly wanted film and data on the tailed Fossanderaners. For another, the Mejrou Qurardéna was suing him in the courts of Qirib for impersonating one of their expressmen. For another—

"My God!" he cried, clapping both hands to his head this time.

"What is't? Is something dreadful?"

"We've been so busy we never thought to get married!"

"I wondered if you'd bethink you of that," she said in a marked manner.

"I'm terribly sorry, but you know how it was. What'll we do?"

"True, we cannot go back to Ghulindé; 'twould make us seem too utterly dementate."

"We should have brought along the court astrologer or somebody to say the large, divine, and comfortable words."

She said: "I've heard the captains of ships have the power."

"Same as Earth, eh? But I'm captain of this one, and I can't very well marry myself."

"Can you not?"

"I shouldn't think so. We could call on the skippers of the other ships, but with this choppy sea it'd be a wet business transferring."

"We could stop at Hodjur to seek a local magistrate."

"So we could—tomorrow. But there's actually some question whether any Krishnan marriage is valid for Earth people. On Earth, at any rate, and some day I'd like to take you there."

"Be there an Earthly authority to whom we can resort?"

"Y—yes, but we can't very well sail all the way to Novorecife to have Comandante Kennedy tie us."

"'Twould take an unconscionable time, would't not? I fear, my love, you must needs rivet the chain yourself if you'd enjoy the comforts wedded life affords."

"Well, why not? I'm master of all I survey; I'm the boss of this fleet and of the whole floating continent of seaweed. I can jolly well make my own regulations. Stand up and give me your hand—the left. Do you, Zéi báb-Alvandi, take me, Dirk Cornelius Barnevelt, to be your husband?"

"Y—yes. Do you, Dirk, take me to be your wife?"

"I do. With this ring"—he slipped the Hayashi camera off his finger and onto hers—"I thee wed." And he swept her close.

XIX.

A Krishnan year later the fat man in the Nova Iorque Bar at Novorecife was declaiming:

"All nonsense, letting these barbarians do as they please. Oughta send the army and civilize 'em. Make 'em adopt modern plumbing, democracy, mass-production, and all the rest. And some good up-to-date religion. Say, who's that?"

He indicated a tall, horse-faced Earthman in Krishnan costume, with a small notch in his left ear, drinking with Comandante Kennedy and Assistant Security Officer Castanhoso. The notch-eared man was saying:

"I did not invite him! He read about us in that paper they publish in Mishé, and put two and two together. The next thing I knew he showed up on a ship from Malayer saying he was my long-lost father-in-law. And since Zéi's crazy about him there's no getting rid of him. Matter of fact, I don't mind Mirza so much, but those funny people who come to visit him—"

"Why do you not put him to work?" asked Castanhoso.

"I will, as soon as—"

"That," said the fat man's companion, "is the famous Dirk Barnevelt, president of the Sunqar Corporation. He's just pulled a big deal with the Interplanetary Council. Like to meet him?"

"Sure. Like to meet anybody *human*."

"Oh, Senhor Barnevelt, may I present Senhor Elias? A new arrival."

"Glad to know you," said Barnevelt, squeezing the pudgy hand.

"You're one of these guys who

lives among the natives?"

"You can put it that way," snapped Barnevelt, and started to turn away.

"No offense meant, son! I just wondered if you consider 'em better than your own kind."

"Not at all. Some find them easier to live with than Earthmen; some don't. I do, but I don't think them either better or worse."

"But aren't they awfully primitive? National sovereignty and wars and nobility and all that crap?"

"Matter of fact I like them that way."

"You're one of these romantic guys?"

"No, but I guess I like pioneering."

"Pioneering." The fat man seemed sunk in thought. Barnevelt, finding his new acquaintance a bore, made a withdrawing movement, but Elias said: "What's that new deal? Wong was telling me about it."

"Oh. Know the Sunqar?"

"A big mess of seaweed, isn't it?"

"Ayuh. There were some people who made janrú out of the terpahla vine—"

"Say, I know you: The guy who eloped with a native princess, only she turned out human after all. Excuse me, what was the deal?"

"Well, I'm now lord high whatsit of the Sunqar, and was willing to stop janrú-making and turn over the names of the smuggling ring. But I wanted something in return, so I persuaded the I. C. to let me have engineering help to set up a soap

works in the Sunqar. The vine gives us unlimited potash, and there's no soap on Krishna. So—"

Again Barnevelt started to withdraw, but the fat man clamped a grip on his arm. "Gonna be the planet's soap magnate, eh? When you finish with the Krishnans they'll be all civilized like us and you'll have to find another planet. Say, when'd you . . . uh . . . marry this dame?"

"About a year ago."

"Any kids?"

"Three. And would you mind letting go my arm?"

"Three? Let's see. Three? Is this the planet with years twice as long as ours? No-o, the years here are

shorter than on Earth. Three, eh? Haw haw haw—"

Barnevelt's ruddy countenance turned purple and his knobby fist smashed into the fat face. Elias reeled back, upset a table, and crashed to the floor.

"Dirk!" cried Kennedy, moving to interfere.

"Nobody insults my wife," growled Barnevelt.

"But," said the fat man's companion, "I don't understand— You did say three, and, that is, you know—"

Barnevelt turned on him. "We had triplets. What's funny about that?"

THE END

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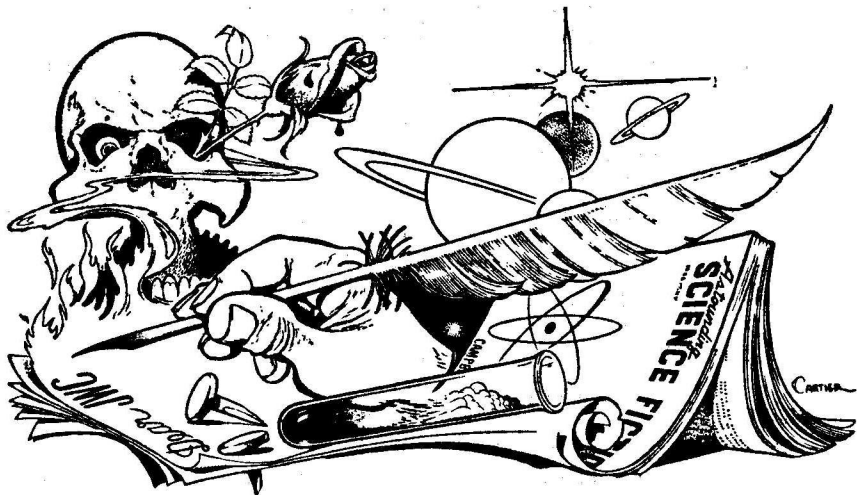
What with a long installment of Sprague de Camp's "Hand of Zei" and Hubbard's long article on "The Analytical Mind," there were but four fiction titles in the October, 1950 issue. This makes the point-scores read a bit lower this month, because there are no "5" votes to be added in. In any case, here are the results:

October, 1950 Issue

Place	Story	Author	Points
1.	The Hand of Zei (Pt. I)	L. Sprague de Camp	1.95
2.	Discontinuity	Raymond F. Jones	2.04
3.	The Enchanted Forest	Fritz Leiber	2.66
4.	Trigger Tide	Norman Menasco	3.04

Incidentally, a point raised by some of the readers in connection with "Discontinuity": there is normally a lapse of a good many months between the time we purchase a story, and the time it gets fitted into the schedule, set in type, made up in the layout, and finally printed and distributed. Jones wrote that story before Hubbard's dianetics article appeared; it did not stem from or have any connection with dianetics—save that both are products of, and concern the functioning of, the human mind!

THE EDITOR.



BRASS TACKS

Dear Editor Campbell,

My rating for ASF, June, 1950,
Volume XLV, No. 4 is:

Van Vogt

Incommunicado

The Evitable Conflict

The Maze

Punching Pillows

I didn't know what to do with van Vogt, so I placed him at the head of the list. He writes with such an apparently loose ease I hate to give him so much credit. When I read his long, involved stories, it seems to me, sometimes, that he rationalizes as he goes along—thinking up an objection and dismissing it in a paragraph. Furthermore he has a habit of calling the whole deck wild, or any cards in it, at his convenience, drawing on his magnificent background and literary ability to get

away with it. Making a living, for him, must be disgustingly easy. He can reach into the air and explain any conceivable paradox by just expanding the universe enough to include it. I place his stories first because they have a fine anthropological touch. The end of this yarn doesn't compare to the end of "Slan"—he just said: Clane solved it! Lo! Period. Had he hailed Clane as a conquering hero, I should have put him just under "The Maze." I rate by "stimulation appeal." V V stimulates.

"Incommunicado" stimulated me next in order. I like tight, concise, "clean" writing even to the point where one has to read slowly to understand, or even reread parts for maximum "punch." I like Katherine

MacLean's style, which I think improves.

Asimov's robot tales are always welcome. His robotic "laws" are so often repeated, he may see them become adopted in reality.

"The Maze" was a nice, tight, pleasant—or pleasantly unpleasant—use of the superior inferior. The ending did indeed make the story since his initial problems were a trifle cut and dried to make for good plausibility.

"Punching Pillows" had quite a surprise ending. I waited and waited and was I surprised by the ending—nothing happened. Perhaps if Cleve Cartmill had concerned himself a little more with the "more interesting" idea, he could have come up to ASF's standards. Is your selection of material so limited you have to let in a pot-boiler every month?

The article was entertaining, as L. S. de Camp usually is, though I suspect he had one eye on the word-age rate. Still the extra words paid for themselves if only for the biography of Waldeck. I was afraid for a moment it was an article to the effect that "Diffusion is." It is pleasant to see the magazine maintain integrity rather than Sunday supplementarize. I sincerely hope "Dianetics" isn't understatement of something overstated, if you see what I mean.

I'm glad you printed a letter of William B. Roosa of Kansas. It accounts for occasional odd fluctuations in the Laboratory. Anybody who rates "Gulf" 4.0, under "Re-

version" ought not to rate. I remember when the second installment of "Methuselah's Children" scored a straight 1.000000. Reader Roosa must have kept his mouth shut that month—August '41. How anybody can rate "Universe" the best story to appear in ASF in the past ten years, and "Gulf" among the worst—Well, Dianetics will change all that.

Nobody ever seems to mention the second "Nova" story in Astounding very much. I refer to Heinlein's "If This Goes On—" (February '40). I thought it was pretty good.

All I have to add is that I cast my vote for a larger magazine and a larger price (thirty-five cents) to pay for it. I think I'll go back and read the end of the Clane story to see if I missed anything.

Here's to thoughtless readers who put stories like "Gulf" in last place. They've taught me why statisticians are tempted to select statistics. "But he couldn't have really meant it!"—Will Nyc, Los Angeles, California.

Every reader has a right to his opinion—and since we can't print the whole score sheet from which the An Lab is made up, you do not realize how those opinions vary. In the October Lab, for instance, there was no story that did not get at least one first-place vote, and none that did not get at least one last-place vote.

Dear Mr. Campbell:

This afternoon I was rereading

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this year's ASF. Of all the stories so far this year I liked "The Wizard of Linn" best. It is so good that I think it might even be a shade better than "Metamorphosite." But enough comment on contents. I could hardly speak as well of ASF as it speaks itself.

The real reason that I was finally jarred into writing a letter to "Brass Tacks" was to point out what seemed to me to be an important mistake(?), perhaps it would be more accurate to call it an error, in logic which is the backbone of Mr. Ronald Friedman's letter in the July issue.

Sometimes "common" sense isn't quite so logical as some people would like to have us believe, usually for purposes of their own.

Exemplia gratia:

The "old puzzler" Mr. Friedman "dug up" so your readers could "use their egos" was more appropriate to the times than he evidently imagined when he wrote the letter, for it isn't really a puzzle, but a masterpiece of misdirection.

A type of misdirection commonly used in propaganda. That is why I believe it is important that I at least attempt to explain his problem, for in a free society there is nothing more important than having a wide distribution of accurate (1) and accurately usable (2) information.

In a modern country with a high standard of living such as these United States where almost everyone has nearly instantaneous access to several unrelated sources of usu-

ally accurate information — news — which he can and does crosscheck, consciously or unconsciously, it is futile for the would-be propagandist to tamper to any extent with the factual accuracy (1) of the information available to the citizen. But it is possible for anyone to use semantic trickery to foil point (2) requirement for information; that it be accurately usable by the recipient. To do this it is only necessary for the propagandist to confuse the relative values of his points; i. e., to distort the victim's associations so that he cannot see the propaganda in its true relationship to other facts and to its own parts or segments. The methods for making such use of psychological and semantic confusion are so numerous and devious that the art or science of propaganda has grown to be a job for experts, virtuosos of language specializing in the techniques of propaganda.

Mr. Friedman led off his letter with a one-two punch to the poor reader's thinking cap. First he made flattering insinuations to get the reader's defenses down and leave him with a friendly, flustered attitude toward the author. That's punch number one, the softener-upper. Then he made the statements on which the making of the puzzle really depends. Statements which, by their apparent harmlessness and by being made while the reader is still predisposed to agree with the author, are not likely to be questioned, but taken as gospel. As a whole, the letter is

typical propaganda depending heavily upon "loaded word" labels and the stating of something in such a way that it is difficult to deny.

Here without benefit of the preparatory part of its propaganda, let us review Mr. Friedman's so-called "puzzler."

"Three men, who are stopping at a rather crowded and somewhat expensive hotel, inquire about the rates, and state that they wish to pay the hotel clerk in advance. The clerk tells them that the room they have is thirty dollars. They pay him ten dollars each.

"After the men are upstairs in the room, the clerk discovers that he has overcharged them a total of five dol-

lars since they get a reduction for the sharing of the room. He sends the bellboy up with the money five minutes later.

"The bellboy goes up to the room and gives the gentlemen three dollars, since he is dishonest, and keeps two dollars for himself. (3) Now let's add: Since the gentlemen each got one dollar back from the money they paid the clerk, it means that they have now paid nine dollars each, or twenty-seven dollars totally for their room. (4) The bellboy kept two dollars for himself. (5) Twenty-seven and two equals twenty-nine. (6) Where did the other dollar go?"

Devoid of the first half-paragraph of predilecting nonsense, it doesn't



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seem to be quite such an unanswerable problem, does it? We can immediately see that there was a total of twenty-seven dollars lost by the gentlemen in the transaction. Where did the money go? Let's see; he said the clerk charged—final amount clerk kept—twenty-five, and the bellboy got two dollars, which brings the total amount received by people in the transaction to twenty-seven dollars, the same as the amount paid out by the gentlemen. *There is no lost dollar!* It evaporated into the thin air from which it was only half congealed.

The first trick in this quotation is the sentence (3). The purpose of the "Now let's add: . . ." is to prepare the reader to accept statement (5) without asking himself, "What connection does this have with the preceding story?" for there can be only one answer to such a question. It has none, even though the statement is, within itself, quite true. Notice also that the first operation performed in (3) is actually subtraction.

The final trick to the making of this so-called "puzzler" is what I would call illogically advancing argument. The sentences marked (3) and (4) set the pace. The only connection between the two sentences is one of similarity, not logic. They are both *statements* about a *quantity of money* and *its relationship to people*. That gives us five points of definite similarity between them. The strangest and most noticeable thing about the two sentences—if you're looking

for it—is that, though they are designed to seem at first glance like steps in a train of logic, there is no logical connection between them; only the five points of similarity noted above.

Sentences (4) and (5) are even less similar. They are both *statements* about *quantities of money*—understood in sentence 5—only three points of similarity; and no logical connection.

The last pair of sentences, (5) and (6), have only one point of similarity; they both refer to money. The final question seems to have been pulled out of thin air. It has not been *logically connected* to the story told in the paragraphs preceding it, and, therefore, should have no force with us in our analysis of the story, which was made immediately after quoting from Mr. Friedman's letter as published in the July 1950 issue of ASF.

The quotation is verbatim of the whole "puzzler" except for the first two sentences, which I give here:

"Since the majority of your readers like to use their egos I've dug up an old puzzler that checks but doesn't give you correct logic. Common sense tells you what the answer should be, but it always turns out the same way and that way is always—wrong!"

Thus it has become apparent—*Whoa there!* I'll bet you just read over the start of the sentence without it registering appreciably except by being absorbed unconsciously as the attitude you would adopt to—

ward whatever was to follow, just so long as it wasn't rash enough to jar you into thinking—making your own decision as to just how apparent what had become. This sometimes almost unnoticeably subtle trick, used by nearly everyone when they're trying to make someone believe something they have to say, is one typical version of a trick known as an appeal to authority and may vary in form from the *ipse sit* of the dark ages to the most carefully slanted, custom built adaptation in a bit of tainted news or an *apparently* harmless rumor. But let's see what was to follow when I interrupted myself.

Thus it has become apparent that this carefully designed story was truly a puzzle, a puzzle to the man who invented it in hope of fooling people into believing that he had discovered a contradiction in simple arithmetic, not to the one for whom it is posed.

To day there are other men who would fool us with their glib tongues and lies if they but could, and make us their slaves. There is but one way to fight a lie, and that is to be sure in knowledge of the truth. Do not listen to the way what they say sounds; listen and think carefully—what did they actually say? Judge statements not by whether Aristotle himself said it, or any other great man; judge them by what they say, and by what you yourself know, not because "everybody knows," because that "everybody" doesn't exist.

That concludes the sermon for to-

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Hey, Ronald, if that guarantee of a year's subscription to ASF for anybody who could find what happened to the "other dollar" still holds, I'd surely like to take you up on it.—Lester B. Hamilton, Jr., 406 Benton Street, Boone, Iowa.

Puzzles are propaganda, at that!

Dear Mr. Campbell:

I feel you and your writers have been unjustly castigated by one W. D. Weaver—B. T., ASF Oct. '50. I have in my time read inane criticism, but this one is in a class by itself.

Mr. Weaver feels that protagonists in future stories, stories laid in the future, should use future-style language. He seems to forget that the stories are being written, edited and read in present time. I think a poll would reveal that the vast majority of readers do not for one instant entertain the idea that people of the future will use exactly the same cant we do, or that the writer is doing other than giving us semantic equivalents.

I have long held it a major point of criticism that for the critic's deductions to be valid they should contain the germ of a better idea, or at least some indication that the critic could demonstrate a more facile approach. Mr. Weaver says he is no critic, but I'd say a critic is a man

who criticizes. Wet is the quality of being damp.

One single fact makes the construction of any theoretical future speech largely a specious act. The intangibles. We can expect references will be made, hence slang built up, about predictable processes, such as nuclear energy utilization, hydroponics, space flight, etc. But, how to account for the less tangibles, what about cant words for various already amply described acts and modes of thought? Today we hear that "somebody was screwed" we can render that the individual being spoken of was victimized through chicanery and that it cost him money, or embarrassment, probably both. Or if we read that "Ace went in when he flared out because he didn't jazz it quick enough" we may gather from the rest of the story what any airplane driver would know immediately, that a pilot nicknamed "Ace" made a high approach on flaps—understood from "flared out"—and that he needed a touch of throttle to ease down one heavier than air craft—that is understood from the construction of the sentence—but that he didn't sense this quick enough, hence probably damaged the machine. What would this mean to a reader of 1850? He wouldn't even have a concept for "flaps" which concept isn't even mentioned, but assumed by use of the term "flared out"; and "jazz" as a concept of a mode of doing something would still draw a blank if he knew its musical

connotation. And, granting that the reader was being catered to and a little further on the sentence was explicated by the note that Ace went into a stall, the reader would finish the story wondering what became of the horse.

Of course, from Mr. Weaver's letter we don't get a horse, merely the evidence that one has been there. —Roy L. Clough, Jr.

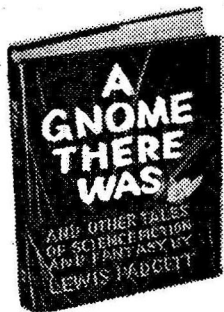
How right you are, sir! The technical jargon of any trade is a new language.

Dear Mr. Campbell,

Ordinarily, I do not approve of the so-called "open letter," nor do I believe in starting arguments in the reader's pages of magazines. Nevertheless, I think someone should take up the cudgel and defend certain of your authors against the accusation of using too much slang in the wrong places which was hurled at them by Mr. Winstead Weaver.

Before we begin, I should like to call attention to those points upon which Mr. Weaver and I agree. I, too, believe that the English language is a beautiful method of expression, that "Nut" and "Stinker" are the mouse phrases of adolescents, and that a good vehement swear word is pithier and more expressive than "Gosh" or "Dad-bust it." But now we begin to differ.

I wonder if Mr. Weaver has ever



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considered *why* a science-fiction author uses such language in the dialogue of his characters of the Super-splendiferous Future? It can, I think, be summed up in one word: Characterization. Different types of people use the English language, or, indeed, any other language, differently, and these differences show the personality of the speaker. Why shouldn't the Space Pilots, Astronauts, Semantic Experts, and Cyberneticists of the future use the slang of the future? The Chemists, Nuclear Physicists, Biologists, and Mathematicians of today certainly use the current slang well enough.

I suppose it might be argued that the People of the Future will not use current slang terms, any more than you or I run around shouting "Twenty-three Skidoo!" The argument, however, is not valid. If, by some stroke of sheer coincidence, one of your authors were to strike upon the exact slang terms that will be in use in 2050, and proceed to use them in a story, they would render the dialogue so completely senseless that the story would probably never see print unless the author were to explain every one of them. Even that would probably be so dull as to rate a rejection slip.

Certain writers *have* done it, to a limited degree, notably Dr. E. E. Smith, whose substitution of "QX" for "OK" was acceptable because, in use, it was rather easily understood.

Now, let's sneak up on Mr. Weaver and attack him through his

reference to William Shakespeare, about whose dialogue he says: "... the language of each of his characters is in harmony with the personality, position, and environment of the speaker." Precisely, sir. And why? *Because if the personality, et cetera, of the speaker indicated the use of slang or hackneyed phrases, Mr. Shakespeare used them! Ay, there's the rub!*

Let us suppose that Will, one night in the Mermaid Tavern, decided that he would write some science-fiction. Let us suppose further that he became blessed with the coincidence I mentioned earlier; *that* of knowing exactly all about our present civilization, including language. Does Mr. Weaver think the play would have been much of a success, or even that Shakespeare would have been foolish enough to try it? I doubt it. He would probably have done exactly what modern authors must do: translate that future tongue into the nearest present equivalent.

And here, I might quote from "Love's Labours Lost," Act V, Sc. 2:
"Taffeta phrases, silken terms
precise,
Three-piled hyperboles, spruce
affectation,
Figures pedantical."

As for the swear words which are so expressive, I have no doubt that every author for Astounding SCIENCE-FICTION has had the occasion and desire to use some of the lovely little "four-letter Anglo-

Saxon terms" and blasphemous expletives which give a feeling of earthiness to written dialogue. But, unhappily enough, there are only a few places where this is possible. In books, yes. In the legitimate theater, yes. But the movies, newspapers, periodical magazines, and, as Mr. Weaver should well know, the radio, all forbid such youth-corrupting speech. The only thing an author can do is use the nearest harmless equivalent—if you can call it equivalent.

In other words, human beings, regardless of education, do not usually speak as though they were reading ^{have to} Peep-English textbook, and only politicians and other public speakers have their speeches written up for them in advance, so that they can be

grammatically correct. When the average human being carries on a conversation, he is prone to use whatever word or phrase he thinks is best fitted to the conversation at hand. The author, in attempting to show this, must censor and correct that speech in order to convey the meaning and emotion to the reader without too much loss of fidelity, and without offending those with tender sensibilities.

To wind this up, I must admit that I agree with Mr. Weaver on one other point. H. Beam Piper's Arab *was* just a little too unbelievable. I think Mr. Weaver summed up the reasons very nicely.

By the way, Doodles, would you mind settling the "Beetlebaum" "Fiedlebaum" argument for me?

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Then there is the comment Winston Churchill wrote after someone had corrected the grammar in one of his speeches: "This is the sort of errant pedantry up with which I will not put!"

My dear Mr. Campbell:

I wish to write in rebuttal to the letter you printed in the October issue from Winstead Doodles Weaver. As a preface, let me mention that I do some writing—Sorry, JWC, but no stf as yet—and I feel that I understand some of the problems that face your writers.

Mr. Weaver is making the tacit assumption that the language that will be spoken in the far distant future will be 1950-American. Nonsense! As much nonsense as to say that we speak the language of Chaucer. De Camp has assumed that the language of the spaceways will be Brazilo-Portuguese. Someone else might assume that it will be Russian. All of these are probably wrong. My own guess is that it will have developed to be something unintelligible to all us Twentieth Centurites.

Then does the problem arise. How will we represent the speech of these people so that it will be intelligible to 1950-American readers? The answer lies in your comment to Mr. Weaver's letter: "English having *equivalent values* to modern

ears." The italics are mine.

I will wager that there are, in that distant future, those who speak slang, those whose speech is stiltedly correct, and some to represent every shade between. In order to become intelligible we have to make the following assumption: Future slang is representable by 1950-American slang, stilted Future by stilted 1950-American, et cetera.

It is a problem in translation, with the difference lying in that we don't know, nor need to know, the original language. When we translate *Wie geht es Ihnen?* from the German, or *Comment allez-vous?* from the French, we don't ~~w~~^{out} ~~o~~^u ~~o~~^u *does it go with you?* Or *How do you go?* We write *How do you do?* We convert the German and French idiom into American idiom. Similarly, we convert the Future idiom into 1950-American idiom.

Enough of that.

Comments on the issue:

1. "Discontinuity."
2. "The Enchanted Forest."
3. "Trigger Tide." I thought that the idea for this was quite good, but it was so badly written!

I agree with Elizabeth M. Curtis: Work Cartier to death. And then work his ghost.

On the whole, ASF is a pretty good magazine. Keep up the work and you need feel no shame.—Michael J. Keenan, 208 West 85th Street, New York 24, New York.

Doodler stirred up a hornet's nest!

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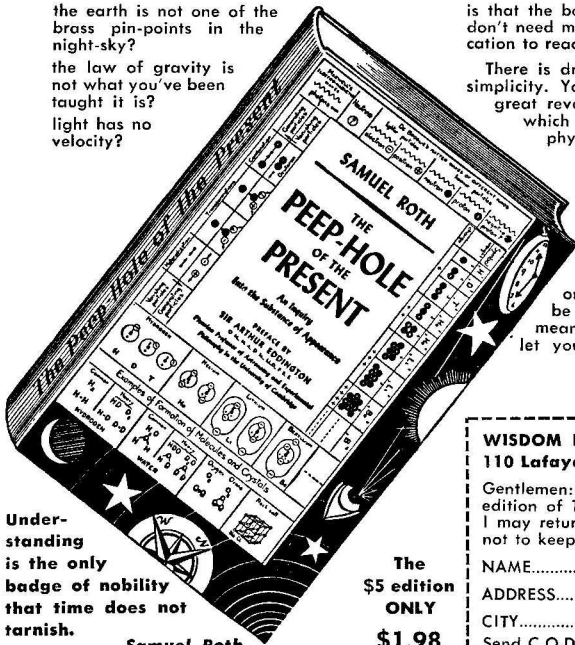
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