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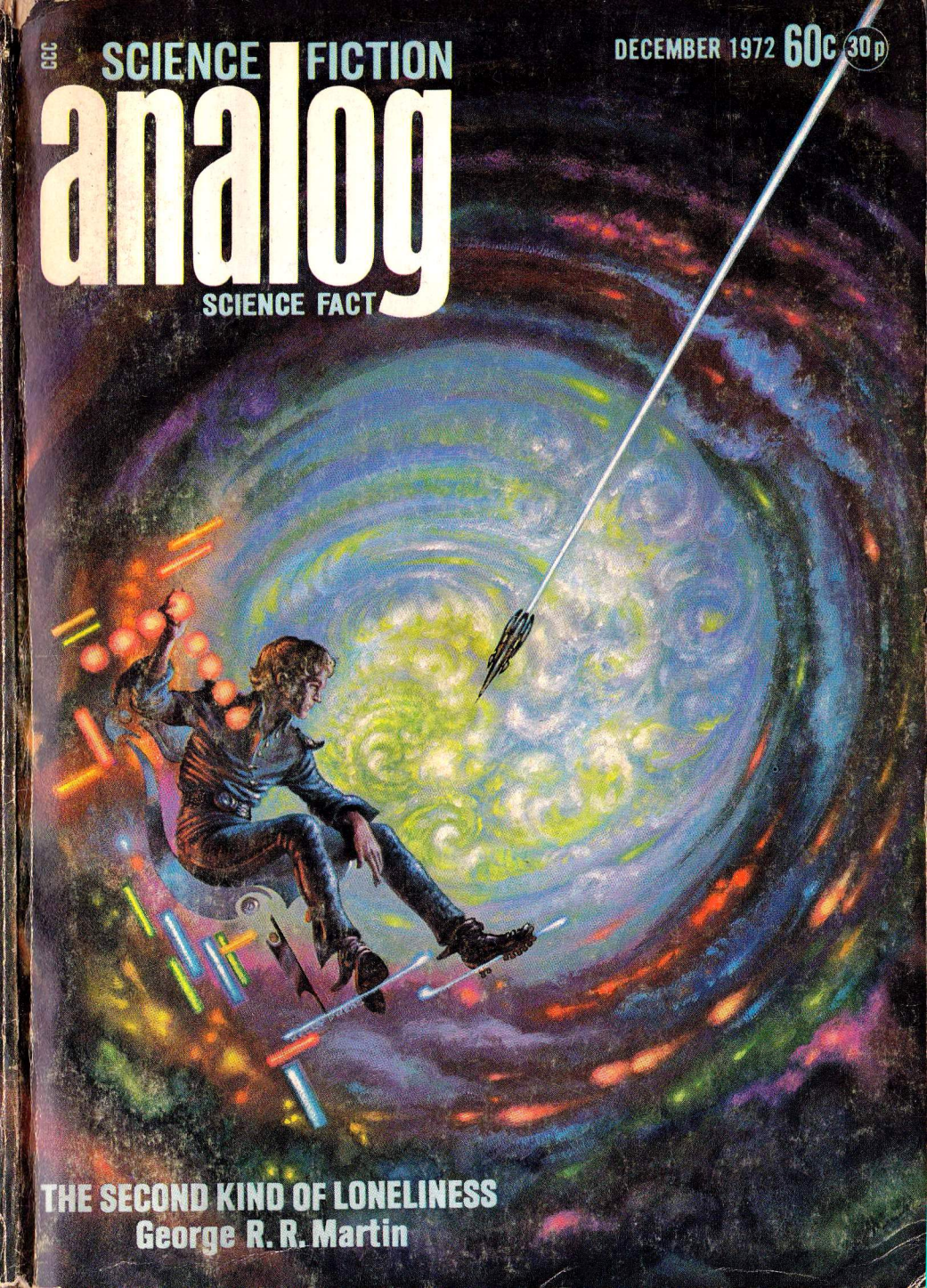
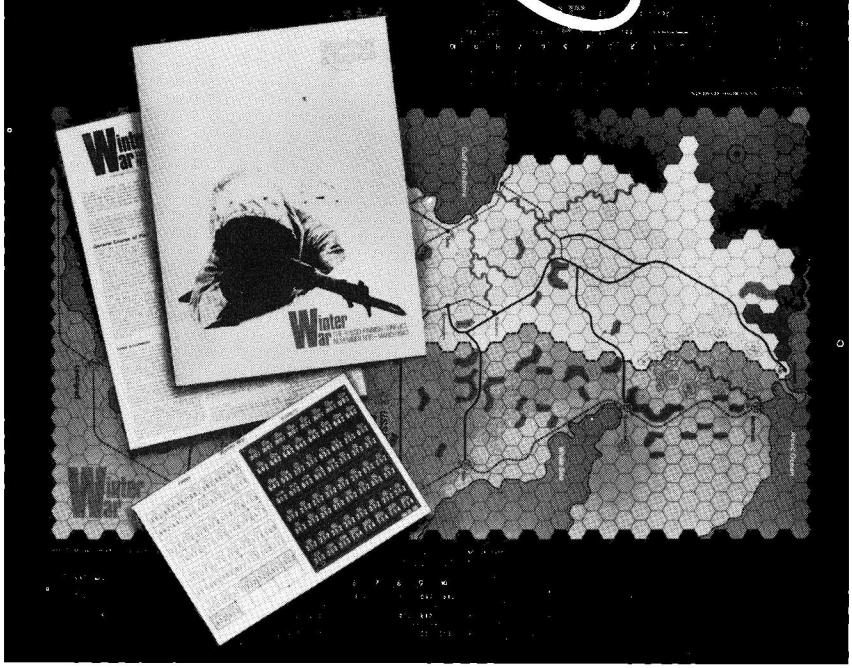


THE SECOND KIND OF LONELINESS
George R. R. Martin

Strategy & Tactics



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EDITORIAL

MAN IN SPACE

"How many more years I shall be able to work on the problem, I do not know; I hope, as long as I live. There can be no thought of finishing, for 'aiming at the stars,' both literally and figuratively, is a problem to occupy generations, so that no matter how much progress one makes, there is always the thrill of just beginning . . ."

So said Robert Goddard in 1932.* Now we face the last Apollo mission, the final flight in the program that saw Goddard's pioneering work culminate in man's reaching the Moon.

Instead of the thrill of beginning, we face the reality that there will be no more manned exploration of the Moon. Not for a long time to come. It's scant comfort that Robert Heinlein predicted a hiatus in space exploration during "the Crazy Years."

The science fiction community is filled with people who *know* that man belongs in space. The White House and Congress are occupied by people who *know* that the nation can't afford manned space missions.

These positions can't both be right.

Leaving philosophical arguments to one side, for the moment, what are the cold realities of manned space flight? Is there a place for man in space, a place that can be justified by practical results, by political, technological, economic payoffs?

Obviously, the American body politic has decided that the answer is no. In the restructuring of political priorities that's taken place over the past several years, science in general has been handed a broom and told to clean up the mess we're living in. When you sweep floors, your eyes can't be on the stars.

The main problem is that the politicians—and the voters—don't have a long enough view to appreciate how vital man in space can be to them over the next decade, and the next, and all the years following. The nature of the political process is such that both the voters and the politicians seek immediate answers to all problems. Immediate gratification: like a baby that wants attention *now,* no matter that Mamma is busy cooking dinner, and if she doesn't attend to it now, there won't be any dinner later. Who cares about later? Imme-

*Quoted by F. C. Durant III, National Air and Space Museum, Smithsonian Institution, in a paper prepared for the Second Symposium on the History of Astronautics, 1968.

diate gratification. Give me what I want now.

The men who've tried to convince the public that space exploration is important—particularly manned space exploration—have failed almost totally in their task. The American public backed the space program when there was a political race against the Russians. And, largely without knowing about it, they financed a true life-and-death race to develop ICBM's, back in the late 1950's and early '60's.

The space program, the exploration of the Moon and planets, was sold on the basis of racing the Russians, and television spectaculars. Well, the Russians apparently quit the race, which took most of the suspense out of things. And after you've seen a couple of men collecting rocks on the Moon, the next pair look remarkably similar, even if they've got a buggy to ride around in. The gee-whiz thrill of Moon walking wore out about as quickly as the popularity of any TV show that offers the same script every time. Apollo 11 was a smashing success, as far as TV ratings went. Apollo 13 was almost as good, because of the very real danger to the astronauts in their crippled spacecraft. But success after success dulled the TV audience, and the ratings of "the Apollo show" have dropped precipitously. So the show's been canceled.

If space exploration can't be "sold" to the public as a race against the Red menace, or as a TV spectacular, how can it be sold? Only in terms of practical payoffs. And those payoffs are years in the future. So manned missions to the Moon and planets are no longer part of our space program. And ALL manned space flights, even the Earth orbital operations, stand a good chance of being throttled down to nothing.

This would be worse than a mistake; it would be a major blunder.

Space operations are here to stay. Our society is starting to become dependent on them. In another ten years, our global communications network will be built around orbital relay satellites. Not because they're more glamorous, but because they can relay messages more efficiently and cheaply than cables or long chains of antennas. As all forms of electronic communications are forced to go to shorter and shorter wavelengths—from microwaves to laser light—satellites will be indispensable, because these short wavelengths are limited to straight-line, horizon-to-horizon operations. Satellites can raise the horizon to the dimensions of the planet's equator.

The problems we face in population pressure and pollution mean that the entire globe must be inspected constantly for a number of reasons: the oceans must be surveyed for food fish and plankton, farmlands must be watched for early signs of crop diseases, forests must be provided with early warning against fire, pollution must be

stopped at its source, the world's weather must be monitored and predicted accurately and reliably.

We are—despite the politicians—making the transition from a planet consisting of separate nations to a planet consisting of one single interdependent culture. Our world society is now a global society, and what happens in obscure hamlets in Southeast Asia affects Wall Street. This global, interdependent society is already using satellite observation platforms for military purposes, where individual members of the world community who are trying to protect their own survival, are also guarding the survival of the whole world. In the decade to come, satellite observation platforms will provide information vital to mankind's day-to-day existence; information about food, impending natural disasters, new resources, pollution patterns.

By that famous date, 1984, most of mankind should be heavily dependent on satellites for all these things and more. Just as we could not support today's society without electricity and automobiles, we'll be unable to run tomorrow's society without the information produced by satellite observation stations.

But such satellites need not be manned. In fact, from the first Telstar to the recent prototype Earth Resources Technology Satellite, all these observation platforms have been unmanned.

But there comes a time when the complexity and cost of these increasingly important unmanned satellites make it imperative that they operate reliably and continuously for many years. You can tolerate an on-again, off-again performance from an experimental Telstar. But when half the nation's business and data exchange goes through satellite relays, the satellites must be reliable. You can't shut off the relay for a few weeks—unless you're willing to stop most of the factories, food deliveries, electrical power distribution, transportation and information flow across the continent. To say nothing of the transoceanic traffic. And weather predictions.

When unmanned satellites are so integrally a part of our world, men in space will be irreplaceable. It may be slightly less than glamorous, but the first men who will be really *needed* in space are going to be repairmen. Because, ultimately, the cost of putting repairmen into orbit to maintain and service existing unmanned satellites will be lower than placing a new unmanned satellite in orbit whenever an existing satellite blows a transistor.

Sooner or later, it will be cheaper—and safer—to keep crews in orbit for weeks or months at a time, to repair and maintain satellites on regular schedules, and to be available for special emergency repairs. And once a permanent manned station is established, it will develop into a manned observation platform, adding the real-time judgments and

insights of human observers to the coverage of the unmanned satellites.

All of this development depends on making launching costs low enough so that the costs of orbiting men and equipment are tolerable. The space shuttle is a first step in that direction. Up until now, all manned launches were a matter of research and adventure, with costs a low priority behind safety and the primary goal of just getting there: into orbit, at first, and then onto the Moon. Now that we've demonstrated that men can reach the Moon and work in orbit, the next step is to bring down the costs of manned space operations. The shuttle is NASA's first-order answer to that problem. It will be able to place fifteen to twenty tons in orbit around the Earth, and will be reusable.

There's more to come, if the politicians allow it. Current plans for the shuttle call for a throwaway booster. Like all the rocket launches to date, the shuttle's booster will be used once, and deposited into the Atlantic or Pacific Ocean. The next step will be a returnable, no-deposit booster, capable of being used over and over again. And beyond that, scientists are already making numbers about using a very high-powered laser to boost a rocket from ground to orbit. The laser provides the energy, but stays on the ground, reusable as long as it's fed electricity. The rocket can dispense with a booster stage altogether, and can be fifty percent pay-

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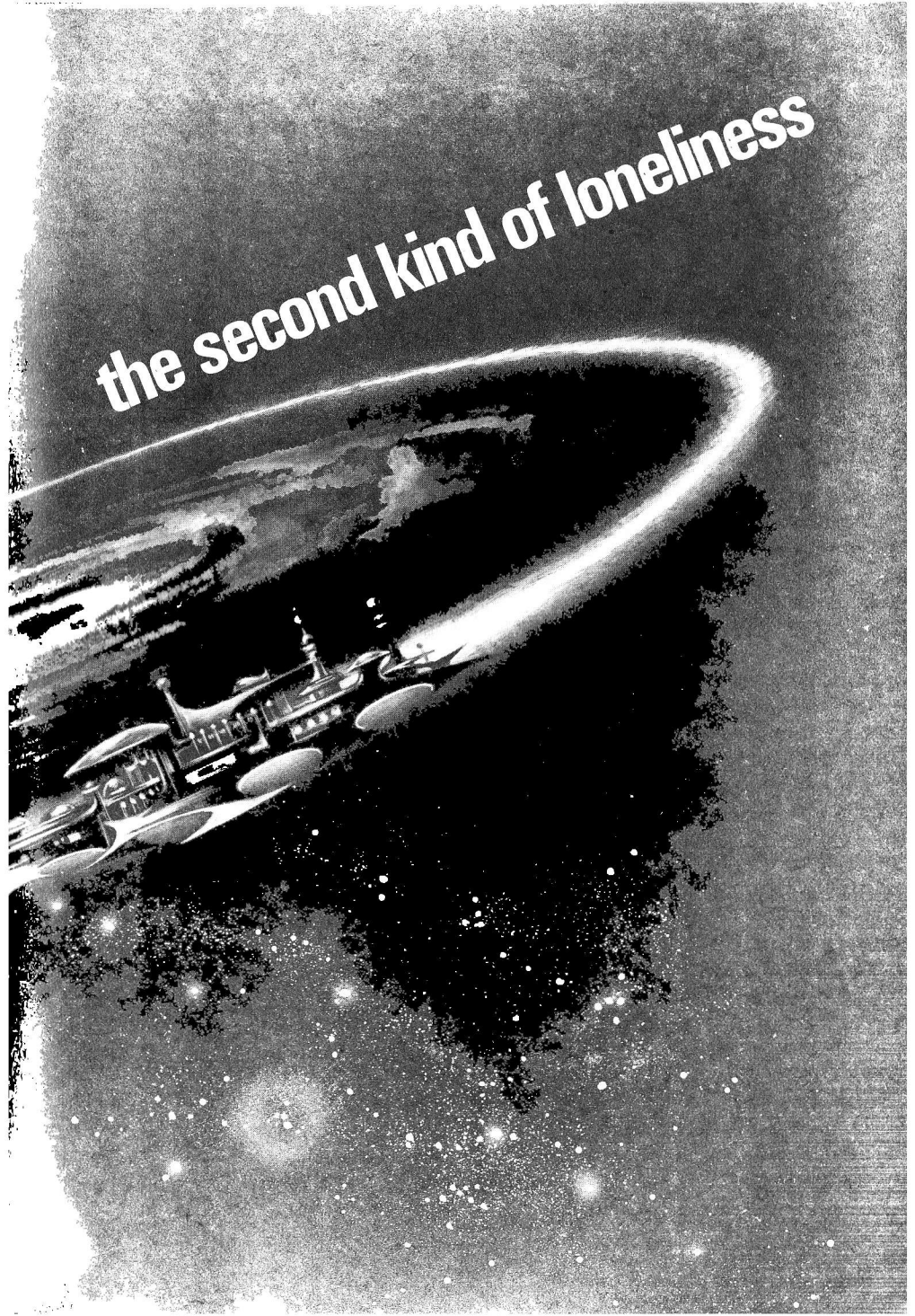

the second kind of loneliness

A man can be alone in deep space, far removed from all human company. And he can also cut himself off from companionship, no matter where he is.

GEORGE R. R. MARTIN

June 18

My relief left Earth today.

It will be at least three months before he gets here, of course. But he's on his way.

Today he lifted off from the Cape, just as I did, four long years ago. Out at Komarov Station he'll switch to a moon boat, then switch again in orbit around Luna, at Deepspace Station. There his voyage will really begin. Up to then he's still been in his own backyard.

Not until the *Charon* casts loose from Deepspace Station and sets out into the night will he feel it, *really* feel it, as I felt it four years ago. Not until Earth and Luna vanish behind him will it hit. He's known from the first that there's no turning back, of course. But there's a difference between knowing it and feeling it. Now he'll feel it.

There will be an orbital stopover around Mars, to send supplies down to Burroughs City. And more stops in the belt. But then the *Charon* will begin to gather speed. It will be going very fast when it reaches Jupiter. And much faster after it whips by, using the gravity of the giant planet like a slingshot to boost its acceleration.

After that there are no stops for the *Charon.* No stops at all until it reaches me, out here at the Cerberus Star Ring, six million miles beyond Pluto.

My relief will have a long time to brood. As I did.

I'm still brooding now, today, four

years later. But then, there's not much else to do out here. Ringships are infrequent, and you get pretty weary of films and tapes and books after a time. So you brood. You think about your past, and dream about your future. And you try to keep the loneliness and the boredom from driving you out of your skull.

It's been a long four years. But it's almost over now. And it will be nice to get back. I want to walk on grass again, and see clouds, and eat an ice cream sundae.

Still, for all that, I don't regret coming. These four years alone in the darkness have done me good, I think. It's not as if I had left much. My days on Earth seem remote to me now, but I can still remember them if I try. The memories aren't all that pleasant. I was pretty screwed up back then.

I needed time to think, and that's one thing you get out here. The man who goes back on the *Charon* won't be the same one who came out here four years ago. I'll build a whole new life back on Earth. I know I will.

June 20

Ship today.

I didn't know it was coming, of course. I never do. The ringships are irregular, and the kind of energies I'm playing with out here turn radio signals into crackling chaos. By the time the ship finally punched through the static, the station's scanners had already picked it up and notified me.

It was clearly a ringship. Much bigger than the old system rust-buckets like the *Charon,* and heavily armored to withstand the stresses of the nullspace vortex. It came straight on, with no attempt to decelerate.

While I was heading down to the control room to strap in, a thought hit me. This might be the last. Probably not, of course. There's still three months to go, and that's time enough for a dozen ships. But you can never tell. The ringships are irregular, like I said.

Somehow the thought disturbed me. The ships have been part of my life for four years now. An important part. And the one today might have been the last. If so, I want it all down here. I want to remember it. With good reason, I think. When the ships come, that makes everything else worthwhile.

The control room is in the heart of my quarters. It's the center of everything, where the nerves and the tendons and the muscles of the station are gathered. But it's not very impressive. The room is very small, and once the door slides shut the walls and floor and ceiling are all a featureless white.

There's only one thing in the room: a horseshoe-shaped console that surrounds a single padded chair.

I sat down in that chair today for what might be the last time. I strapped myself in, and put on the earphones, and lowered the helmet. I reached for the controls and touched them and turned them on.

And the control room vanished.

It's all done with holographs, of course. I *know* that. But that doesn't make a bit of difference when I'm sitting in that chair. Then, as far as I'm concerned, I'm not inside anymore. I'm out *there,* in the void. The control console is still there, and the chair. But the rest has gone. Instead, the aching darkness is everywhere, above me, below me, all around me. The distant sun is only one star among many, and all the stars are terribly far away.

That's the way it always is. That's the way it was today. When I threw that switch I was alone in the universe with the cold stars and the ring. The Cerberus Star Ring.

I saw the ring as if from outside, looking down on it. It's a vast structure, really. But from out here, it's nothing. It's swallowed by the immensity of it all, a slim silver thread lost in the blackness.

But I know better. The ring is huge. My living quarters take up but a single degree in the circle it forms, a circle whose diameter is more than a hundred miles. The rest is circuitry and scanners and power banks. And the engines, the waiting nullspace engines.

The ring turned silent beneath me, its far side stretching away into nothingness. I touched a switch on my console. Below me, the nullspace engines woke.

In the center of the ring, a new star was born.

It was a tiny dot amid the dark at first. Green today, bright green. But not always, and not for long. Nullspace has many colors.

I could see the far side of the ring then, if I'd wanted to. It was glowing with a light of its own. Alive and awake, the nullspace engines were pouring unimaginable amounts of energy inward, to rip wide a hole in space itself.

The hole had been there long before Cerberus, long before man. Men found it, quite by accident, when they reached Pluto. They built the ring around it. Later they found two other holes, and built other star rings.

The holes were small, too small. But they could be enlarged. Temporarily, at the expense of vast amounts of power, they could be ripped open. Raw energy could be pumped through that tiny, unseen hole in the universe until the placid surface of nullspace roiled and lashed back, and the nullspace vortex formed.

And now it happened.

The star in the center of the ring grew and flattened. It was a pulsing disc, not a globe. But it was still the brightest thing in the heavens. And it swelled visibly. From the spinning green disc, flame-like orange spears lanced out, and fell back, and smoky bluish tendrils uncoiled. Specks of red danced and flashed among the green, grew and blended. The colors all began to run together.

The flat, spinning, multicolored star doubled in size, doubled again, again. A few minutes before it had

not been. Now it filled the ring, lapped against the silver walls, seared them with its awful energy. It began to spin faster and faster, a whirlpool in space, a maelstrom of flame and light.

The vortex. The nullspace vortex. The howling storm that is not a storm and does not howl, for there is no sound in space.

To it came the ringship. A moving star at first, it took on visible form and shape almost faster than my human eyes could follow. It became a dark silver bullet in the blackness, a bullet fired at the vortex.

The aim was good. The ship hit very close to the center of the ring. The swirling colors closed over it.

I hit my controls. Even more suddenly than it had come, the vortex was gone. The ship was gone too, of course. Once more there was only me, and the ring, and the stars.

Then I touched another switch, and I was back in the blank white control room, unstrapping. Unstrapping for what might be the last time, ever.

Somehow I hope not. I never thought I'd miss anything about this place. But I will. I'll miss the ringships. I'll miss moments like the ones today.

I hope I get a few more chances at it before I give it up forever. I want to feel the nullspace engines wake again under my hands, and watch the vortex boil and churn while I float alone between the stars. Once more, at least. Before I go.

June 23

That ringship has set me to thinking. Even more than usual.

It's funny that with all the ships I've seen pass through the vortex, I've never even given a thought to riding one. There's a whole new world on the other side of nullspace; Second Chance, a rich green planet of a star so far away that astronomers are still unsure whether it shares the same galaxy with us. That's the funny thing about the holes—you can't be sure where they lead until you go through.

When I was a kid, I read a lot about star travel. Most people didn't think it was possible. But those who did always mentioned Alpha Centauri as the first system we'd explore and colonize. Closest, and all that. Funny how wrong they were. Instead, our colonies orbit suns we can't even see. And I don't think we'll *ever* get to Alpha Centauri.

Somehow I never thought of the colonies in personal terms. Still can't. Earth is where I failed before. That's got to be where I succeed now. The colonies would be just another escape.

Like Cerberus?

June 26

Ship today. So the other wasn't the last, after all. But what about this one?

June 29

Why does a man volunteer for a job like this? Why does a man run to

a silver ring six million miles beyond Pluto, to guard a hole in space? Why throw away four years of life alone in the darkness?

Why?

I used to ask myself that, in the early days. I couldn't answer it then. Now I think I can. I bitterly regretted the impulse that drove me out here, then. Now I think I understand it.

And it wasn't really an impulse. I ran to Cerberus. Ran. Ran to escape from loneliness.

That doesn't make sense?

Yes it does. I know about loneliness. It's been the theme of my life. I've been alone for as long as I can remember.

But there are two kinds of loneliness.

Most people don't realize the difference. I do. I've sampled both kinds.

They talk and write about the loneliness of the men who man the star rings. The lighthouses of space, and all that. And they're right.

There are times, out here at Cerberus, when I think I'm the only man in the universe. Earth was just a fever dream. The people I remember were just creations of my own mind.

There are times, out here, when I want someone to talk to so badly that I scream, and start pounding on the walls. There are times when the boredom crawls under my skin and all but drives me mad.

But there are *other* times, too. When the ringships come. When I go outside to make repairs. Or when I just sit in the control chair, imaging myself out into the darkness to watch the stars.

Lonely? Yes. But a solemn, brooding, tragic loneliness. A loneliness tinged with grandeur, somehow. A loneliness that a man hates with a passion—and yet loves so much he craves for more.

And then there is the second kind of loneliness.

You don't need the Cerberus Star Ring for that kind. You can find it anywhere on Earth. I know. I did. I found it everywhere I went, in everything I did.

It's the loneliness of people trapped within themselves. The loneliness of people who have said the wrong thing so often that they don't have the courage to say anything anymore. The loneliness, not of distance, but of fear.

The loneliness of people who sit alone in furnished rooms in crowded cities, because they've got nowhere to go and no one to talk to. The loneliness of guys who go to bars to meet someone, only to discover they don't know how to strike up a conversation, and wouldn't have the courage to do so if they did.

There's no grandeur to that kind of loneliness. No purpose and no poetry. It's loneliness without meaning. It's sad and squalid and pathetic, and it stinks of self-pity.

Oh yes, it hurts at times to be alone among the stars.

But it hurts a lot more to be alone at a party. A lot more.

June 30

Reading yesterday's entry. Talk about self-pity . . .

July 1

Reading *yesterday's* entry. My flippant mask. After four years, I still fight back whenever I try to be honest with myself. That's not good. If things are going to be any different this time, I have to understand myself.

So why do I have to ridicule myself when I admit that I'm lonely and vulnerable? Why do I have to struggle to admit that I was scared of life? No one's ever going to read this thing. I'm talking to myself, about myself.

So why are there some things I still can't bring myself to say?

July 4

No ringship today. Too bad. Earth ain't never *had* no fireworks that could match the nullspace vortex, and I felt like celebrating.

But why do I keep Earth calendar out here, where the years are centuries and the seasons a dim memory? July is just like December. So what's the use?

July 10

I dreamed of Karen last night. And now I can't get her out of my skull.

I thought I buried her long ago. It was all a fantasy anyway. Oh, she liked me well enough. Loved me, maybe. But no more than a half-dozen other guys. I wasn't really *special* to her, and she never realized just how special she was to me.

Nor how much I wanted to be special to her—how much I needed to be special to someone, somewhere.

So I elected her. But it was all a fantasy. And I knew it was, in my more rational moments. I had no right to be so hurt. I had no special claim on her.

But I thought I did, in my daydreams. And I *was* hurt. It was my fault, though, not hers. Karen would never hurt anyone willingly. She just never realized how fragile I was.

Even out here, in the early years, I kept dreaming. I dreamed of how she'd change her mind. How she'd be waiting for me. Et cetera.

But that was more wish fulfillment. It was before I came to terms with myself out here. I know now that she won't be waiting. She doesn't need me, and never did. I was just a friend.

So I don't much like dreaming about her. That's bad. Whatever I do, I must *not* look up Karen when I get back. I have to start all over again. I have to find someone who *does* need me. And I won't find her if I try to slip back into my old life.

July 18

A month since my relief left Earth. The *Charon* should be in the belt by now. Two months to go.

July 23

Nightmares now. God help me.

I'm dreaming of Earth again. And Karen. I can't stop. Every night it's the same.

It's funny, calling Karen a nightmare. Up to now she's always been a dream. A beautiful dream, with her long, soft hair, and her laugh, and that funny way she had of grinning. But those dreams were always wish fulfillments. In the dreams Karen needed me and wanted me and loved me.

The nightmares have the bite of truth to them. They're all the same. It's always a replay of me and Karen, together on that last night.

It was a good night, as nights went for me. We ate at one of my favorite restaurants, and went to a show. We talked together easily, about many things. We laughed together, too.

Only later, back at her place, I reverted to form. When I tried to tell her how much she meant to me. I remember how awkward and stupid I felt, how I struggled to get things out, how I stumbled over my own words. So much came out wrong.

I remember how she looked at me then. Strangely. How she tried to disillusion me. Gently. She was always gentle. And I looked into her eyes and listened to her voice. But I didn't find love, or need. Just–just pity, I guess.

Pity for an inarticulate jerk who'd been letting life pass him by without touching it. Not because he didn't want to. But because he was afraid to, and didn't know how. She'd found that jerk, and loved him, in her way–she loved everybody. She'd tried to help, to give him some of her self-confidence, some of the courage and bounce that she faced life with. And, to an extent, she had.

Not enough, though. The jerk liked to make fantasies about the day he wouldn't be lonely anymore. And when Karen tried to help him, he thought she was his fantasy come to life. Or deluded himself into thinking that. The jerk suspected the truth all along, of course, but he lied to himself about it.

And when the day came that he couldn't lie any longer, he was still vulnerable enough to be hurt. He wasn't the type to grow scar tissue easily. He didn't have the courage to try again with someone else. So he ran.

I hope the nightmares stop. I can't take them, night after night. I can't take reliving that hour in Karen's apartment.

I've had four years out here. I've looked at myself hard. I've changed what I didn't like, or tried to. I've tried to cultivate that scar tissue, to gather the confidence I need to face the new rejections I'm going to meet before I find acceptance. But I know myself damn well now, and I know it's only been a partial success. There will always be things that will hurt, things that I'll never be able to face the way I'd like to.

Memories of that last hour with Karen are among those things. *God,* I hope the nightmares end.

July 26

More nightmares. Please, Karen. I loved you. Leave me alone. Please.

July 29

There was a ringship yesterday, thank God. I needed one. It helped take my mind off Earth, off Karen. And there was no nightmare last night, for the first time in a week. Instead I dreamed of the nullspace vortex. The raging silent storm.

August 1

The nightmares have returned. Not always Karen, now. Older memories too. Infinitely less meaningful, but still painful. All the stupid things I've said, all the girls I never met, all the things I have never done.

Bad. Bad. I have to keep reminding myself. I'm not like that anymore. There's a new me, a me I built out here, six million miles beyond Pluto. Made of steel and stars and nullspace, hard and confident and self-assured. And not afraid of life.

The past is behind me. But it still hurts.

August 2

Ship today. The nightmares continue. Damn.

August 3

No nightmare last night. Second time for that, that I've rested easy after opening the hole for a ringship during the day. (Day? Night? Nonsense out here—but I still write as if they had some meaning. Four years haven't even touched the Earth in me.) Maybe the vortex is scaring Karen away. But I never wanted to scare Karen away before. Besides, I shouldn't need crutches.

August 13

Another ship came through a few nights ago. No dream afterwards. A pattern!

I'm fighting the memories. I'm thinking of other things about Earth. The good times. There were a lot of them, really, and there will be lots more when I get back. I'm going to make sure of that.

These nightmares are stupid. I won't permit them to continue. There was so much else I shared with Karen, so much I'd like to recall. Why can't I?

August 18

The *Charon* is about a month away. I wonder who my relief is. I wonder what drove *him* out here?

Earth dreams continue. No. Call them Karen dreams. Am I even afraid to write her name now?

August 20

Ship today. After it was through I stayed out and looked at stars. For several hours, it seems. Didn't seem as long at the time.

It's beautiful out here. Lonely, yes. But such a loneliness! You're alone with the universe, the stars spread out at your feet and scattered around your head.

Each one is a sun. Yet they still look cold to me. I find myself shivering, lost in the vastness of it all, wondering how it got there and what it means.

My relief, whoever it is, I hope he can appreciate this, as it should be appreciated. There are so many who can't, or won't. Men who walk at night, and never look up at the sky. I hope my relief isn't a man like that.

August 24

When I get back to Earth, I *will* look up Karen. I must. How can I pretend that things are going to be different this time if I can't even work up the courage to do that? And they *are* going to be different. So I *must* face Karen, and prove that I've changed. Really changed.

August 25

The nonsense of yesterday. How could I face Karen? What would I *say* to her? I'd only start deluding myself again, and wind up getting burned all over again. No. I must *not* see Karen. Hell, I can even take the dreams.

August 30

I've been going down to the control room and flipping myself out regularly of late. No ringships. But I find that going outside makes the memories of Earth dim.

More and more I know I'll miss Cerberus. A year from now, I'll be back on Earth, looking up at the night sky, and remembering how the ring shone silver in the starlight. I know I will.

And the vortex. I'll remember the vortex, and the ways the colors swirled and mixed. Different every time.

Too bad I was never a holo buff. You could make a fortune back on Earth with a tape of the way the vortex looks when it spins. The ballet of the void. I'm surprised no one's ever thought of it.

Maybe I'll suggest it to my relief. Something to do to fill the hours, if he's interested. I hope he is. Earth would be richer if someone brought back a record.

I'd do it myself, but the equipment isn't right, and I don't have the time to modify it.

September 4

I've gone outside every day for the last week, I find. No nightmares. Just dreams of the darkness, laced with the colors of nullspace.

September 9

Continue to go outside, and drink it all in. Soon, soon now, all this will be lost to me. Forever. I feel as though I must take advantage of every second. I must memorize the way things are out here at Cerberus, so I can keep the awe and the wonder and the beauty fresh inside me when I return to Earth.

September 10

There hasn't been a ship in a long

time. Is it over, then? Have I seen my last?

September 12

No ship today. But I went outside and woke the engines and let the vortex roar.

Why do I always write about the vortex roaring and howling? There is no sound in space. I hear nothing. But I watch it. And it does roar. It does.

The sounds of silence. But not the way the poets meant.

September 13

I watched the vortex again today, though there was no ship.

I've never done that before. Now I've done it twice. It's forbidden. The costs in terms of power are enormous, and Cerberus lives on power. So why?

It's almost as though I don't want to give up the vortex. But I have to. Soon.

September 14

Idiot, idiot, idiot. What have I been doing? The *Charon* is less than a week away, and I've been gawking at the stars as if I'd never seen them before. I haven't even started to pack, and I've got to clean up my records for my relief, and get the station in order.

Idiot! Why am I wasting time writing in this damn *book!*

September 15

Packing almost done. I've uncovered some weird things, too. Things I tried to hide in the early years. Like my novel. I wrote it in the first six months, and thought it was great. I could hardly wait to get back to Earth, and sell it, and become an Author. Ah, yes. Read it over a year later. It stinks.

Also, I found a picture of Karen.

September 16

Today I took a bottle of Scotch and a glass down to the control room, set them down on the console, and strapped myself in. Drank a toast to the blackness and the stars and the vortex. I'll miss them.

September 17

A day, by my calculations. A day. Then I'm on my way home, to a fresh start and a new life. If I have the courage to live it.

September 18

Nearly midnight. No sign of the *Charon.* What's wrong?

Nothing, probably. These schedules are never precise. Sometimes as much as a week off. So why do I worry? Hell, I was late getting here myself. I wonder what the poor guy I replaced was thinking then?

September 20

The *Charon* didn't come yesterday, either. After I got tired of waiting, I took that bottle of Scotch and went back to the control room. And out. To drink another toast to the stars. And the vortex. I woke the vor-

tex and let it flame, and toasted it.

A lot of toasts. I finished the bottle. And today I've got such a hangover I think I'll never make it back to Earth.

It was a stupid thing to do. The crew of the *Charon* might have seen the vortex colors. If they report me, I'll get docked a small fortune from the pile of money that's waiting back on Earth.

September 21

Where is the *Charon?* Did something happen to it? Is it coming?

September 22

I went outside again.

God, so beautiful, so lonely, so vast. Haunting, that's the word I want. The beauty out there is haunting. Sometimes I think I'm a fool to go back. I'm giving up all of eternity for a pizza and a lay and a kind word.

NO! What the hell am I writing! No. I'm going back, of course I am. I need Earth, I miss Earth, I want Earth. This time it *will* be different.

I'll find another Karen, and this time I won't blow it.

September 23

I'm sick. God, but I'm sick. The things I've been thinking. I thought I had changed, but now I don't know. I find myself actually thinking about staying, about signing on for another term. I don't want to. No. But I think I'm still afraid of life, of Earth, of everything.

Hurry, *Charon.* Hurry, before I change my mind.

September 24

Karen or the vortex? Earth or eternity?

Dammit, how can I *think* that! Karen! Earth! I have to have courage, I have to risk pain, I have to taste life.

I am *not* a rock. Or an island. Or a star.

September 25

No sign of the *Charon.* A full week late. That happens sometimes. But not very often. It will arrive soon. I know it.

September 30

Nothing. Each day I watch, and wait. I listen to my scanners, and go outside to look, and pace back and forth through the ring. But nothing. It's never been this late. What's wrong?

October 3

Ship today. Not the *Charon.* I thought it was at first, when the scanners picked it up. I yelled loud enough to wake the vortex. But then I looked, and my heart sank. It was too big, and it was coming straight on without decelerating.

I went outside and let it through. And stayed out for a long time afterward.

October 4

I want to go home. Where are

they? I don't understand. I don't understand.

They can't just leave me here. They can't. They won't.

October 5

Ship today. Ringship again. I used to look forward to them. Now I hate them, because they're not the *Charon*. But I let it through.

October 7

I unpacked. It's silly for me to live out of suitcases when I don't know if the *Charon* is coming, or when.

I still look for it, though. I wait. It's coming, I know. Just delayed somewhere. An emergency in the belt maybe.

There are lots of explanations.

Meanwhile, I'm doing odd jobs around the ring. I never did get it in proper shape for my relief. Too busy star watching at the time, to do what I should have been doing.

January 8 (or thereabouts)

Darkness and despair.

I know why the *Charon* hasn't arrived. It isn't due. The calendar was all screwed up. It's January, not October. And I've been living on the wrong time for months. Even celebrated the Fourth of July on the wrong day.

I discovered it yesterday when I was doing those chores around the ring. I wanted to make sure every-

in times to come

January's issue features "Integration Module," by Daniel B. James. Much has been written about the differences between man and computer, and the eventuality of self-aware electronic "brains." James has produced a thoughtful and thought-provoking story about just such a device: a self-aware computer that is integrated into a full-fledged factory, so that what you have is, in effect, a factory that can respond to the world around it much in the same way any living creature can respond to stimuli. The factory—called Beta—is one of the major characters in the story. The other main character is Beta's teacher, mentor, friend: an all-too-human human being who has the courage to answer Beta's questions about its origins and its destiny. The cover is by John Schoenherr.

The climax to Clifford Simak's "Cemetery World" takes Fletcher and Cynthia on a wild merry-go-round through eons of time to find the answers to the riddles of the war machines and the mystery surrounding Mother Earth and the census taker.

And the science article will be "The Third Industrial Revolution," by G. Harry Stine. The simple alternative to the problem of industry versus the environment, it turns out, is to move your industry into a different environment. Not far away, really; only a few hundred miles—up!

thing was running right. For my relief.

Only there won't be any relief.

The *Charon* arrived three months ago. I—I destroyed it.

Sick. It was sick. I was sick, mad. As soon as it was done, it hit me. What I'd done. Oh, God. I screamed for hours.

And then I set back the wall calendar. And forgot. Maybe deliberately. Maybe I couldn't bear to remember. I don't know. All I know is that I forgot.

But now I remember. Now I remember it all.

The scanners had warned me of the *Charon*'s approach. I was outside, waiting. Watching. Trying to get enough of the stars and the darkness to last me forever.

Through that darkness, *Charon* came. It seemed so slow compared to the ringships. And so small. It was my salvation, my relief, but it looked fragile, and silly, and somehow ugly. Squalid. It reminded me of Earth.

It moved towards docking, dropping into the ring from above, groping toward the locks in the habitable section of Cerberus. So very slow. I watched it come. Suddenly I wondered what I'd say to the crewmen, and my relief. I wondered what they'd think of me. Somewhere in my gut, a fist clenched.

And suddenly I couldn't stand it. Suddenly I was afraid of it. Suddenly I hated it.

So I woke the vortex.

A red flare, branching into yellow tongues, growing quickly, shooting off bluegreen bolts. One passed near the *Charon*. And the ship shuddered.

I tell myself, now, that I didn't realize what I was doing. Yet I knew the *Charon* was unarmored. I knew it couldn't take vortex energies. I knew.

The *Charon* was so slow, the vortex so fast. In two heartbeats the maelstrom was brushing against the ship. In three it had swallowed it.

It was gone so fast. I don't know if the ship melted, or burst asunder, or crumpled. But I know it couldn't have survived. There's no blood on my star ring, though. The debris is somewhere on the other side of nullspace. If there is any debris.

The ring and the darkness looked the same as ever.

That made it so easy to forget. And I must have wanted to forget very much.

And now? What do I do *now?* Will Earth find out? Will there ever be relief? I want to go home.

Karen, I—

June 18

My relief left Earth today.

At least I think he did. Somehow the wall calendar was broken, so I'm not precisely sure of the date. But I've got it back into working order.

Anyway, it can't have been off for more than a few hours, or I would have noticed. So my relief *is* on the way. It will take him three months to get here, of course.

But at least he's coming. ■

MAGIC: science of the future?

Magic can be defined as "something that works but can't be explained." There are psionic devices that do work—for some people. Can today's magic be developed into tomorrow's science?

JOSEPH F. GOODAVAGE

For some years now, people have been building and experimenting with machines to amplify human mental and emotional power. These devices can detect the finest trace of any element in a mineral sample, a chunk of ore—anything. They can influence living things, even kill—tracelessly—at enormous distances.

According to the laws of Nature and science—*as we presently understand them*—it *should* be impossible to locate a man anywhere on the planet by placing his photograph in the well of a strange "electronic" device and twisting the dials to a certain setting. And it is—*physically!* Yet these are fairly typical of the claims being made by some of the most respected men and women in *psionics.*

Specialists in this field have designed machines that do strange things with human thought and emotion—devices vastly more sophisticated than their natural prototypes: Ouija boards, dowsing rods, pendulums and forked twigs.

"Psionics," according to Dr. William J. Hale, former chief of Dow Corporation's Chemical Research Division, "is the field of human achievement *beyond* science."

Is it? Anyone with half a buck for the patent, some odds and ends from his workshop and a few hours to spare can find out—by building his own psionic machine. The late John W. Campbell opened the doors for discussion and experimentation with the Hieronymus machine here more than seventeen years ago. He called it a "thoroughly illogical and delightful contraption" and first used the term "psionics" in the science fact pages of Astounding.

Its inventor, T. Galen Hieronymus, claims his device extracts "eloptic radiation" from anything—organic or inert—from anywhere on Earth or in the surrounding cosmos. Moreover, it can focus this radiation on any desired target. By conventional scientific understanding, these experiments pose baffling paradoxes—even to those who build the device according to Hieronymus' directions. (The diagram and instructions are available for 50¢ from the U.S. Patent Office, Washington, D.C. 20025—Patent No. 2,482,773.)

As a simple mineral detector, the Hieronymus machine consists of a minimum of moving parts and a scanning tray on which the specimen under analysis is placed. The operator *concentrates* on the element he is trying to detect in the sample on the sensor tray. Mental energy seems to be the crucial factor. Hieronymus, however, believes the electronic circuitry in his device is the potent linkage between the mind of the operator and the element he is seeking.

As the operator's fingers stroke the smooth surface of two plates of clear plastic—each about a quarter-inch thick—between which is sandwiched a flat copper coil leading into the device, he turns a dial until the "right" position—one corresponding to the molecules of the element he's looking for—is reached. This is the "rate" or setting for a specific chemical or element, and is always the same even when different people operate the machine, but varies when different objects are placed on the scanning tray, or different elements are sought in the same object.

When the dial reaches the setting, say, for zinc *(if* zinc is present in the sample) the experimenter receives a distinct tactile sensation from the smooth plastic slab: it might be a tingling, a feeling of furriness, perhaps his fingers stick as they would on tacky paint; sometimes it's as strong as an electric shock. This *should* be impossible! A half-inch-thick slab of plastic (even if the copper coil it enclosed was connected to a power source, which it isn't) is a perfectly

good insulator against as much as 50,000 volts. The one thing experimenters seem to agree on almost universally is that *psi* is the key to its operation.

But as far as orthodox science is concerned, extrasensory perception is still pure fantasy. The Hieronymus (and other radionic/psionic) devices therefore pose a paradox of absolutely staggering proportions. They enable their operators to detect the molecules of any compound, chemical or element, and even seem to be capable of projecting virulent (or healing!) energies—without regard for distance or time!

Unlike any known force, power or radiation, Hieronymus' eloptic radiation does *not* decrease proportionately (as decreed by the inverse square law). It's sheer magic, and that's one of the reasons materially-oriented minds cannot repress their massive skepticism long enough to investigate the feats attributed to these "psychotronic generators."

The usual reaction of Standard Orthodoxy is, "Everyone *knows* there's no such energy. Nothing can exist beyond the electromagnetic spectrum!"

This is essentially the same argument invoked in earlier times by those who tried to refute the existence of "impossibilities" such as invisible electromagnetic forces. It wasn't too long ago that the whole scientific power structure rejected the notion that energy particles, and waves of electromagnetic energy beyond the ultraviolet or infrared, X-rays, atomic power and a host of other Wildly Speculative Concepts were real. That was before the technology of ultrasensitive instrumentation.

A few years back when Ed Hermann, a curious, but open-minded McGraw-Hill Publishing Company engineer, wrote to inventor T. Galen Hieronymus and asked him to "treat" a caterpillar-infested tree on his lawn, he had no clear idea of what the Florida inventor's device was capable of—certainly nothing as queer as "long-range extermination."

In spite of the most virulent pesticides and the constant burning of larvae and nests over the years, every wild-cherry tree in Hermann's northern New Jersey neighborhood was still seasonally attacked by hordes of voracious tent caterpillars.

At the time, Hermann was investigating psionics and gathering information from Hieronymus and others. The inventor happened to be visiting Brig. Gen. Henry R. Gross' "Homeotronic Research Foundation" at the latter's farm near Harrisburg, Pennsylvania. Gross, then state director of Selective Service, was experimenting with many radionic machines. His astonished neighbors attested to the psionic extermination of insects on more than ninety farms in the Cumberland Valley alone!

"Mail me a photograph of your tree and put some of the leaves and a

few caterpillars in a box with it," Hieronymus instructed, "and don't forget to include the negative."

The last request was a bit mystifying, but Hermann gladly mailed the material to Harrisburg—a distance of about three hundred miles. Hieronymus said eloptic energy (radiated by all matter) can be caught on photosensitive surfaces, and that his detector reacts to the *photograph* of a mineral (or a living thing) as easily as it does to the original subject.

Several afternoons later, as he was pulling into his driveway, the engineer hit his brake and stared in wide-eyed astonishment; a carpet of dead caterpillars covered the ground under his wild-cherry tree! His kids were frantically stamping out the lives of hundreds of survivors as the remnants of the furry horde swarmed in all directions *away* from the tree.

"Whatever you did to the cherry tree on our lawn worked!" Hermann wrote to his benefactor a few days later. "We don't have a caterpillar in sight. This isn't normal. Last year we were still burning off caterpillars in late June and early July with flaming kerosene torches . . . Something definite and specific was done here . . ."

Hieronymus is convinced that his patented "machine" is the critical factor. Most other psionics experts insist that all such devices *must* have a human operator in order to function. This *could* explain the varying reports of success; whatever the subject may be, some people are naturally going to be better at it than others.

The Hieronymus machine, like the De la Warr camera, detects emanations that cannot be recorded by any other method known. As John Campbell discovered, they work even when *disconnected* from a power source! All such devices operate on the same psychic principle—and may be used as transmitters as well as receptors.

By establishing a "point of resonant contact" with distant patients, radionics practitioners such as California's Ruth Drown and England's George De la Warr diagnosed and "treated" hundreds of people at long range. But reports that a bit of saliva on a blotter, a lock of hair, a skin scraping or a blood sample (to say nothing of a photograph!) could have any connection with a distant patient, are usually rejected, often with scorn and derision, by most doctors.

In one of his Cumberland Valley experiments when Gen. Gross and his colleagues were evaluating the relative strength of various insecticides, they received two photographs of a field plagued by corn borers and Japanese beetles. They daubed every *other* row in each picture with a powerful reagent and placed them in the well of a psionic device.

The untreated (control) rows of corn and vegetables remained under

attack by the hungry insects, but 95 percent of the corn borers and 98 percent of the Japanese beetles in the "treated" rows were quickly and effectively destroyed!

Perhaps because of those mysterious "laws of sympathetic magic—or voodoo," as suggested by John Campbell, the aforementioned "resonant point of contact" may be the leaves, twigs or juices from a plant or tree. In the treatment-at-a-distance of *human* patients, something from the patient's body is used to complete the circuit and establish the link. *Photographs* of people are equally effective—*provided* the negative isn't destroyed!

With psionics now "coming out of the closet" as it were, it may be more than just coincidence that a new kind of awareness in photography is making a debut. "The Snapshot Vision," consisting of candid photography by some of the best talent in the business, has taken New York's Museum of Modern Art by storm. Photographers engaged in the New Wave are convinced that it represents a profound change, affecting more than just visual values. "I'm not at all interested in the mechanics of photography," said one.

Lee Friedlander put it a little differently: "The camera is still like magic to me. You point it at a tree and you get back a record of exactly what the light let through the lens. Every leaf, every limb, every tone on the bark. That's incredible. That's *magic!*"

In his book, "New Worlds Beyond the Atom," Langston Day also describes George De la Warr's early experiments in terms associated more with magic than with science: "The emulsion of an ordinary photographic plate," he said, "is somehow linked to the *subject* of the photograph, whether it is a plant, animal or human being. Plant growth can be stimulated by irradiating *its photograph* with a device called the Colorscope."

How can there be a link between a plant or a human and a photograph of that subject?

According to De la Warr, "The image on the plate is formed by the multiplicity of reflected light rays coming from a cabbage, for example. In addition to light, other kinds of *vital radiations* are emanating from the cabbage; in some mysterious way these radiations, carried by photons or light waves, are transferred to (and somehow impressed in) the emulsion."

This is roughly analogous to Hieronymus' description of eloptic energy becoming an inextricable part of the *vehicle* (electrical-optical equals light, the visible portion of the electromagnetic spectrum).

The experts seem to be in almost complete agreement:

"Every molecule of matter in the Universe carries an electric charge which is specific for that particular molecule; this charge acts as an inconceivably tiny radio station which

both *transmits and receives* its own specific signals. When these countless myriads of charged molecules are broadcasting, they build up a generic pattern which is the means whereby form or shape appear in the material world."

For a nonscientist with no real knowledge of physics, this is a rather accurate description of the quantum theory. Psionically speaking, the total signal from any living thing—be it plant or animal—is composed, as those skilled in the art claim, "of the separate broadcasts of the billions of charged molecules which compose it." Naturally, the larger signal is absolutely unique! The generic pattern of the last grapefruit you enjoyed is unlike that of any other grapefruit. And the signals emitted by your own body and brain are different from any other signals being broadcast anywhere in the Universe.

Moreover, according to Langston Day, "inasmuch as each tiny molecular charge is also *a receiving station,* the generic pattern of a plant or a human being governs the pattern of signals received from the outside." This, apparently, is why a photograph is a potent agent. Photosensitive emulsion seems to retain something of the generic pattern of the subject on the photograph and therefore acts as a kind of tuned transmitter.

If a "radionic broadcast" is projected (by means of the Hieronymus or other psionic device) through it, the generic pattern will transmit the exact pattern of radiations that will affect a distant subject.

When this can be accomplished systematically, it could dwarf all the greatest discoveries and inventions in scientific history—*combined!*

Campbell, in what was characterized as one of his "prejudiced, idiosyncratic, annoying and sabotaging" editorials in the February 1956 issue of Astounding, wrote, "My personal hunch is that these individuals and groups are prodding at the edges of a new field that will open *a totally new concept of the Universe.* And that, *within the next twenty years* (my italics), the barrier will be cracked; a reproducible machine will be achieved when a valid theory of operation is achieved—and not before. But I believe that that can be, and will be done before 1975."

Considering the present state-of-the-art, this piece of Campbelese clairvoyance seems to be right on the money. Perhaps something *like* "magic" (according to present-day understanding) *is* part of the Universal scheme of things, and the human mind, psyche or what-have-you could be the key that opens and controls it.

More recent experimenters refer to the phenomenon Hieronymus terms "eloptic" as "*mitogenic*" radiation, a form of energy released during cellular division and plant growth. Baron von Reichenbach, the renowned Nineteenth Century German chemist who discovered creosote and many other chemical com-

pounds (coal-based and otherwise), was the first modern scientist to detect this "eloptic radiation," but he had another name for it. "Every living thing radiates this Odic Force." Reichenbach was so impressed by the Austrian physician, Dr. F. A. Mesmer (of animal magnetism fame) that he devoted his life to the study and practice of radiesthesia (or radionics).

Mesmer's work goaded him into launching an intense study of people who were clairvoyant or had some other kind of "wild talent." Using the results obtained from these "sensitives," the good Baron accumulated a wealth of data proving the existence of his "odic force." He discovered it in crystals, in heat, light, magnets, and in living cells; he also found it manifesting itself wherever chemical reactions were taking place.

Mitogenic radiation or energy *does* accompany the growth process of living cells. Three Columbia University scientists, I. I. Rabi, P. Kusch and S. Millman, developed a device that proved some kind of ray or vibrations pass between one molecule and another. They also proved that every cell is a small radio transmitter that broadcasts all the time. These waves range over the electromagnetic spectrum and—possibly, according to some reports—beyond! A single molecule gives off rays of a *million* different wavelengths—but only on *one* frequency at a time!

As far back as 1939, Dr. Rabi said, "Man himself as well as all kinds of supposedly inert matter constantly emits rays. Such radiation coming from all living things, and probably from the inanimate, has been suspected by scientists for many years. Every atom and every molecule is a continuous broadcasting station."

"The human mind capable of modulating an energy-pattern has a direct connection with physical forces," according to Dr. William J. Hale in his book, "Farmer Triumphant." "Universal Mind is able to manifest through an energy-pattern as matter."

The Hieronymus, Drown, and De la Warr devices seem to connect a purely "mental" (although there's no certainty that this is an apt description) function which we call ESP to an image on a photograph. Psionic devices give us the extra dimensional tools necessary for penetrating the gross material world to detect what is happening higher on the scale of causation.

The phenomenon of "thoughtography" as practiced by Ted Serios, the man with the apparent mental ability to create, manipulate and annihilate the energy of light, thereby producing recognizable patterns in photosensitive substrate molecules, is fairly good evidence that human beings may actively participate in, control, and even create environmental conditions at an unconscious level, with virtually *unlimited range* and near-complete effectiveness.

(For the full story, see "The World of Ted Serios," by Jule Eisenbud.)

Technological evolution, on the other hand, has created more cumbersome, indirect and highly specialized methods of controlling the environment. According to Jule Eisenbud, the psychiatrist and parapsychologist who "discovered" Ted Serios, it may be that our participation in a complex techno-industrial society "is an indispensable factor in the functioning of groups."

We don't want to risk losing our technological blessings. Most of us subscribe to the fiction that we must have mechanical contraptions outside our bodies in order to influence the environment. As a result, we've imprisoned our essential beings into strangely unreal confines and created increasingly complex, often paradoxical mysteries in the world of science. These mysteries progressively erode our certainty of human will as the causal agent of events in the physical world.

An attendant hypocrisy exists because we've systematically rejected mind as part of what we call "physical reality." At the same time we admit that mind is the supreme controlling element of all energy and matter in the Universe! This creates an unbalanced world view.

Psi shouldn't be considered some kind of special or freakishly paranormal talent, but a perfectly natural and integral part of the Universe. *Without* psi, man could not be a viable force in the (universal) order of evolution among various species and advanced states of being.

While the Soviets seem to be exploiting psi for the development of a more effective *ESPionage* (such as pinpointing an agent who has disappeared or gone underground in an unknown city), Western experimenters are striking off in different directions. Hieronymus has been bucking the scientific establishment for more than twenty-five years. In his experiments tracking the *heloida waves,* the *odic force, mitogenic radiations* or *eloptic energy* from objects, animals and people at great distances, Hieronymus went far beyond even the most spectacular Earthbound tests establishing the psionic link between a human being and his photograph.

He tracked the astronauts of Apollos 8 and 11 all the way to the Moon and back, and monitored changes in their physical conditions through the first lunar landing voyage. "We've never found anything we couldn't analyze chemically or otherwise," Hieronymus told me. "Distance is negligible, too. When we analyze our physical world, we find practically nothing physical—just the manifestation of energy at the level of ultimate particles."

By any measure, Hieronymus' twenty-two page consolidated statement containing "vitality intensity values" of the astronauts—from liftoff to splashdown and through the quarantine periods—is one of the most precedent-shattering reports in the history of man in space.

"Of all the data collected and information uncovered by us during the flight of Apollo 11," he reported, "the most important (and startling) is that there is *a lethal belt of radiation* on the Moon, apparently extending from about 65 miles down to approximately 15 feet from the surface.

"There was a noticeable drop in the general vitality of the astronauts and an increase in the carcinogenic readings. The pathologies increased until the men actually stepped onto the Moon, then everything reversed. It has been the same with all other lunar landings."

He distributed five hundred copies of the report to scientists, engineers, medical men and journalists. Although the power of mind, apparently amplified by the psionic devices, is undetectable in the known electromagnetic spectrum, there are enough unanswered questions about memory, the brain and its functions, to stimulate many new studies. When the human biomagnetic field was first mapped out by Dr. Robert O. Becker at New York's Upstate Medical Center in Syracuse, it triggered the first modern study of the interrelationship between medicine and psychiatry. In series after series of specialized experiments, the evidence compiled by Dr. Becker and his colleagues insistently inferred that magnetism seemed to be an important key to understanding the basis of life.

They discovered a possible explanation for the mystery of how the mind of an experimenter seeking a specific element in a mineral sample with a psionic device can generate a surge of electrical power (sometimes causing a severe shock) even though the device is *unconnected* to any power source! Research orthopedic surgeon Robert O. Becker long ago established that the biomagnetic fields of patients suffering from wounds and broken bones jump sharply from negative (normal) to positive (traumatic).

As healing progresses, the biomagnetic field returns to a normal negative state. A decade ago he was speeding up the healing of injured test animals with negative electromagnetic stimulation.

Puzzled by the fact that higher animals lack the ability of lizards to regenerate tails or worms to regrow the entire lower halves of their bodies, Becker began to experiment on other animals and was partially successful in regrowing the amputated limbs of frogs, opossums and even rats with slightly charged negative electric current.

Because of his remarkable series of successes, Becker has advanced farther and faster than anyone else. He is convinced that the application of small amounts of negative electric current to the stumps of traumatized limbs will soon enable doctors to regenerate the arms, legs, hands and feet of *human* amputees!

Psychic and physical changes oc-

cur during exposure to magnetic and electrical fields. Soviet researchers in parapsychology find that air ionization seems to affect ESP. During thunderstorms and when the local geomagnetic field fluctuates, some people find concentration impossible, and others lose their psychic abilities. Reports like this prompted Dr. Leonid L. Vasiliev, a physiologist and winner of the Lenin prize (for his work on the effects of ionization on human beings) to introduce moderately strong magnetic fields during ESP experiments.

"We surround both the sender and receiver with artificial magnetic fields both before and during ESP tests," he said. "It gives them extra energy. The fields don't have to be strong. Weak fields work just as well."

No living thing on this planet—from microbes to whales—is immune to the beneficial (or detrimental) effects of magnetism. Recent studies have shown that any organism deprived of the Earth's magnetic field for long periods of time will eventually suffer from any of numerous illnesses, many of which ultimately result in crippling or death.

In a recent issue of the Geological Society of America Bulletin, Australia's Ian Crane wrote, "The long-term effects of extremely low magnetic fields must be considered absolutely lethal to any organism."

In addition to the "belt of lethal radiation" ascribed to the Moon by Hieronymus during the Apollo landings, there could be other, more subtle dangers. The handful of men who have been to the Moon and back pose something of a physiological dilemma to space medics. Elusive inner ear troubles, severe nervous complaints and other physical difficulties have plagued American and (according to "inside" reports) Soviet spacemen. Sterility, for example. Dr. Charles A. Berry, chief flight surgeon for NASA's astronauts, bitterly complained that the top brass at the Manned Spacecraft Center in Houston, "flatly silenced me when it came to talking about the rather serious medical problems encountered by the Apollo 15 crew."

Generally speaking, Hieronymus' "vitality intensity values" for the Apollo 15 astronauts were congruent with Dr. Berry's medical telemetry system reports of the spacemen's conditions. But for finely detailed, in-depth dramatic impact, the Hieronymus machine seems to have a clear advantage over the most sophisticated communications systems in the arsenal of space technology. It may be significant that NASA said nothing about extremely low vitality parameters of the astronauts, or of an increase in "carcinogenic" readings.

The very existence of psychotronic generators poses some rather terrifying problems. When John Campbell became interested in the Hieronymus machine and began working with it in 1954 and 1955, he soon

learned that its operator did not depend on a source of electric power. Then he made the puzzling discovery that it *wouldn't* work if a tube was defective or missing. He studied a few other psionic machines, decided that they all worked on pretty much the same principle in spite of the fact that their wiring systems made *no logical sense* whatever! Based on this fact, he derived a new concept based on a wild theory, and conducted a crucial experiment.

He made a model of Hieronymus' mineral analyzer that was stripped of all nonessentials, streamlined and simplified to the ultimate. It consisted solely of the *circuit diagram*—nothing else! He used a *symbol* of the prism *(not* a real prism) mounted on a National Velvet Vernier dial. That, and a small copper loop, was all you could see on the front facing panel. Behind this, he *drew* the circuit diagram in India ink on standard drafting paper (allowing the prism-symbol to rotate in its appropriate place in the circuit diagram)!

He also drew the spiral coil in India ink on a piece of drafting paper which he glued to the back of the panel. Then he connected it to the (symbolized) vacuum tube plate through a condenser-symbol with a piece of string; he connected the other end of the (drawn) coil to the (symbolized) vacuum tube cathode with a nylon thread (from his wife's sewing kit)!

"The machine works beautifully," he wrote to Hieronymus. "The consistency of performance is excellent!

"We're working with magic—and magic doesn't depend on matter, but on form—on *pattern* rather than substance.

"Your electronic circuit represents a pattern of relationships. The electrical characteristics are *unimportant,* and can be dropped out completely. The machine fails when a tube is burnt out because that alters the pattern. My symbolic diagram works when there is no power because the relationship of patterns is intact."

Naturally, this infuriated Hieronymus—and he's still annoyed whenever anyone suggests that something other than his just-as-patented device is the working factor. He came to New York to set Campbell straight. It was during his visit to the Gross' farm in Harrisburg that he killed most of the tent caterpillars in Ed Hermann's tree, and drove the rest away. The McGraw-Hill engineer also knew Campbell, and lost no time telling him exactly what had happened.

"If you can kill insects by working on a photograph," Campbell wrote to Hieronymus, "and at a distance of thousands of miles—it implies that you can kill *me* with such a machine, despite all I might do to hide, without my having any chance whatever of protecting myself, without my knowledge or opportunity to defend myself against the attack . . . the more you make a man know that such forces exist—the less he can feel that he lives in a world of reasonable

security, wherein he can, at least, have warning of attack, and prepare to meet it.

"True, you're attacking only insects; you're *helping* human beings. But—the inherent implications are there, and cannot be denied . . . That machine of yours is almost pure magic. In the old, real and potent sense; it casts spells, imposes death-magic and can be used for life-magic; it, like voodoo dolls, *applies* the law that 'The symbol is the object, and that which is done to the symbol occurs also to the object.' If a 'magician' can destroy a man tracelessly, who is safe from threat, from ransom demand, *from the vengeful hate of an unjust enemy?*

". . . If you can *do* at a distance through barriers—you could also *observe* at a distance—and through barriers. Clairvoyance means the end of personal privacy. The fact is implicit in the action-at-a-distance-without-mechanism-at-the-other-end. It's *frightening!*"

"With such an instrument," said Professor S. W. Tromp in his book "Psychical Physics," "the etheric energy pattern that corresponds to any given object, substance *or condition* can be artificially simulated. The process is *not* on the physical level, it lies beyond the limits of the five known senses and seems to be outside the measurable magnetic spectrum."

Agencies such as the Food and Drug Administration and the National Institute of Mental Health are best equipped to deal with psionics. But so far there haven't been enough reports or widespread public clamor for the kind of intensive investigation that existed prior to the Air Force's *Project Blue Book* and the famed "Condon Report." (Symposium on Unidentified Flying Objects before the Committee on Science and Astronautics of the 90th Congress—July 29, 1968.)

Within the next three years, however, there probably will be.

Alerted by recent Soviet advances in parapsychology, renewed interest in psionics is rapidly spreading in the United States. Unprecedented cooperation on a national scale among the working psionics experimenters has resulted in a kind of underground "reservoir" of American physicists, biochemists, engineers, technicians and science-oriented laymen, most of whom express deep concern over Russia's intensive, officially-sanctioned psi research and experiments.

Their worries are not without foundation. Early on in the space game (while the official Communist attitude toward America's dream of landing on the Moon was publicly ridiculed in *Tass* and *Pravda),* secrecy cloaked Russia's frenetic efforts to be first in space during the late Forties and most of the Fifties.

Then on October 4th, 1957, America's collective heart skipped a couple of beats when Khrushchev triumphantly announced that while American scientists were "puttering"

with a gold-sheathed, basketball-sized probe called Vanguard, the Soviet Union had successfully blasted the first artificial satellite into orbit.

It was a stunning victory for our erstwhile allies of World War II, and they made the most of it, calling world attention to the fact that Uncle Sam had been humiliatingly caught asleep at the switch at the very outset of the space race. These severe blows to American prestige at home and abroad, were only the first of a *series* of Soviet diplomatic and technological triumphs. It took five years just to motivate and organize the beginnings of a strong American countereffort in space.

Much the same conditions exist today, except that it concerns psionics instead of space travel. While at the official level we ignore the Kremlin's ballyhoo about Soviet might in parapsychology, our scientific leaders have no idea of what the Hieronymous device is all about, and even less about psionics.

There may be some hope in the fact that I.T.&.T., Western Electric, Bell Laboratories and other electronics corporations are quietly investigating psionics or considering bids for the rights to manufacture one of the devices on a commercial basis (purely for "scientific" purposes, they say).

A friend of mine who happened to be a physicist and red-hot amateur astronomer before he died (like the prison death of Ruth Drown, the

"suicide" of Dr. Morris K. Jessup, and other psionics researchers who have died) under strange circumstances, had analyzed light from the nearby planets and stars by directing it through the prism of his psionics machine.

He claimed he'd discovered that life exists on two planets *(other* than the Earth) within our solar system. One of these worlds is Venus, but he was "unable to conceive the right questions about that life. It's plant-like, but not the way we understand it." He had apparently detected mitogenic radiation resulting from the growth process of some kind of cellular aggregate, "probably the cell division in the roots of incredibly tough, extremely large plants," he said.

Photographs of ordinary tap water were made with the De la Warr camera at Oxford, England. These were "before" and "after" exposures of the same sample showing the effect of human thought during ceremonial blessings by the Revs. J. C. Stephenson and P. W. Eardley. One of the developed pictures showed a cloud-like halo with radiating beams of light. The other was similar except that the "cloud" had assumed the shape and dimensions of the traditional Christian cross.

Photographs of religious relics of the past gave off similar emanations, suggesting that psionic devices may also be regarded, in a sense, as *time machines!*

De la Warr decided to test the theory that an etheric energy pattern from any object, substance or *condition* can be detected or *artificially simulated.* He took blood samples from himself and his wife, put them in the well of his "camera," and concentrated on "our wedding day" (which was thirty years previously). When developed before witnesses, the resulting picture was recognizably that of a couple in wedding dress. By using this photograph as his "resonant point of contact," that is, inserting the exposure into the well of his camera just as he did with the blood samples, he dialed a confirmation from the psionic device that the two people in the picture were indeed himself and Mrs. De la Warr.

If psionics blows the mind, it also shrinks our concepts of time and distance down to the level of almost pure illusion. In radionics, the Eighteenth Century idea of an "interplanetary ether" has been brought back alive and kicking in place of modern astronomy's dogma that space was only a "dead vacuum." If they overextend themselves, at least it's in a good cause: it is from this ether, they claim, that life and consciousness comes into material existence, and to which it returns (in a higher state or vibrational plane) after physical "death."

Not only does it make a compelling kind of almost-sense, it's difficult to even *want* to refute! Astrophysicists are fairly certain by

now that those vast clouds of interstellar dust not only contain everything necessary to form proto-stars, but the hydroxy-radical and the basic chemistry of life as well!

A few paleontologists and evolutionists are casting curious (if somewhat querulous) glances at psionics as a possible new tool in their disciplines. Fossils of prehistoric creatures that lived millions of years ago have been scanned by the De la Warr camera and other such devices.

All in all, we seem to be on the brink of making discoveries almost crucial to continued human existence in space—or on Earth for that matter.

Apparently, Nicolai Tesla was correct when he said "The day science begins to study *nonphysical* phenomena, it will make more progress *in one decade* than in all the previous centuries of its existence . . ."

That decade is almost upon us; the opening date ought to occur sometime before 1974. ■

BIOGRAPHY

Joseph Goodavage became interested in astrology (and psionics) in 1955 as a scientifically-oriented writer. His research was motivated by an ambition to write the final, devastating article exposing astrology once and for all as superstitious nonsense. As a journalist, he sought out astrologers in major American cities to correlate their analyses for his exposé. Instead, he became fascinated and intrigued. He finally decided to accept the sheer weight of the evidence he'd accumulated, and began to research astrology from an unprejudiced viewpoint. He has written and published dozens of articles, both for scientific and general audience publications, plus several books.

BIBLIOGRAPHY

The Phenomena of Life, by George Crile, W.W. Norton & Co., New York

A Bipolar Theory of Living Processes, by George W. Crile, Macmillan Co., New York.

Molecular Radiations, by Thomas Colson, Pub. by Electronic Medical Foundation, 2452 Van Ness Avenue, San Francisco, Calif.

The Divination of Disease, (A study in Radiesthesia), by H. Tomlinson, Health Science Press, Wayside, Grayshott, Hindhead, Surrey, England.

The Chain of Life, by Dr. Guyon Richards, Health Science Press, Wayside, Grayshott, Hindhead, Surrey, England.

Invisible Radiations of Organisms, by Otto Rahn, Berlin.

Proceedings of the Scientific and Technical Congress of Radionics and Radiesthesia, Markham House Press, Ltd., 31 King's Road, London SW 3, England.

The Theory and Technique of the Drown HVR & Radiovision Instruments, by Ruth B. Drown, Privately printed by Hatchard & Co., London W-1, England.

New Worlds Beyond the Atom, Langston Day & George De la Warr, Vincent Stuart Publishers Ltd., 55 Welbeck St., London W-1, England.

Cooperative Healing—The Curative Properties of Human Radiations, by L. E. Eeman, Frederick Miller Ltd., 29 Great St. James Street, London WWC-1, England.

Science & Religion: The Impact of Thought Upon Matter (A Second Conference Report), Markham House Press, Ltd., 31 Kings's Rd., London SW 3, England.

New Concepts in Diagnosis and Treatment, Dr. Albert Abrams, Physico-Clinical Co., 2151 Sacramento Street, San Francisco, Calif.

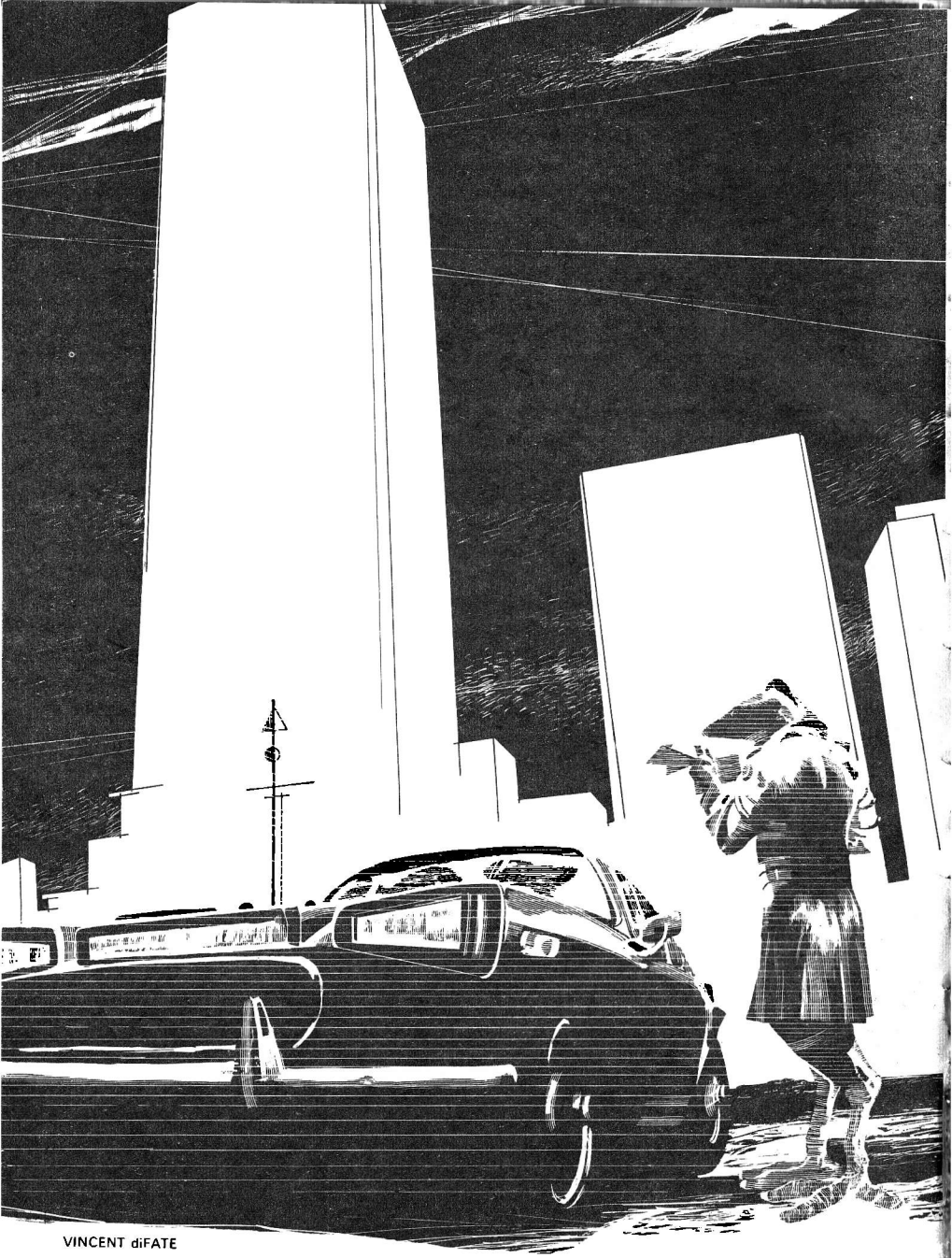
Psychical Physics, Professor S. W. Tromp.

The World of Ted Serios, by Jule Eisenbud, Wm. Morrow & Co., 1967.

Practical Dowsing: A symposium by the British Society of Dowsers, The Camelot Press, Ltd., London, England.

Experimental & Practical Radiesthesia, by Marguerite Maury, Richard Clay & Co., Ltd., Bungay, Suffolk, England.

Radionics in Theory & Practice, by John Wilcos, M.A., Herbert Jenkins, Ltd., 3 Duke of York St., London, S.W. 1, England.



VINCENT diFATE

When two cultures meet, one eventually dominates the other. There are all sorts of ways to attain domination . . . superior intelligence, military strength, even religious ideology.

VERNOR VINGE

original sin

First twilight glowed diffusely from the fog. On the landscaped terrace that fell away from the hilltop, long rows of tiny crosses slowly materialized. Low trees dripped almost silently upon the sodden grass.

The officer in charge was young. This was his first assignment. And it was an assignment more important than most. He shifted his weight from one foot to the other. There must be something to do with his time—something to check, something to worry over: the machine guns. Yes. He could check those again. He moved rapidly up the narrow, concrete walk to where his gun crews manned their weapons. But the magazine feeds were all set, the muzzle chokes screwed down. Everything was just as proper as the last time he had checked, ten minutes earlier. The crews watched him silently, but resumed their whispered conversations as he walked away.

Nothing to do. Nothing to do. The officer stopped for a moment and stood trembling in the cool dampness. Christ, he was hungry.

Behind the troops, and even farther from the field of crosses, the morning twilight defined the silhouettes of the doctors and priests attendant. Their voices couldn't carry through the soggy air, but he could see their movements were jerky, aimless. They had time on their hands, and that is always the greatest burden.

The officer tapped his heavy boot on the concrete walk in a rapid tattoo of frustration. It was so quiet here.

The mists hid the city that spread across the lowlands. If he listened carefully he could hear auto traffic below. Occasionally, a ship in the river would sound its whistle, or a string of railway freight cars would faintly crash and rattle as it moved along the wharves. Except for these links with the everyday world, he might as well be at the end of time here on the hilltop with its grasses, its trees. Even the air seemed different here—it didn't burn into his eyes, and there was only a hint of creosote and kerosene in its smell.

It was brighter now. The ground became green, the fog a cherry brown. With a sigh of anguished relief, the officer glanced at his watch. It was time to inspect the cross-covered hillside. He nearly ran out onto the grass.

Low hedges curved back and forth between the white crosses to form an intricate topiary maze. He must check that pattern one last time. It was a dangerous job, but hardly a difficult one. There were less than a thousand critical points and he had memorized the scheme the evening before. Every so often he broke stride to cock a deadfall, or arm a claymore mine. Many of the crosses rose from freshly turned earth, and he gave these an especially wide berth. The air was even cleaner here above the grass than it had been back by the machine-guns, and the deep wet sod sucked at his feet. He gulped back saliva and tried to concentrate on his job. So hungry. Why must he be tempted so?

Time seemed to move faster, and the ground brightened steadily be-

neath his running feet. Twenty minutes passed. He was almost done. The ground was visible for nearly fifty meters through the brownish mists. The city sounds were louder, more numerous. He must hurry. The officer ran along the last row of crosses, back toward friendly lines—the cool sooty concrete, the machine-guns, the trappings of civilization. Then his boots were clicking on the walkway, and he paused for three seconds to catch his breath.

He looked at the cemetery. All was still peaceful. The preliminaries were completed. He turned to run to his gun crews.

Five more minutes. Five more minutes, and the sun would rise behind the fog bank to the east. Its light would seep down through the mists, and warm the grass on the hillside. Five more minutes and a child would be born.

What a glorious dump! They had me hidden in one of the better parts of town, on a slight rise about three kilometers east of the brackish river that split the downtown area in two. I stood at the tiny window of my "lab" and looked out across the city. The westering sun was a smudged reddish disk shining through the multiple layers of crap that city traffic pumped into the air. I could actually see bits of ash sift down from the high spaces above.

It was the rush hour. The seven-lane freeways that netted the city were a study in still life, with idling cars backed up thousands of meters at the interchanges. I could imagine the shark-faced drivers shaking their clawed fists at each other, frothing murderous threats. Even here on the rise, it was so hot and humid that the soot stuck to my sweating skin. Down in the city basin it must have been infernal.

Further across town was a cluster of skyscrapers, seventy and eighty stories high. Every fifteen seconds a five-prop airplane would cruise in from the east, make a one-eighty just above the rooftops, and attempt a landing at the airport between the skyscrapers and the river.

And beyond the river, misty in the depths of the smog, was the high ridgeline that blocked the ocean from view. The grayish-green expanse of the metropolitan cemetery ran across the whole northern end of the ridge.

Sounds like something out of a historical novel, doesn't it? I mean, I hadn't seen an aircraft in nearly seventy years. And as for cemeteries . . . This side of the millennium, such things just didn't exist—or so I had thought. But it was all here on Shima, and less than ten parsecs from mother Earth. It's not surprising if you don't recognize the name. Earthgov lists the planet's star as +56°2966. You can tell the Empire is trying to hide something when the only designation they have for a nearby K-star is a centuries-old catalog number. If you're old enough, though, you remember the name.

Two centuries back, "Shima" was a household word. Not counting Earth, Shima was the second planet where man discovered intelligent life.

A lot has happened in two hundred years: the Not-Wars, the secession of the Free Human Worlds from Earthgov. Somewhere along the line, Earth casually rammed Shima under the rug. Why? Well, if nothing else, Earthgov is cautious (read: chicken). When humans first landed (remember spaceships?) on Shima, the native culture was paleolithic. Two centuries later, their technology resembled Earth's in the late Twentieth Century. Of course, that was no great shakes, but remember it took us thousands of years to get from stone ax to steam engine. It's really hard to imagine how the Shimans did it.

You can bet Earthgov didn't give 'em any help. Earth has always been scared witless by competition, while at the same time they don't have the stomach for genocide. So they pretend competition doesn't exist. The Free Worlds aren't like that. Over the last one hundred and fifty years, dozens of companies have tried to land entrepreneurs on the planet. The Earth Police managed to rub out every one of them.

Except for me (so far). But then, the people who hired me had had a lucky break. Earthgov occasionally imports Shimans to work as troubleshooters. (The Empire would import a lot more–Shimans are incredibly quick at solving problems that don't require background work–except that Earthpol can't risk letting the aliens return with what they learn.) Somehow one such contacted the spy system that Samuelson Enterprises maintains throughout the Empire. Samuelson got in touch with me.

Together, S.E. and the Shimans bribed an Earthman to look the other way when I made my appearance on Shima. Yes, some Earthcops do have a price–in this case it was the annual gross product of an entire continent. But the bribe was worth it. I stood to gain one hundred times as much, and Samuelson Enterprises had–in a sense–been offered one of the biggest prizes of all time by the Shimans. But that, as they say, is another story. Right now I had to come across with what the Shimans wanted, or we'd all have empty pockets–or worse.

You see, the Shimans wanted immortality. S.E. has impaled many a hick world on that particular gaff, but never like this. The creatures were really desperate: no Shiman had ever lived longer than twenty-five Earth months.

I leaned out to look at the patterns of soot on the window sill, trying at the same time to ignore the laboratory behind me. It was filled with equipment the Shimans thought I might need: microtomes, ultracentrifuges, electron micropscopes–a real antique shop. The screwy thing was that I did need some of those gadgets. For instance, if I had used my

'mam'ri at the prime integers, Earthpol would be there before I could count to three. I'd been on Shima four weeks, and considering the working conditions, I thought progress had been pretty good. But the Shimans were getting suspicious and very, very impatient. Samuelson had negotiated with them through third parties on Earth, and so hadn't been able to teach me the Shiman language. Sometime *you* try explaining biological chemistry with sign language and grunts. And these damn fidget brains seemed to think that a project was overdue if it hadn't been finished last week. I mean, the ol' Protestant Ethic stood like a naked invitation to hedonism next to what these underweight kangaroos practiced.

Three days earlier, they had posted armed guards inside my lab. As I stood glooming at the windowsill I could hear my three pals shuffling endlessly about the room, stopping every so often to poke into the equipment. Nothing short of physical violence could make them stay in one spot.

Sometimes I would look up from my bench to see one of them staring back at me. His gaze was not unfriendly—I've often looked at a steak just that way. When he saw me looking back, the Shiman would abruptly turn away, unsuccessfully trying to swallow slaver back from the multiple rows of inward curving teeth that covered his mouth. (Actually the creatures were omnivorous. In fact, they'd killed off virtually all animal life on the planet, and most of their vast population subsisted on cereal crops grown—in insufficient quantities—on well-defended collective farms.)

I could feel them staring at me right now. I had half a mind to turn around and show them a thing or three—Earthpol and its detection devices be damned.

This line of thought was interrupted as a sports car breezed up from the sentry gate three hundred meters away. I was housed in some sort of biological science complex. The place looked like a run-down Carnegie Library (if you remember what a library is), and was surrounded by hectares of blackened concrete. Beyond this were tank traps and a three-meter high barricade. Till now the only vehicles I had seen inside the compound were tracked military jobs.

The blue and orange sports car burned rubber as the driver skidded to a stop against the curb beneath my window. The driver bounded out of his seat, and double-timed up the walk. Typical. Shimans never slow down.

The passenger door opened, and a second figure appeared. Normal Shiman dress consists of a heavy jacket and a kilt which conceals their broad haunches and most of their huge feet. But this second fellow was wrapped from head to foot in black, a costume I had seen only once or

twice before—some kind of penance outfit. And when he moved it wasn't with short rapid hops, but with longer slower strides, almost as if . . .

I turned back to my equipment. At most I had only seconds, not really enough time to set the devious traps I had prepared. The two were inside the building now. I could hear the rapid *thumpthumpthump* as the driver bounced up the stairs, and the softer sound of someone moving unseemly slow. But not slow enough. Through the door came the whistly buzz of Shiman talk. Perhaps those guards would do their job, and I would have a few extra seconds. No luck. The door opened. Driver and passenger stepped into my lab. With nearly Shiman haste, the veiled passenger whipped off the headpiece and dropped it to the floor. As expected, the face behind the veil was human. It was also female. The girl looked about the room expressionlessly. A sheen of sweat glistened on her skin. She brushed straight blond hair out of her face and turned to me.

"I wish to speak to Professor Doctor Hjalmar Kekkonen," she said. It was hard to believe that such a flat delivery could come from that sensuous mouth.

"That's one I'll grant," I said, wondering if she was going to read me my rights.

She didn't answer at once, and I could see the throb at her temple as she clenched her jaws. Her eyes, I noticed, were like her voice: pretty, but somehow dead and implacable. She pulled open her heavy black gown. Underneath she wore a frilly thing which wouldn't have been out of place in Tokyo—or with the Earth Police.

She stood at her full height and her gray eyes were level with mine. "It is hard for me to believe. Hjalmar Kekkonen holds the Chair of Biology at New London University. Hjalmar Kekkonen was the first commander of the Draeling Mercenary Division. Could anyone so brilliant act so stupidly?" Her flat sarcasm became honest anger. "I did my part, sir! Your appearance on Shima was undetected. But since you arrived you've been so 'noisy' that nothing could disguise your presence from my superiors in Earthpol."

Ah, so this was the cop Samuelson had bought. I should have guessed. She seemed typical of the egotistical squirts Earthpol uses. "Listen, Miss Whoever-you-are, I was thoroughly briefed. I've worn native textiles, I've eaten the stuff they call food here, I've even washed in gunk that makes me *smell* like a local. Look at this place—I don't have a single scrap of comfort."

"Well then, what is that?" She pointed at the coruscating pile of my *'mam'ri.*

"You know damn well what it is. I told you I've been briefed. I've only used it on a Hammel base. Without that much analysis, the job would take years."

"Professor Kekkonen, you have been briefed by fools. We in the Earth Police can detect such activity easily—even from the other side of Shima." She began refastening the black robe. "Come with us now." You can always spot Earthgov types: the imperative is their favorite mode.

I sat down, propped my heels on the edge of the lab bench. "Why?" I asked mildly. Earthgov people irritate easy, too. Her face turned even paler as I spoke.

"It may be that Miss Tsumo hasn't made things clear, sir." I did a double take. It was the cop's native

driver, speaking English. The goop's accent was perfect, though he spoke half again as fast as a human would. It was as if some malevolent Disney had put the voice of Donald Duck in the mouth of a shark.

"Professor, you are here working for a group of the greatest Shiman governments. Twenty minutes ago, Miss Tsumo's managers made discovery of this fact. At any minute the Earth Police will order our governments to give you up. Our people all want to help you, but they have knowledge of the power of Earth. They will attempt to do what they are ordered. For the next five minutes, I have authority to take you from here—but after that it will probably be too late."

The goop made a hell of a lot more sense than the Tsumo character. The sooner we holed up someplace new, the better. I swung my feet off the bench and grabbed the heavy black robe Tsumo held out to me. She kept silent, her face expressionless. I've met Earthcops before. In their own way, many of them are imaginative—even likable. But this creature had all the personality of a five-day-old corpse.

The native driver turned to my guards and began whistling. They called in some ranking officer who inspected a sheaf of papers the driver had with him. I had just finished with the robe and veil combination when the commanding officer waved us all toward the door. We piled down the stairs and through the exit. Outside, there was no activity beyond the usual sentries that patrolled the perimeter.

As the driver entered the blue and orange car, I crawled onto the narrow bench behind the front seat. The car sank under my weight. I mass nearly one hundred kilos and that's a lot more than the average Shiman. The driver turned the ignition, and the kerosene-eating engine turned over a couple of times, died. Tsumo got into the front seat and shut the door.

Still no alarms.

I wiped the sweat from my forehead and looked out the grimy window. Shima's sun had set behind the smog bank but here and there across the city lingered small patches of gold where the sun's rays fell directly on the ground. Something was moving through the sky from the south. A native aircraft? But Shiman fliers all had wings. The cigar-shaped flier moved rapidly toward the city. Its surface was studded with turrets—vaguely reminiscent of the gun blisters on a Mitchell bomber. God, this place brought back memories. The vehicle crossed a patch of sunlit ground. Its shadow was at least two thousand meters long.

I tapped Tsumo on the shoulder and pointed at the object that now hovered over the estuary beyond the city.

She glanced briefly into the sky, then turned to the native. "Sirbat," she said, "Hurry. Earthpol is already here." Sirbat—if that was the native's

name—twisted the starter again and again. Finally the engine kicked over and stayed lit. Somehow all those whirling pieces of metal meshed and we were rolling toward the main gate. Sirbat leaned forward and punched a button on the dash. It was the car radio. The voice from the speaker was more resonant, more deliberate than is usual with Shimans.

Sirbat said, "The voice says, 'See the power of Earth over your city.' " The speaker paused as if to give everyone time to look up and see the airborne scrap heap over the estuary. Tsumo twisted about to face me. "That's the Earthpol 'flagship'. We tried to imagine what the Shimans would view as the warcraft of an advanced technology, and that's what we came up with. In a way, it's impressive."

I grunted. "Only a demented two-year-old could be impressed." Sirbat hissed, his lips curling back from his fangs. He had no chance to speak though, because we were rapidly coming up on the main gate. Sirbat slammed on the brakes. I was leaning against the front dash when we finally screeched to a stop beside the armored vehicle which guarded the gateway's steel doors.

Sirbat waved his papers out the window, and screamed impatiently. The turret man on the tank had aimed his machine gun at us, but I noticed he was looking back over his shoulder at the Earthpol flagship. The gunner's lips were peeled back in anger—or fear. Perhaps the floating mountain *was* somehow awesome to the Shiman psyche. I tried briefly to remember how I had felt about aircraft, back before the turn of the millennium.

Tsumo unobtrusively turned off the car radio, as a guard came over and snatched the clearance papers from Sirbat. The two natives began arguing over the authorization. From the tank, I could hear another radio. It wasn't the voice as we had heard it from the flagship. It sounded agitated and entirely Shiman. Apparently Earthpol was broadcasting on selected civilian frequencies. Score one against their side. If we could just get past this checkpoint before Earthpol made its ultimatum.

The guard waved to the tank pilot, who disappeared inside his vehicle. Ahead of us electric motors whined and the massive steel doors swung back. Our sports car was already blasting forward as Sirbat reached out of the window and plucked his authorization from the guard's claws.

The city's streets were narrow, crowded, but Sirbat zipped our car from lane to lane like we were the only car around. Worst of all, Sirbat was the most conservative driver in that madhouse. I haven't moved so fast since the last time I was on skis. The buildings to right and left were a dirty gray blur. Ahead of us, though, things stood still long enough to get some sort of perspective. We were heading downtown—toward the

river. Over the roofs of the tenements, and through a maze of wires and antennas, I could still see the bulk of the Earthpol flagship.

I grabbed wildly for support as the car screeched diagonally through an intersection. Seconds later we crashed around another corner and I could see all the way to the edge of the estuary.

Sirbat summarized the Earthpol announcement coming from the car radio, "He says he's Admiral Ohara—"

"—that would be Sergeant Ohara-san," said Tsumo.

"—and he orders Berelesk to turn over the person-eater and doer of crimes, Hjalmar Kekkonen. If not, destruction will come from the sky."

Several seconds passed. Then the entire sky flashed red. Straight ahead that color was eye-searingly bright as a threadlike ray of red-whiteness flickered from flagship to bay. A shockwave-driven cloud of steam exploded where the beam touched water. Sirbat applied the brakes and we ran up over the curb, finally came to a stop against a utility pole. The shock wave was visible as it whipped up the canyon of the street. It smashed over our car, shattering the front windshield.

Even before the car shuddered to a stop, Sirbat was out. And Tsumo wasn't far behind. The Shiman quickly ripped the identification tags from the rear whindshield and replaced them with—counterfeits?

In those seconds the city was quiet, Earthpol's gentle persuasion still echoing through the minds of its inhabitants. Tsumo looked up and down the street. "I hope you see now why we had to run. By now the city and national armies are probably on the hunt for us. Once cowed, the Shimans are dedicated in their servility."

I pulled the black veil of my robe more tightly down over my head and swore. "So? What now? This place can't be more than four kilometers from the lab. We're still dead ducks."

Tsumo frowned. "Dead—ducks?" she said. "What dialect do you speak?"

"English, damn it!" Youngsters are always complaining about my language.

Sirbat hustled around the rear of the sports car to the sidewalk. "Go quick," he said and grasped my wrist with bone-crushing force. "I hear police coming." As we ran toward a narrow alley, I glanced up the street. The place was right out of the dark ages. I'd like to take some of these young romantics and stuff them into a real, old-fashioned slum like that one. The buildings were better than three stories high, and crushed up against each other. Windows and tiny balconies competed in endless complication for open air. Fresh-laundered rags hung from lines stretched between the buildings—to become filthy in the sooty air. The stench of garbage was the only detail the scene seemed to lack.

The moment of stunned shock passed. Some Shimans ran wildly around while others sat and gnawed at the curbing. This was panic, and it made their previous behavior look tame. The buildings were emptying, and the screams of the trampled went right through the walls. If we had been just ten meters farther away from that alley, we'd never have made it.

We huddled near the end of the hot cramped alley amid the crumbling remains of a couple of skeletons and listened to the cries from beyond. Now I could hear the police sirens, too—at least that's what I assumed the bass *boohoohoo* to be. I turned my head and saw that it was just centimeters from the saurian immensity of Sirbat's fangs.

The Shiman spoke. "You may be all right. At one time I had good knowledge of this part of the city. There is a place we may use long enough for you to make good on your agreement with Shima." I opened my mouth to tell this nightmare he was an idiot if he thought I could make progress with nothing more than paper and pencil. But he was already running back the way we had come. I glanced at Tsumo. She sat motionless against the rotting wall of the alley. Her face wasn't visible behind the thick veil, but I could imagine the flat, hostile glare in her soft gray eyes. The look that sank a thousand ships.

I drew the sticker from my sleeve and tested its edge. There was no telling who would come back for us. I wouldn't have put anything past our toothy friend—and Earthpol was as bad.

What a screwed-up mess. Why had I ever let Samuelson persuade me to leave New London? A guy could get killed here.

Sunrise. The disk blazed pale orange through the fog, and momentarily the world seemed clean, bright.

Silence. For those few seconds the muted sounds of the city died. The sun's warmth pressed upon the ground, penetrated the moist turf, and brought a call of life—and death—to those below.

The Shimans stood tense, and the silence stretched on: Ten seconds. Twenty. Thirty. Then:

A faint wail. The sound was joined by another, and another, till a hundred voices, all faint but together loud, climbed through the register and echoed off nearby hills.

The dying had discovered their mouths.

Near the middle of the green field, one cross among the thousands wavered and fell.

It was the first.

The fog blurred the exact form of the grayish creatures that spilled from the newly opened graves. As grave after grave burst open, the wailing screams died and a new sound grew—the low, buzzing hum of tiny jaws opening and closing, grinding and tearing. The writhing gray mass spread toward the edge of the field,

and the ground it passed over was left brown, bare. A million mouths. They ate anything green, anything soft—each other. The horde reached the hedgework. There it split into a hundred feelers that searched back and forth through the intricate twisting of the maze. Where the hedge wall was narrow or low, the mouths began to eat their way through.

A command was given, and all along the crest of the hill the machine scatterguns whirred, spraying a dozen narrow streams of birdshot down on those points where the horde was breaking out. The poisoned shot killed instantly, by the thousands. And tens of thousands were attracted by the newly dead into the field of fire.

Only the creatures which avoided the simplest branches of the maze escaped death by nerve poison. And most of those survivors ran blindly into dead ends, where claymore mines blasted their bodies apart.

Only the smartest, fastest thousand of the original million reached the upper end of the maze. These had grown fat since they climbed from their fathers' graves, yet they still moved forward faster than a man can walk. Not a blade of grass survived their passage.

I'll say one thing about my stay on Shima: it cured me once and for all of any nostalgia I had felt for premillennium Earth. Shima had the whole bag: the slums, the smog, the overpopulation, the starvation—and now this. I looked down from our hiding place at the congregation standing below. The Shimans sang from hymnals, and their quacking was at once alien and familiar.

On the dais near the front of the room was a podium—an altar, I should say. The candelabra on the altar cast its weak light on the immense wooden cross that stood behind it.

It took me all the way back to Chicago, circa 1940—when a similar scene had been weekly ritual. Funny, that was one bit of nostalgia I had never wished to part with. But after seeing those shark-faced killers mouthing the same chants, I knew the past would never seem the same. The hymn ended but the congregation remained standing. Outside I could hear the night traffic—and the occasional rumble of military vehicles. The city was not calm. A million tons of hostile metal still sat in their sky.

Then the "minister" walked rapidly to the altar. The crowd moaned softly. He was dressed all in black, and I swear he had a clerical collar hung around the upper portion of his neckless body.

Tsumo shifted her weight, her thigh resting momentarily against mine. Our friend Sirbat had hidden us in this cramped space above the hall. He was supposedly negotiating with the reverends for better accommodations. The Earthpol girl peered through the smoked glass which shielded us from the congregation's view, and whispered, "Christianity is popular on Shima. A couple of Cath-

olic Evangels introduced the cult here nearly two centuries ago. I suppose any religion with a Paul would have sufficed, but the Shimans never invented one of their own."

Below us, the parishioners settled back in their pews as the minister began some sort of speech—and that sounded kind of familiar, too. I glanced back at Tsumo's shadowed face. Her long blond hair glinted pale across her shoulders. Hm-m-m.

"Kekkonen," she continued, "do you know why Earthgov has quarantined Shima?"

An odd question. "Uh, they've made the usual 'cultural shock' noises but it's obvious they're just scared of the competition these gooks could provide, given a halfway decent technology. I'm not worried. Earthgov has never put enough store by human ingenuity and guts."

"Your problem, Professor Doctor, is that you can think of competition only on an economic level: a strange failing for one who considers himself so rough and tough. Look down there. Do you see those two at the end of the pew fight to hold the collection tray?"

The Shimans tugged the plate back and forth, snarling. Finally, the larger of the two raked his claws across the other's face, opening deep red cuts. Shorty squealed and released the plate. The victor ponderously drew a fat wallet from his blouse and dropped several silver slugs into the tray, then passed it down the row, away from his adversary. Those near the struggle gave it their undivided attention, while from the front of the hall the minister droned on.

"Are you familiar with the Shiman life cycle, Professor." It was a statement.

"Certainly." And a most economical system it was. From birth the creatures lived to eat—anything and everything. Growing from a baby the size of your fist, in less than two years the average Shiman massed sixty kilograms. Twenty-one months after birth a thousand embryos would begin to develop in his combined womb/ovary—no sex was necessary for this to happen, though occasionally the Shimans did exchange genetic material through conjugation. For the next three months the embryos developed in something like the normal mammalian fashion, drawing nourishment from the parent's circulatory system. When the fetuses were almost at term the womb filled most of the adult's torso, absorbed most of the adult's food intake. Finally—and I still didn't understand the timing mechanism, since it seemed to depend on external group factors—the thousand baby Shimans ate their way out of the parent, and began their own careers.

"Then you know that parricide and genocide are a way of life with these monsters. Earthgov is not the stupid giant you imagine, Professor. The challenge Shima presents us transcends economics. The Shimans

are very much like locusts, yet their average intelligence is far greater than ours. In another century they will be our technological equal. You entrepreneurs will lose more than profits dealing with them—you'll be exterminated. The Shimans have only one natural disadvantage and that is their short life span. In twenty-four months, even *they* can't learn enough to coordinate their genius." Her whisper became soft, taut. "If you succeed, Professor, we will have lost the small chance we have for survival."

Miss Iceberg was blowing her cool. "Hell, Tsumo, I thought you were on our side. You're taking our money, anyway. If you're really so in love with Earthgov policy, why don't you blow the whistle on me?"

The Earthpol agent was silent for nearly a minute. At first I thought she was watching the services below, but then I noticed her eyes were closed. "Kekkonen, I had a husband once. He was an Evangel—a fool. Missionaries were allowed on Shima up to fifty years ago. That was probably the biggest mistake that Earthgov has ever made: Before the Christians came, the Shimans had never been able to cooperate with one another even to the extent of developing a language. The only thing they did together was to eat. Since they were faster and deadlier than anything else they would often come near to wiping out all life on a continent; at which point, they'd start eating each other and their own population would drop to near zero and stay there for decades. But then the Christians came and filled them with notions of sin and self-denial, and now the Shimans cooperate with each other enough so they can use their brains for something besides outsmarting their next meal.

"Anyway, Roger was one of the last missionaries. He really believed his own myths. I don't know if his philosophies conflicted with Shiman dogma, or whether the monsters were just hungry one day: but my husband never came back."

I almost whistled. "O.K., so you don't like Shimans—but hating them won't bring your husband back. That would take the skills of a million techs and the resources of . . ." My voice petered out as I remembered that that was about the size bribe Samuelson had offered her. "Hm-m-m, I guess I'm getting the picture. You want things both ways: to have your husband back, and to have a little vengeance, too."

"*Not vengeance,* Professor Doctor. You are just rationalizing your own goals. Remember the things you have seen on Shima: The cannibalism. The viciousness. The constant state of war between the different races of the species. And above all the superhuman intelligence these monsters possess.

"You think it ridiculous for me to accept money on a project I want to fail. But never in a thousand years will I have another chance to make

such a fortune—and you know a thousand years is too long. It would be so terribly simple for you to fail. I'm not asking you to give up the rewards promised you. Just make an error that won't be apparent until after the rejuvenation treatments are started and you have been paid."

If nothing else, Tsumo had the gall of ten. She was obviously an idealist: that is, someone who can twist his every vice into self-righteous morality. "You're nearly as ignorant as you are impudent. S.E. won't buy a pig in a poke. I don't get a cent till my process has boosted the Shiman life span past one century." That's the hell of immortality—you can't tell until the day after forever whether you really have the goods. "This is one cat you'll have to skin yourself."

Tsumo shook her head. "I intend to get that bribe, Kekkonen. The human race is second with me. But," she looked up and her voice hardened, "I've studied these creatures. If their life span is increased beyond ten years, there won't be any Samuelson Enterprises to pay you a century from now." Ah, so self-righteous.

The discussion was interrupted as a crack of light appeared in the darkness above us. Sirbat's burred voice came faintly. "We have moved the Bible classes from this part of the building. Come out." The light above silhouetted some curves I hadn't noticed before as Tsumo crawled through the tiny trap. I followed her, groaning. I never did learn what they used that cramped box for. Maybe the reverends spied on their congregations. You could never tell about those cannibals in the back pews.

We followed Sirbat down a low, narrow corridor into a windowless room. Another Shiman stood by a table in the center of the room. He looked skinny compared to our guide.

Sirbat shut the door, and motioned us to chairs by the table. I sat, but it was hardly worth the effort. The seat was so narrow I couldn't relax my legs. Shimans are bottom heavy. They don't really sit—they just lean.

Sirbat made the introductions. "This is Brother Gorst of the Order of Saint Roger. He keeps the rules at this church, by the authority of the Committee in Senkenorn. Gorst's father was probably my teacher in second school." Brother Gorst nodded shyly and the harsh light glinted starkly off his fangs. Our interpreter continued, "For this minute we are safe—from Shiman police and army forces. The Earth Police spaceship is still hanging over the water, but only Miss Tsumo can do anything about that. Gorst will help us, but we may not use these rooms for more than three days. They are needed for church purposes later this eightday. There is another time limit, too. You will not have my help after tomorrow morning. Naturally, Gorst has

no knowledge of any Earth languages, so—"

I interrupted. "The devil you say! There's no such thing as half a success in this racket, Sirbat. What's the matter with you?"

The Shiman leaned across the table, his claws raking scratches in its plastic surface. "That is not your business, Worm!" he hissed into my face. Sirbat stared at me for several seconds, his jaws working spasmodically. Finally, he returned to his chair. "You will please take account of this. Things would not be so serious now if you had only given care to the Earthpol danger. If I were you I would be happy that Shima is still willing to take what you have to offer. At this time our governments take Earthpol's orders, but it is safe to say they hope by Christ's name that you are out of danger. Their attempts to get you will not be strong. The greatest danger still comes from *your* people."

The blond Earthpol agent took the cue. "We have at least forty-eight hours before Ohara locates us." She reached into a pocket. "Fortunately I am not so poorly equipped as Professor Kekkonen. This is police issue."

The pile she placed on the table had no definite form—yet was almost alive. A thousand shifting colors shone from within it. Except for its size, her *'mam'ri* seemed unremarkable. Tsumo plunged her hand into it, and the device searched slowly across the table. Brother Gorst squeaked his terror, and bolted for the exit. Sirbat spoke rapidly to him, but the skinny Shiman continued to tremble. Sirbat turned to us. "The fact is, it's harder for me to talk with Gorst than with you. His special word knowledge has to do with right and wrong, while my special knowledge is of language. The number of words we have in common is small."

I guess two years isn't much time to learn to talk, read, write, and acquire a technical education.

Finally Sirbat coaxed Gorst back to the table. Tsumo continued her spiel. "Don't be alarmed. I'm only checking to see that—" and she lapsed into Japanese. Old English just isn't up to describing modern technology. "That is, I'm making sure that our . . . shield against detection is still working. It is, but even so it doesn't protect us from pre-millennium techniques. So stay away from windows and open places. Also, my *o-mamori* can't completely protect us against—" She looked at me, puzzled. "How can I explain *f'un,* Professor?"

"Hm-m-m, Sirbat, Earthpol has a weapon which could be effective against us even if we stay hidden."

"A gas?" the Shiman asked.

"No, it's quite insubstantial. Just imagine that . . . hell, that's no good. About the best I can say is that it amounts to a massive dose of bad luck. If the breaks run consistently against us, I'd guess *f'un* might be involved."

Sirbat was incredulous, but he relayed my clumsy description on to Gorst, who seemed to accept the idea immediately.

Finally Sirbat spoke in English. "What an interesting thing. With this 'fa-oon' you no longer need to be responsible for your shortcomings. We used to have things like that, but now we poor Shimans are weighted down by reason and science."

Sarcasm yet! "Don't accuse *us* of superstition, Sirbat. You people are clever but you have a long way to catch up. In the last two centuries, mankind has achieved every material goal that someone at your level could even *state* in a logical way. And we've gone on from there. The methods—even the methodology—of Tsumo's struggle with Earthpol would be unimaginable to you, but I assure you that if she weren't protecting us, we would have been captured hours ago." I touched the police-issue *'mam'ri.* In addition to being our only defense against Earthpol, it was also my only hope for finishing my biological analysis of the Shimans. Apparently, the Earthpol agent really meant to keep her part of the bargain with Samuelson *et al.* Perhaps she thought I would foul things up *for* her. Fat chance.

"Before things blew up, I was pretty close to success. Only one real problem was left. Death for a Shiman isn't the sort of metabolic collapse we see in most other races. In a way you die backwards. If I'm gonna crack this thing, I've got to observe death firsthand."

Sirbat was silent for a long moment. It was the first time I'd seen a Shiman in a reflective mood. Finally he said, "As you have knowledge, Professor, we Shimans come to birth in great groups. The fact is that those who first saw life seven hundred and nine days before now will give up living tomorrow." He turned and spoke to Brother Gorst. The other bobbed his head and buzzed a response. Sirbat translated, "There is a death place only three kilometers from here. It is necessary for people of Gorst's Order to be on hand at the time of the group deaths. Brother Gorst says that he is willing to take you there. But it will not be possible for you to get nearer than fifty or sixty meters to the place of the deaths."

"That'll be fine," I said. "Fifteen minutes is all I need."

"Then this is a very happy chance, Professor. If it was not for the group death tomorrow, you would have to take nine more days here." As he spoke, a caterwauling rose from below us. Moments later someone was pounding at our door. Gorst scuttled over and opened it a crack. There was a hysterical consultation, then the reverend slammed the door and screamed at our interpreter.

"Christ help us!" said Sirbat. "There has been a smash out at the second school two kilometers from here. A large group of young is coming this way."

Gorst came back to his chair, then bounded up and paced around the room. From the way he chewed his lip, I guessed he was unhappy about the situation. Sirbat continued, "We have to make the decision of running or not running from the young persons."

"Are there any other hideouts you could dig up in this area?" I asked.

"No. Gorst is the only living person I have knowledge of in this place."

"Hm-m-m. Then I guess we'll just have to stay put."

Sirbat came to his feet. "You have little knowledge of Shiman conditions, Professor, or you wouldn't make that decision quite so easily. It is too bad. You are probably right. Our chances are near zero, one way or the other, but . . ." He snarled something at the other Shiman. Brother Gorst replied shortly. Sirbat said. "My friend is in agreement with you. We'll be safest at the top of the building." Gorst was already out the door. Tsumo scooped her *'mam'ri* off the table, and we followed. A spiral stairway climbed twenty meters to end on a flat roof no more than ten meters square. A cross towered over the open space.

It was well past midnight. Below and around us were the sounds of running feet and automobile engines being lit. The cars screeched away from their parking slots, and headed west. One by one the lights in nearby buildings went out. The traffic got steadily noisier. Then after five or ten minutes, it subsided and the neighborhood was still.

The church spire reached several stories above the nearby buildings, and from there we could see Berelesk spread many kilometers, a mosaic of rough gray rectangles. Shima's single moon had risen and its light fell silver on the city. Near the horizon bomb flashes shone through the thinning smog, and I could hear the faint *thudadub* of artillery. Berelesk wasn't on good terms with its neighbors.

Tsumo pulled at my arm. I turned. Vast, blue, the glowing Earthpol ship hung above the bay. I jerked my outfit's dark veil down across my face. It wouldn't matter how good Tsumo's equipment was if her superiors actually eye-balled us.

Gorst hustled over to the low parapet, and leaned out to look straight down. At the same time, Sirbat studied the empty streets and quiet tenements. Finally I whispered, "So where's the action, Sirbat?"

The Shiman glanced at the Earthpol ship, then sidled over to us. "Don't you see why things are so quiet, Professor? More than three thousand children are free in this part of Berelesk. And they are coming our way. Everyone with any brain has run away from here. Children will eat everything they see, and it would be death to fight them: they run together and they are very bright. In the end, they will be so full that the authorities can take care of

them one by one. We are probably the only living older persons within three kilometers—and that makes us the biggest pieces of food around."

Tsumo stood behind me, close to the cross. She ignored us both as she played with her *'mam'ri.* From the parapet Brother Gorst shrilled softly. "Gorst is hearing them come," Sirbat translated. I turned to look east. There were faint sounds of traffic and artillery, but nothing else.

Several blocks away something bright lit the sides of facing buildings. There was a muffled, concussive thud. Sirbat and Gorst hissed in pain. The fire burned briefly, then gutted out: the slums of Berelesk were mostly stone—nonflammable, and much more important, inedible. Smoke rose into the sky, blocked the moonlight and laid twisting shadows on the city.

Far away, something laughed, and someone screamed. Voices growled and squabbled. Whatever they were, they seemed to be having a good time. Four blocks up the pike, a street lamp winked out, and there was the sound of breaking glass. In the moonlight the juveniles were fast-moving gray shadows that flitted from doorway to doorway. The little bastards were smart. They never exposed themselves unnecessarily and they systematically smashed every street lamp they passed. I didn't see anyone run across the street until their skirmish line was nearly even with our church. Behind those front lines more were coming. (How big was the grade school, anyway?) Their lunatic screaming was all around us now. Tsumo looked up from her work, for the first time acknowledging our trivial problems. "Sirbat, aren't we safe from them here? We're so far above the street."

The Shiman made a rude noise, but it was a soft rude noise. "They will smell us even up here, and don't doubt they will come this high. We're the best food left. I wouldn't be surprised if the greater part of the young people are there in the church right now eating the wood seats and giving thought to our downfall."

Feet pattered around below us, and I heard a low, bubbly chuckle. I leaned over the parapet and looked down on the church's main roof. A chorus of eager shouts greeted my appearance, and something whistled up past my face. I ducked back, but I had already seen more than enough. There was a mob of them dancing on the deck below us. They were so close I could see the white of their fangs and the drool foaming down their chins. Except that they were near naked, the juveniles looked pretty much like adult Shimans.

Was there any real difference?

Tsumo might have a point after all—but that point would be entirely academic unless we could get out of this immediate fix in one piece.

Gorst stood a meter behind the parapet with a quarterstaff in his claws. The first head that popped up would get a massive surprise. Sirbat

paced back and forth, either panicking or thoughtful, I couldn't tell which. How long did we have before the juveniles came up the wall of the steeple? It was maddening: Properly used, Tsumo's *o-mamori* could easily defeat this attack, but at the same time such use would certainly put Earthpol onto our location. I looked around our tiny roof. There was unidentifiable equipment in the shadows beneath the parapet. Memories of a life two centuries past were coming back, and so were some ideas. The largest object, an ellipsoidal tank, sat near the base of the cross. A slender hose led from a valve on the tank. Half crouching, I ran across to the tank and felt its surface. The tank was cool, and the valve was covered with frost.

"Sirbat," I shouted over the competition from below, "What's this gadget?" The Shiman stopped his agonized pacing and glared at me briefly, then shouted at Gorst.

"That's a vessel of liquid natural gas," he translated the reply. "They use it to heat the church, and to . . . cook."

I looked at Sirbat and he looked back at me. I think he had the idea the instant he knew what the tank was. He came over to the tank and looked at the valve. I turned to follow the hose that stretched along the floor to a hole in the parapet.

"Kekkonen!" Tsumo's voice was tense. "If you attract Earthpol's notice, that disguise won't hold up." Over my shoulder I could see the glowing hulk of the gunboat. "Forget it, girl. If I can't do something with this tank, we'll all be dead in five minutes." Probably less: the juveniles were much louder now. We'd have to hope that if anyone was aboard the ship, they didn't believe in old-fashioned detection methods–like photoscanning computers.

The hose was slack and flexible. Four meters from the tank it entered a small valve set in the parapet. I began cutting at it with my knife. Behind me Sirbat said, "This looks good. The vessel is nearly full and its pressure is high." There were tearing sounds. "And it will get higher now."

That hose was tougher than it looked. It took nearly a minute, but finally I hacked through the thing. As I stood up, a head full of teeth appeared over the parapet next to me. I straight-armed the juvenile. It fell backwards, taking part of my sleeve in its claws. We were down to seconds now. I looked down at the hose in my hands and discovered the big flaw in our plan. How were we going to get this thing lit? Then I glanced at Sirbat. The Shiman was frantically jamming his coat under the tank. He stepped back and pointed something at the tank. A spark fell upon the coat, and soon yellow flames slid up the underside of the container. Even as those flames spread, he turned and ran to where I stood. But then he slowed, stopped, looked down at the object

in his hand. For a long moment he just stood there.

"What's the matter? The lighter dead?"

". . . No." Sirbat answered slowly. He squeezed the small metal tube and a drop of fire spurted from the end. I swore and grabbed the lighter from Sirbat's hands. I leaned over the parapet and looked down. At least thirty juveniles were coming up the wall at us. Behind me Tsumo screamed. This was followed by a meaty thud. I looked up to see the Earthpol agent swing a long broom down on the head of a second monster. I guess she had finally found something more worrisome than her superiors in the sky to the west. Gorst was busy, too. He swept back and forth along the parapet with his quarterstaff. I saw him connect at least three times. The juveniles fell screeching to the roof below. Maybe that would occupy their brothers' appetites a few more moments.

I pushed our interpreter toward the gas tank. "Turn that damn valve, Sirbat." The Shiman returned to the tank. Now the flames licked up around the curving sides, keeping the valve out of reach. He ran to the other side of the cross, picked up some kind of rod and stuck it in the valve handle.

"Turn it, turn it," I shouted. Sirbat hesitated, than gave the lever a pull. No effect. He twisted the valve again. The hose bucked in my hand, as clear liquid spewed through it and arced out into space. That hose got *cold:* I could feel my hand going numb even as I stood there. I squeezed the lighter. A tiny particle of fire spurted out, missed the stream of gas. On my next try the burning droplet did touch the stream. Nothing happened.

I wrapped the hose in the corner of my jacket but it was still colder than a harlot's smile. This was probably my last chance to ignite the damn thing. Our gas pressure would fail soon enough, even if the juveniles didn't get me first.

The liquid gas left the hose as a coherent stream, but about five meters along its arc, the fluid began to mix with the air. Hah! I shook the lighter again and aimed it further out. The burning speck dropped through the aerated part of the stream . . . the mist didn't burn—it exploded. I almost lost my footing as a roaring ball of blue-white flame materialized in the air five meters from the end of the hose. If that fireball had been any bigger we'd have been blown right off the roof. I pointed the hose down over the parapet. The roar of the flame masked their screams, but as I swept the fire along the wall below, I could see the juveniles fall away. The concussion alone must have been lethal. As I dragged the hose along the parapet, I could feel my face blister and my hands go numb. How long did I have before we ran out of gas, or even worse, before Sirbat's little fire exploded the tank? The ball of blue flame swept across the fourth

wall, till no one was left there, till the wall was cracked and blackened. The roof and street below were littered with bodies.

Then Tsumo was dragging at my arm. I turned to see five or six gray forms leap from the trapdoor in the middle of our roof. I didn't have much choice: I turned the hose inward. Hunks of masonry flew past us as the exploding gas demolished the intruders along with the trapdoor, the center of the roof, and part of the cross. The floor buckled and I fell to one knee. That hose was some tiger's tail. If I dropped it, the top of the building would probably get blown off. Finally I managed to twist it around so the stream pointed outward again.

The explosion ended almost as suddenly as it had begun. All that was left was a ringing that roared in my ears. I was abruptly aware of the sweat dripping down the side of my nose, and the taste of dust and blood in my mouth. I dropped the hose and looked down at my numb hands. Was it the moonlight, or were they really bone white?

Over by the gas tank, Sirbat was busy putting out the fire he had set. He looked O.K. except that his clothes were shredded. Tsumo stood by the parapet. Her veil and one sleeve had been ripped away. Brother Gorst lay face down beside the large hole our makeshift flamethrower had put in the roof. If anything was left alive in that hole, it was downright unkillable.

The ringing faded from my ears, and I could hear low-pitched sirens in the far distance. But I couldn't hear a single juvenile, and the smell of barbecue floated up from the street.

Sirbat nudged Gorst with his foot. The other's clawed hand lashed out, barely missing our interpreter. The reverend sat up and groaned. Sirbat glanced at us. "You all right?" he asked.

I grunted something affirmative, and Tsumo nodded. An ugly bruise covered her jaw and cheek, and four deep scratches ran down her arm. She followed my glance. "Never mind, I'll live." She pulled the *'mam'ri* from her pocket. "You'll be pleased to know that this survived. What do we do now?"

It was Sirbat who answered. "Same as before. We'll stay here this night. Tomorrow you'll be able to see the group death you're so interested in." He moved cautiously to the edge of the hole. The moon was overhead now, and the damage was clearly visible. The room directly below us was gutted, and its floor was partly burned through. The room below that looked pretty bad, too. "First, we have to get some way to go down through this hole."

Brother Gorst rolled onto his feet and looked briefly at the destruction below. Then he ran to a small locker near the edge of the roof. He pulled out a coil of rope and threw it to Sirbat, who tied one end about the cross.

Our interpreter moved slowly, almost clumsily. I looked closely at him, but in the moonlight he seemed uninjured. Sirbat pulled at the rope, making sure it was fast. Then he tossed the other end into the hole. "If past experience is a guide," he said, "we won't have any more trouble this night. The young persons fight very hard, but they are bright and when they have knowledge that their chances are zero, they go away. Also, they fear flames more than any other thing." He turned and slowly lowered himself hand over hand into the darkness. The rest of us followed.

My hands weren't numb anymore. The rope felt like a brand on them. I slipped and fell the last meter to the floor. I stood up to see the two Shimans and Tsumo standing nearby. The Earthpol agent was fiddling with her *o-mamori,* trying to reestablish our cover.

What was left of the roof above us blocked the Earthpol ship from view. Through the jagged hole, the full moon spread an irregular patch of gray light on the wreckage around us. The floor had buckled and cracked under the explosion. Several large fragments from a marble table top rested near my feet. As my eyes became accustomed to the darkness, I could also see what was left of the juveniles who had used this route to surprise us on the roof. The room was a combination abattoir and ruin.

Gorst moved quickly to the west wall, dug into the rubble. His rummaging uncovered a ladder well: we wouldn't have to use that rope again. Brother Gorst bent over and crawled down into the hole he had uncovered. All this time Sirbat just stood looking at the floor. Gorst called to him, and he walked slowly over to the ladder.

I was right above Tsumo as we climbed down. Her progress was clumsy, slow. It was a good thing the rungs were set only ten centimeters apart. A single beam of moonlight found its way over my shoulder and onto those below me.

If I hadn't been looking in just the right spot, I could have missed what happened then. A screaming fury hurtled out of the darkness. Gorst, who was already on the floor below us, whirled at the sound, his claws extended. Then just before the juvenile struck, he lowered his arms, stood defenseless. Gorst paid for his stupidity as the juvenile slammed into him, knocking him flat. He was dead even before he touched ground: his throat was ripped out. Now the juvenile headed for us on the ladder.

A reflex three centuries old took over, and my knife was out of my sleeve and in my hand. I threw just before the creature reached Sirbat. One thing I knew was Shiman anatomy. Still, it was mostly luck that the knife struck the only unarmored section of its notochord. My fingers were just too ripped up for accurate throwing. The juvenile dived face

first into the base of the ladder and lay still. For a long moment the rest of us were frozen, too. If more were coming, we didn't have a chance. But the seconds passed and no other creatures appeared. The three of us scrambled down to the floor. As I retrieved my knife, I noticed that the corpse's flesh was practically parboiled. The juvenile must have been too shook up by the explosion to run off with the rest of the pack.

Sirbat walked past Gorst's body without looking down at it. "Come on," he said. You'd think I had just threatened his life rather than saved it.

This was the first level where the main stairs were still intact. We followed Sirbat down them, into the darkness. I couldn't see a thing, and the stairs were littered with crap that had fallen in from the disaster area above us. Either Sirbat was a fool or he had some special reason to think we were safe. Finally, we reached a level where the electric lights were still working. Sirbat left the stairway, and we walked down a long, deserted corridor. He stopped at a half open door, sniffed around, then stepped through the doorway and flicked on a light. "I have no doubt you'll be safe here for this night."

I looked inside. A bas relief forest had been cut in the walls and then painted green. Three wide cots were set near the middle of the room—on the only carpet I ever saw on Shima. And what did they use the place for? You got me.

But whatever its purpose, the room looked secure. A grated window was set in one wall—nothing was going to surprise us from that direction. And the door was heavy plastic with an inside lock.

Tsumo stepped into the room. "You're not staying with us?" she asked Sirbat.

"No. That would not be safe." He was already walking from the room. "Just keep memory, that you have to be up two hours before sunrise in order to get to the death place on time. Have your . . . machines ready."

The arrogant bastard! What was "safe" for us was not safe enough for him. I followed the Shiman into the hall, debating whether to shake some answers out of him. But there were two good arguments against such action: 1) he might end up shaking me, and 2) unless we wanted to turn ourselves over to Earthpol, we didn't have any choice but to play things his way. So I stepped back into the room and slammed the door. The lock fell to with a satisfying thunk.

Tsumo sat down heavily on one of the cots and pulled the *'mam'ri* from its pouch. She played awkwardly with it for several seconds. In the bright blue light, her bruise was a delicate mauve. Finally she looked up. "We're still undetected. But what happened tonight is almost certainly *f'un.* There hasn't been a smashout from that particular school in nearly three years. If we stay here much longer, our . . . 'bad luck' is going to kill us."

I grunted. Tsumo was at her cheery best. "In that case, I'll need a good night's sleep. I don't want to have to do that job tomorrow twice." I hit the light and settled down on the nearest bunk. Faint bands of gray light crossed the ceiling from the tiny window. The shadowed forest on the wall almost seemed real now.

Tomorrow was going to be tricky. I would be using unfamiliar equipment—Tsumo's *'mam'ri*—out-of-doors and at a relatively great distance from the dying. Even an orgy of death would be hard to analyze under those conditions. And all the time, we'd have Earthpol breathing down our necks. Several details needed thorough thinking out, but every time I tried to concentrate on them, I'd remember those juveniles scrambling up the church steeple at us. Over the last couple of centuries I'd had contact with three nonhuman races. The best competition I'd come across were the Draelings—carnivores with creative intelligence about 0.8 the human norm. I had never seen a group whose combined viciousness and cunning approached man's. Until now: the Shimans *started* life by committing a murder. The well-picked skeletons in the alley showed the murders didn't stop with birth. The average human would have to practice hard to be as evil as a Shiman is by inclination.

Tsumo's voice came softly from across the room. She must have been reading my mind. "And they're smart, too. See how much Sirbat has picked up in less than two years. He could go on learning at that rate for another century—if only he could live that long. The average is as inventive as our best. Fifty years ago there wasn't a single steam engine on Shima. And you can be sure we in Earthgov didn't help them invent one."

In the pale light I saw her stand and cross to my bunk. Her weight settled beside me. My frostbitten hand moved automatically across her back.

"Money is no good if you are dead—and we'll all die unless you fail tomorrow." A soft hand slipped across my neck and I felt her face in front of mine.

She tried awfully hard to convince me. Toward the end, there in the darkness, I almost felt sorry for little Miss Machiavelli. She kept calling me Roger.

Someone was shaking me. I woke to find Tsumo's face hovering hazily in the air above me. I squinted against the hellishly bright light, and muttered, "Whassamatter?"

"Sirbat says it's time to go to the cemetery."

"Oh." I swung my feet to the floor, and raised myself off the bunk. My hands felt like hunks of flayed red meat. I don't know how I was able to sleep with them. I steadied myself against the bed and looked around. The window was a patch of unrelieved darkness in the wall. We still

had a way to go before morning. Tsumo was dressed except for hood and veil, and she was pushing my costume at me.

I took the disguise. "Where the devil is Sirbat, anyway?" Then I saw him over by the door. On the floor. The Shiman was curled up in a tight ball. His bloodshot eyes roved aimlessly about, finally focused on me.

My jaw must have been resting on my chest. Sirbat croaked, "So, Professor, you have been getting knowledge of Shiman life all this time, but you did not ever take note of my condition. If it wasn't for the special substances I've been taking I would have been like this many days ago." He stopped, coughed reddish foam.

O.K., I had been an idiot. The signs had all been there: Sirbat's relative plumpness, his awkward slowness the last few hours, his comments about not being with us after the morning. My only excuse is the fact that death by old age had become a very theoretical thing to me. Sure, I studied it, but I hadn't been confronted with the physical reality for more than a century.

But one oversight was enough: I could already see a mess of consequences ahead. I slipped the black dress over my head and put on the veil. "Tsumo, take Sirbat's legs. We'll have to carry him downstairs." I grabbed Sirbat's shoulders and we lifted together. The Shiman must have massed close to seventy-five kilos—about fifteen over the average adult's weight. If he had been on drugs to curb the burrowing instinct, he might die before we got him to the cemetery—and that would be fatal all the way around. Now we had a new reason for getting to that cemetery on time.

We hadn't gone down very many steps before Tsumo began straining under the load. She leaned to one side, favoring her left hand. Me, both hands felt like they were ready to fall off, so I didn't have such trouble. Sirbat hung between us, clutching tightly at his middle. His head lolled. His jaws opened and shut with tiny whimpering sounds, and reddish drool dripped down his head onto the steps. It was obviously way past burrowing time for him.

Sirbat gasped out one word at a breath. "Left turn, first story."

Two more flights and we were on the ground. We turned left and staggered out the side door into a parking lot. No one was around this early in the morning. A sea fog had moved in and perfect halos hung around the only two street lamps left alight. It was so foggy we couldn't even see the other side of the lot. For the first time since I'd been on Shima, the air was tolerably clean.

"The red one," said Sirbat. Tsumo and I half dragged the Shiman over to a large red car with official markings. We laid Sirbat on the asphalt and tried the doors. Locked.

"Gorst's opener, in here." His clawed hand jerked upward. I retrieved the keys from his blouse, and

opened the door. Somehow we managed to bundle Sirbat into the back seat.

I looked at Tsumo. "You know how to operate this contraption?"

Her eyes widened in dismay. Apparently she had never considered this flaw in our plans. "No, of course not. Do you?"

"Once upon a time, my dear," I said, urging her into the passenger seat, "once upon a time." I settled behind the wheel and slammed the door. These were the first mechanical controls I had seen in a long time, but they were grotesquely familiar. The steering wheel was less than thirty centimeters across. (I soon found it was only half a turn from lock to lock.) A clutch and shift assembly were mounted next to the wheel. With the help of Sirbat's advice I started the engine and backed out of the parking stall.

The car's triple headlights sent silver spears into the fog. It was difficult to see more than thirty meters into the murk. The only Shiman around was a half-eaten corpse on the sidewalk by the entrance to the parking lot. I eased the car into the street, and Sirbat directed me to the first turn.

This was almost worth the price of admission! It had been a long time since I'd driven any vehicle. The street we were on went straight to the river. I'll bet we were making a hundred kilometers per hour before three blocks were passed.

"Go, go you—" the rest was unintelligible. Sirbat paused, then managed to say, "We'll be stopped for sure if you keep driving like a sleepwalker." The buildings on either side of the narrow street zipped by too fast to count. Ahead nothing was visible but the brilliant backglow from our headlights. How could a Shiman survive even two years if he drove faster than this? I swerved as something—a truck, I think—whipped out of a side street.

I turned up the throttle. The engine tried to twist off its moorings and the view to the side became a gray blur.

Three or four minutes passed—or maybe it wasn't that long. I couldn't tell. Suddenly Sirbat was screaming, "Left turn . . . two hundred meters more." I slammed on the brakes. Thank God they'd taught him English instead of modern Japanese—which doesn't really have quantitative terms for distance. We probably would have driven right through the intersection before Sirbat would come up with a circumlocution that would tell me how far to go and where to turn. The car skidded wildly across the intersection. Either the street was wet or the Shimans made their brake linings out of old rags. We ended up with our two front wheels over the curb. I backed the car off the sidewalk and made the turn.

Now the going got tough. We had to turn every few blocks and there were some kind of traffic signals I

couldn't figure out. That tiny steering wheel was hell to turn. The skin on my hands felt like it was being ripped off. All the time Sirbat was telling me to go faster, faster. I tried. If he died there in the car it would be like getting trapped underwater with a school of piranha.

The fog got thicker, but less uniform. Occasionally we broke into a clear spot where I could see nearly a block. We blasted up a sharply arched bridge, felt a brief moment of near-weightlessness at the top, and then were down on the other side. In the river that was now behind us, a boat whistled.

From the back seat, Sirbat's mumbling became coherent English: "Earthman, do you have knowledge . . . how lucky you are?"

"What?" I asked. Was he getting delirious?

Ahead of me the road narrowed, got twisty. We were moving up the ridge that separated the city from the ocean. Soon we were above the murk. In the starlight the fog spread across the lands below, a placid cottony sea that drowned everything but the rocky island we were climbing. Earthpol's gunboat skulked north of us.

Finally Sirbat replied, "Being good is no trouble at all for you. You're . . . born that way. We have to work so . . . hard at it . . . like Gorst. And in the end . . . I'm still as bad . . . as hungry as I ever was. So hungry." His speech died in a liquid gurgle. I risked a look behind me. The Shiman was chewing feebly at the upholstery.

We were out of the city proper now. Far up, near the crest of the ridge, I could see the multiple fences that bounded the cemetery. Even by starlight I could see that the ground around us was barren, deeply eroded.

I pulled down my veil and turned the throttle to full. We covered the last five hundred meters to the open gates in a single burst of speed. The guards waved us through—after all, their job was to keep things from getting *out*—and I cruised into the parking area. There were lots of people around, but fortunately the street lights were dimmed. I parked at the side of the lot nearest the graveyard. We hustled Sirbat out of the car and onto the pavement. The nearest Shimans were twenty meters from us, but when they saw what we were doing they moved even further away, whispered anxiously to each other. We had a live bomb on our hands, and they wanted no part of it.

Sirbat lay on the pavement and stared into the sky. Every few seconds his face convulsed. He seemed to be whispering to himself. Delirious. Finally he said in English, "Tell him . . . I forgive him." The Shiman rolled onto his feet. He paused, quivering, then sprinted off into the darkness. His footsteps faded, and all we could hear were faint scratching sounds and the conversation of Shimans around us in the parking lot.

For a moment we stood silently in

the chill, moist air. Then I whispered to Tsumo, "How long?"

"It's about two hours before dawn. I am sure Earthpol will penetrate my evasion patterns in less than three hours. If you stay until the swarming, you'll probably be caught."

I turned and looked across the rising fog bank. There were thirty billion people on this planet, I had been told. Without the crude form of birth control practiced at thousands of cemeteries like this one, there could be many more. And every one of the creatures was intelligent, murderous. If I finished my analysis, then they'd have practical immortality along with everything else, and we'd be facing them in our own space in a very short time . . . which was exactly what Samuelson wanted. In fact, it was the price he had demanded of the Shimans—that their civilization expand into space, so mankind would at last have a worthy competitor. And what if the Shiman brain was as far superior as timid souls like Tsumo claimed? *Well then,* we *will have to do some imitating, some catching up.* I could almost hear Samuelson's reedy voice speaking the words. Myself, I wasn't as sure: ever since we were kids back in Chicago, Samuelson had been kinda kinky about street-fighting, and about learning from the toughs he fought—me for instance.

"Give me that," I said, taking the *'mam'ri* from Tsumo's hand, and turning it to make my preliminary scan across the cemetery. Whether Samuelson and I were right or wrong, the next century was going to be damned interesting.

The sun's disk stood well clear of the horizon. The mazes and deadfalls and machine guns had taken their toll. Of the original million infants, less than a thousand had survived. They would be weeded no further.

Near the front of the pack, one of the smartest and strongest ran joyfully toward the scent of food ahead—where the first schoolmasters had set their cages. The child lashed happily at those around it, but they were wise and kept their distance. For the moment its hunger was not completely devastating and the sunlight warmed its back. It was wonderful to be alive and free and . . . innocent. ■

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1.	The Pritcher Mass (Pt. 2)	*Gordon R. Dickson*	1.96
2.	The Symbiotes	*James H. Schmitz*	2.74
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when I was in your mind

by JOE ALLRED

Telepathy should be a great boon to a brain surgeon, though not necessarily to the telepath. Especially since nature seems to be arranged so that for every advantage, there's a disadvantage.

Barr F. Ansen, Dr. Ansen M.D., Ph.D., and on and on with the academic initials, professor and chief of Psionic Surgery, lay in the grass by the fish pond and slept. The November sun was warm on his tanned cheeks as the cool wind tossed his blond hair; a pleasurable dichotomy. With one arm over his eyes to protect them from the sun and his long white lab coat brilliant in the noonday light, he was a Norse god resplendent on his cloud of green grass. A wintering drake and two ducks chased about in the water near his feet looking for the last bits of the bread he had shared with them from his lunch.

Ding. A sterile tone sounded in his head and the voice of his secretary, a young mother type, said, "Dr. Ansen." The words rang in his mind from wall to wall. The message was the telepathic equivalent of a shout in the ear.

"Please, Marcie, you needn't be so loud. I'm only at the pond. What is it?"

"I'm sorry, Dr. Ansen, but the Autotelepath is acting up. You asked me to contact you when your lunch time was up."

"Is it? So soon? Do we have anything scheduled immediately? If not, call me again in a half hour."

"We have the feel-through for the first-year surgery fellows in an hour. It's the cerebral tumor excision."

"Oh. Yes, yes, of course. Mr. Lichen. I'll be there shortly. Thank you, Marcie. It may please you to know that you are the epitome of efficiency in a secretary but a damned nuisance to a serious loafer like me."

"Thank you, Doctor. Oh, Joan Lichen called to thank you for talking to her about the operation. Especially, she said, for being so honest."

"Thank you, Marcie."

The trip back to surgery wasn't

JACK GAUGHAN

unpleasant. The moving pathways through the woods seemed a natural inclusion in the environment and the transparent overhead obscured nothing from view. The trees shaded out the sun, however, and though it wasn't cold enough for the automatic temperature control to start the heaters, it was cold. Ansen pulled his white coat together and fastened a couple of buttons. He didn't mind the chill. Those who wanted complete protection and speed rode the underground paths. Those who rode the aboveground paths did so because they liked the weather however it was, enjoying the variety.

For several meters a squirrel ran along the clear path-cover, keeping pace with Ansen until it lost interest in the game just before the path carried Ansen into the monolithic building that was marked simply *Psionic Surgery* in weathered brown letters on a small bronze plaque by the entrance.

His glass-walled office offered a view of the operating room and the efficient preparations for surgery being completed. Nurses were counting things, everything. The orderlies were pushing in equipment and pulling equipment out. The psionic technician was checking out the psi-computer and all of the peripheral sensors. She sat at her console running through the five-hundred-and-forty-point check list to assure that all functions of the gigantic *brain-brain,* as it was called, were perfect. *Cy,* both the formal and familiar name for the psionic-cybernatron, was not more than a machine. But, as a machine it would become an extension of Ansen. Just as a pair of pliers is an extension of a human hand, so the machine would become part of the mind of Barr Ansen, amplifying his infinitesimal human psychic powers into useful functions.

The gallery was already filled with eager students who were seeking a specialty in psionic surgery. Since this was their first real experience in an operating room, they were watching intensely.

Dr. Ansen walked into the scrub room, made his preparations and then walked into the operating room. He thought to himself that all operating rooms tasted the same, and the gowns were always a shapeless wrap of sterile green wrinkles but, oddly enough, never failed to feel like home. Comfortable smoking jackets—no, that wasn't it. You wanted to do something efficient when you put them on. The urge to accomplish something. Psionic chemists had undoubtedly spent months testing the effects of various sensation stimulants on operating-room personnel. So, operating rooms had a taste and rags felt like home. *Packaging,* Ansen thought.

As he walked across the floor of the operating theater, he gazed up at the full gallery which was looking down at him. He thought back to when he had been a student at his first feel-through. It was different somehow, watching the surgery hap-

pen rather than psi-ing through some old playback. Playbacks seemed real enough at first, but you always knew that the outcome was decided. If the patient died in the playback then he'd been dead for a long time. But today, nobody knew whether the patient would be dead or alive, healthy or a cripple after the operation. This was the real thing. Ansen mumbled to himself about it being an even bet this time as he walked to the psi console to get his halo.

The tech placed the translucent green plastic band around the surgeon's head and checked reception from the halo on the console. As the psi-tech gave the O.K. sign, Ansen quit thinking the standard "1-2-3 testing" and turned to address the upstairs group. They were behind the glass ceiling and couldn't hear Ansen, but with their own halos operating through the remote terminal knobs sticking up from the left arms of the seats the students heard Ansen speak as surely as if he was sitting next to each of them.

"Good afternoon, Doctors. Today is the first feel-through for most of you and I wish to offer my congratulations. This is more than just another how-to session in Psionic Surgery. It's really a significant milestone in the pursuit of your chosen specialty.

"Our task today is to remove a microscopic, malignant tumor from somewhere in the central, left frontal lobe of the brain. Unfortunately, that's about as close as we can locate it until we are inside and the vital-field sensors penetrate the brain-cover layers in several places to give us a good three-dimensional determination.

"The patient is fifty-two years old and in reasonably good health, physically. The psychologists seem to have some doubts about him, but they are vague and unsure as to the problems that seem to be hidden. His will-to-live index is a satisfactory eighty-nine so we can only hope that there are no surprises waiting in there. At best we will be in and out in twenty minutes and he will be home tomorrow afternoon." He paused, then repeated, "At the very best.

"You will have the opportunity to ask questions after the operation but, since you are the group of starry-eyed young doctors that you are, I will ask the one question that you should be asking yourselves but are probably not. You are too enamored with the—and I quote—Importance Of Surgery. That question is, why are we operating on this man for a simple, early-development tumor when there are so many other ways of destroying malignant tissue?

"I'm so glad you asked," Ansen said dryly. The students, not knowing how to react, snickered; self-conscious ripples spread across the gallery.

"Unfortunately, this thing we're after is in the worst possible position for Psionic Therapy. If we used PT fields, we would be indiscriminately

interfering with the most delicate psi structure existent: the human brain. That would be as crude as if we used X-ray treatments or some other nonspecific method. But believe me, if there were any other way, any way at all, we would get rid of the knife. Forgive me if I insult your intelligence, but this, what I have told you, you must never forget. Never!

"Occasionally we have a group of dignitaries watching. They are usually surprised that we don't practice the arcane arts and simply cast some generalized anti-cancer spell." The laughter was heartier this time.

"Oh, you find that amusing, do you? When the X-ray phenomenon was discovered and publicized, there were laws passed that X-ray devices could not be applied to opera glasses to preserve maidenly modesty. Next thing you know they will try to repeal the law of universal gravitation." The students, more at ease now, pealed laughter that was heard even through the glass partition.

"So much for the nonsense. We will be using the latest P.S.I. psioelectronic computer, or if you wish, p-cybernatron, available." He pronounced the *p* to avoid confusion. "So during this operation we will have a continuous vital-field view of the tumor. It will be fuzzy at first but it should clear up as the v-field sensors get closer to the lesion. You may query any information from the computer at any time without interfering with each other. You will get the same response that I would have. But with this machine, which is far more advanced than the one you were using for the playback simulations, you will not have to phrase the question. It will be merely necessary to image the question and our mechanical omniscient will tell you anything you want to know except for those things I am thinking subtelepathically, or the names and addresses of my nurses. That, you must get in the conventional manner.

"As always, you will feel as if you are controlling the scalpel. I encourage you to anticipate the moves. It can do no harm since I will be in control and your commands won't have a damned bit of influence.

"Good luck and be sure to record this one in permanent mode. This is one you will want to play back twenty years from now. It will be embarrassing, then. They always are."

Ansen turned from the students and began to get into the psionic control chair behind the operating table. Meanwhile, the patient was rolled in and prepared for the incision. The skin blade, in the hands of the assisting surgeon, slipped silently through the pink flesh leaving a line which immediately beaded, then filled with blood which found worry wrinkles to race through onto the towels below. The nurse sopped the red fluid into gauze pads, turning the pastel green to black where the blood soaked in.

Tissue spreaders pulled back the

skin to reveal the skull-plate bone, but looking very unbonelike. As a small drill hummed its way through the skull, the bits of bone and blood were efficiently sucked into a vacuum line, unemotionally disposing of the slurry.

Ansen was retiring from his body and into the mechanism of the psionic probe, a pilot checking out his highly sophisticated craft before launch. The chair was not merely a resting place for the surgeon, but a complex psionic device in itself, containing many servobrains functioning like the hands of a dozen assistant surgeons. They could hold and move and wipe and scrape, each in a well-rehearsed microscopic choreography. It was an integral part of the psi-com and both were part of the surgeon during the crucial phases of the operation. It was small enough armor for the doctor, whose entire consciousness would be traveling into the damaged and diseased brain of another human being.

Floating into a galaxy of six-dimensional space, vertigo, weightlessness, euphoria, claustrophobia—all were experienced by the novice. For that reason, playback feel-throughs were used to orient the beginner, and yet there were not many who could adjust, even through the filtration of the computer. The students in a live feel-through were subject to sensing through the filter of the psi-com, but the surgeon was unprotected. A surgeon couldn't operate through gardening gloves. The psi-surgeon had to feel the pressure of the blade against the tissue, the disruption of order, the dying struggle of once-living cells cauterized with an infrared *coup de grace.*

The stainless steel inserter, with the tiny psionically controlled microscalpel on one end and its multiplicity of sensors, was lowered gently into the brain through the tiny drill hole. Secondary sensors extruded from the base of the internal part of the inserter and began seeking their way around the outside of the brain cover to preprogrammed positions. There they began taking data to update the psi-com.

Carefully, Ansen began to take control of the cutting edge of his scalpel, testing it for movement in all directions without moving it more than a micron. He tested the destructive devices by selectively destroying several fiber cells in the connective tissue. The spindle-shaped cells did not so much die as terminate. They ceased function, the warm sunlight hues of living matter darkening to dusk as with the flick of a switch. Cattle succumbing indifferently to sledgehammer blows; perfunctory execution. He could eat beef, therefore he could clear his guns. There was higher work to do. He ordered the inserter lowered into a deep trench, furrowing into the brain.

Descending deeper into the living tissue, the white sounds from the distant waterfall of the surface cells living and dying, faded into busy si-

lence. The v-field sensors projected a gray nebulosity farther down and to the left. With automatic guidance the scalpel began moving toward the mass. Ansen knew better than to trust his senses to fly in. Down and to the left was never really down nor to the left. It is easier to play pick-up sticks looking through mirrors and prisms with an undetermined number of reflections and inversions that are always changing than to fly straight lines in the mind. The computer can translate intended motion into real motion but at a distance it was unnecessary and time consuming. The communication line payed out behind, back upward toward the tip of the inserter; the launch site, the power supply. This was the line of command, the diver's hose to the surface of reality. Ansen sank deeper. The sensor package deployed close-range vital-field sensors and immediately the view of the tumor cleared. The nebulosity resolved into a sphere, a pin cushion, a central body with extrusions reaching out in all directions. Checking sensors from the other side of the tissue mass showed the simple description to be inaccurate. Not a sphere but a basketball, deflated and pushed in on one side. The extrusions in the concavity reached across the hollow toward each other. The brain cells so entrapped were slowly dying. Whimpering children, they were being strangled. The succubus cells were sucking the life from them, stealing their breath.

Begin close approach. Enter concavity. Prepare to ligate blood supply from tumor. Ansen drew the battle lines.

The computer responded overtly: *. . . Initiating commands . . . ready to ligate on completion of relocation of scalpel . . .*

Ansen watched from the scalpel as it moved around the tumor. Glowing red-brown, the extrusions from the tumor undulated among the passive brain cells. Occasionally a tumor cell would divide and push into a normal cell, rupturing its victim like a hobnailed boot exploding an infant's guts and twisting in the slosh. Brain cells don't die like simple fiber cells. Brain cells scream like dying rabbits.

Nearing the tumor's hollow side the scalpel floated through a canyon of the brain, but when that came to an end, Ansen entered the brain tissue through the wall of the chasm, staying with the connective tissue and the blood flow. He avoided collisions with the nerve cells, the tumor was doing enough damage of its own.

. . . Relocation complete . . .
Begin ligation of primary sources.
. . . Initiating sequence . . .

The programmed servobrains began to issue tendrils, which encompassed the tumor mass seeking out tiny blood vessels and fusing red cells and plasma into clots. Every blood stream plugged, deprived the malignancy of more oxygen and nutrients. The siege had begun. The enemy city was isolated. Quivering

and convulsing, the tumor began to wall off the cells entrapped in the cavity in its side. It needed them now that its food supply was blocked.

Burn infiltrating cells. Cavity must remain open.

. . . Destruction of advancing tissue initiated . . . ligation of vessels continuing . . .

Ansen allowed the automatic functions to operate. This much was programmed for a number of contingencies. As long as things went normally he would be subliminally aware of it. Any encounter of difficulty and the psi-com would notify him in the overt mode. Here then, he began to perform the real function of the psi-surgeon. He monitored the reflex thoughts. Memories and actions dredged from the morass of the subconscious, stimulated to recall by the scalpel and by the tumor, but the tumor could do worse things in the victim's mind.

A spot of sunlight filtered through the leaves of the oak tree and shone on the long golden hair falling down Joan's smooth cheek. Sam watched the spot move as the breeze blew the leaves. She noticed his stare and returned it. He pretended to look past her at the children near the monkey cages and concentrated on the sandwich he was eating. She continued to look at him and he knew she wasn't fooled. He looked back into her eyes and smiled.

"I think I like you more and more these days," he said.

She sipped her soft drink, then said. "I think I'm Lichen you too." They laughed over the play on his name.

A dewy morning and fog swirling behind the shay. The horse clop, clop, clopping—muffled sounds puffing through the grass from the horse path. He and she joggling across the meadow on the carriage seat in rhythm with the wheels bumping over stones in the path. Out of the meadow and through a long archway of willows. A leaf, dropped by a mischievous jay, landing in her lap. She with overwrought pomp places the leaf behind his ear, tangling the stem into his thick dark hair, a serious ceremony, complete with a kiss on each cheek and then—a kiss. Slack reins. The horse knows where it is going. So do they, really.

Soft spring grass and a warm blanket of air wisping up the hillside. Love has a way of condensing hours into minutes and minutes into heartbeats. Forever is never long enough when heartbeats race, tumbling upon each other like scintillations streaming across the sky from a falling star.

. . . Ligation of all blood supply to tumor complete . . . tumor shifting to anerobic function . . . ready to begin malignant tissue destruction—direct contact . . . will-to-live index ninety-five and rising . . .

The will-to-live index was going up significantly. Ansen didn't wonder. This man had much to live for.

Begin direct contact tumor tissue destruction.

. . . Initiating sequence . . .

The scalpel advanced farther into the center of the tumor's cavity. Then it began to cut tissue out of the tumor, isolating sections from the normal tissue. Heat and psionically generated, close-range, entropic fields created chaos in the malignant cells, turning them into sacks of chemicals, disorganized, devoid of life.

Designate the previous memory sequences S1 and S2—subject to recall input on command.

. . . Sequences so designated ready for recall on command . . .

The sky was gaining color. The horizon did not exist. The sky and the water merged at the edge of the earth. Somewhere above the emerging sun, a handspan above the sand of the beach, there being no other useful measure, a small cloud turned silver white hot, glowing with foretaste of the new day. It was a day star in the east announcing the birth of a new sun, made especially for St. Valentine's day, and them.

She nestled into his arm, warm from the chill. When it seemed that the little cloud could bear no more of its burden, he said, "Joanie, will you marry me?" The sun rose.

. . . Completion of tumor destruction . . . blood flow now returned to normal . . .

Ansen was jerked back to the problem at hand. *Designate previous memory sequence S3.*

. . . So designated . . .

He was about to issue the command to begin withdrawal preparations, but no. There was still something, something somewhere. It was not yet right, so he began a formal search. The psi-com was only a machine and told him in the overt mode only those things it was programed to tell. But there was something wrong. Somewhere the machine possessed information that was hidden but important. The man-machine interface was strong, but man knows not the entirety of even his *own* mind. Ansen sensed something incomplete. That was the value of experience.

Cy—condition scan. Report anomalies on all parameters.

. . . Initiating scan for anomalies on all measurable parameters . . .

Carefully, Ansen absorbed all the information given to him covertly by the machine and that which served as his vision, the vital-field image. Like a kaleidoscope in six dimensions racing through his mind, the image shifted focus through the brain of Sam Lichen. Colors, smells, sights, sounds, senses otherwise indescribable, floating dreams of voids, worlds unfulfilled. There! There where there should have been light there was muddiness. Tiny, a speck of darkness within the light, but it was there.

. . . Anomaly discovered . . . vital field sensors now repositioning to ob

tain update information . . . ready to begin position shift of scalpel for attack on possible secondary tumor . . .

Do not begin position shift until update confirmation.

Ansen watched the vital-field image resolving as the sensors extruded toward the dark spot. He knew that the probability of a secondary tumor developing from an original tumor of such an early stage was vanishingly small, but with each improvement in the picture he lost more hope that it was not a transplanted tumor. Even before the overt mode of the psi-com told him, he knew that there would be a second battle, but this one would be worse.

Evolution has given tumors defenses, psionic powers different from those in normal tissues. Primary tumors are too closely related to the host tissue to kill indiscriminately. Death of the host is death of the tumor, but a secondary tumor, a metastasis, has no such restraints. It is wild cells gone even wilder. Like the imprisoned pickpocket turned murderer or the child of the insane leaping deeper into insanity than even his parents, the metastasis is vicious.

. . . Anomaly determined to be metastasis, ninety-seven percent confidence . . . position shift begun . . .

Prepare to begin ligation of blood supply to metastasis.

. . . Not possible . . . blood supply critical to normal brain function . . .

Ansen watched and saw why the tumor's blood supply could not be cut off. It was located near the wall of a major artery supplying a brain region of high psionic intensity. He recognized the area—*the area of imaginative control*—a nonlabel supplied by the anatomists. If they had been completely honest it would have been named *terra incognita,* but imaginative control, whatever that is, was located there, somehow.

Begin direct contact tissue destruction.

. . . Initiating command . . . approaching tumor . . .

The first wave hit him. Fear washed through his mind, grabbing and pulling him back. Ansen intensified his will. The scalpel was beginning to approach the tumor and the tumor was fighting back. The contingency program in the psi-com could ignore the illusions, but not Ansen. The students could be protected from the battle, the computer reducing them to observers, but Ansen had to enter the fight naked, depending not on armor but on his own weapons to defend him and Sam, in whose place he was doing battle.

Joan tossed her hair and smiled. Sam leaned in the window of her car and kissed her. He squeezed her hand and she drove off, he following in his own ground skimmer. The early evening birds sang their summer soliloquies in the branches of the live-oak trees.

. . . Will-to-live index decreasing . . . now eighty-five . . .

Why? Ansen could find nothing to cause this. Lichen's induced dream seemed happy enough.

Continue destruction of tumor.

Up ahead, Joan's skimmer was approaching a railroad crossing. The grass of the skimmerway reflected turquoise in the lights of the two vehicles. Through the trees the train came rushing out of the silence. The warning signals were not working and Sam's heart began pounding.

Ansen's mind leaped. He saw that the tumor had not resigned to death. It was fighting back through the brain it lived in.

Replay sequence S1.

The spot of sunlight filtered through the leaves of the trees. The children played in the zoo's playground as the train rushed through the darkness.

NO! shouted Ansen. *Intensify replay.*

The turquoise sunlight filtered through the live-oak trees of the zoo, as the night birds screeched their banshee wail.

Intensify replay to override dream thoughts. Sequence S2 replay.

The dewy morning fog swirling behind the shay. The horse clop, clop, clopping as Joan's carriage flew toward the railcrossing, skimming less than a meter above the ground. Sam saw the train hurtling toward the path and Joan waving back at him, oblivious of the dragon.

Restart—restart—replay S3. Intercept dream line.

A powerful surge of simple electrical current shocked outward from the scalpel. Ansen had to stop the nightmare the tumor was building in Lichen's mind. In a frenzy of passion the tumor was trying to kill and it was unleashing the harpies of imagination and the demons of fear to perform the sack.

. . . Will-to-live index fifty-two and continuing to decrease at an accelerating rate . . .

The sky was gaining color. The horizon did not exist. The sky and the water merged at the edge of the earth. Somewhere above the emerging sun the image of the dark train came screaming across the water. The turquoise waves blew spray on Sam's skimmer as he watched Joan wave back to him. The signals weren't working and she didn't see. She didn't see! The hurtling beast smashed into the flying skimmer. Sam's skimmer stopped reflexively but he had to watch. His eyes were taken from his control and he had to watch. Joan's limp body came pinwheeling through the air throwing blood like sparks from a catherine wheel. Sickeningly, she landed on the windshield of his skimmer. Her scalp was ripped half over her head,

brains spilling out onto the glass, mucus and blood streaming from her mangled nose. Where her sky-blue eyes had been there was green exploding liquid and her tongue which had caressed his so many times in the height of love hung only by a shred. As she slid to one side on the glass, her chest ripped open and tore into bits which were brushed aside by the impersonal windshield wipers, activated automatically by the presence of moisture. A piece of flesh was trapped maddeningly under the oscillating rubber blade, wiping a bloody smear across the windshield. The automatic washer started, flushing the tissue from the glass. The foul odor of death filled the air but Sam never smelled it. He neither saw the ripped skirt of her white dress nor the shredded stumps that had been her legs. He was drowning in his own vomit.

. . . Will-to-live index twenty . . . dropping below level of measurability . . . heart function deteriorating . . . beginning automatic cardiac stimulation . . .

Ansen was fighting for reality. His mind was screaming at him like the burning lungs of a drowning man to get out of the insanity. Waves of fear once more came rushing over him, not the timid feelers of before but tidal waves smashing at him. He was lying on the rails of a train track and the engine was lunging toward him, like a starving animal leaping on its prey. He was trapped. Nothing held him but he couldn't move. Closer and closer, the wheels grinding toward him . . .

He was running through wet, knee-deep snow. The avalanche roared like a prolonged cannon shot, screaming with all the furies of hell. His legs were getting heavier and larger, sinking deeper and deeper in the slushy snow. Trees and boulders came flying past and over him. He was . . .

REFIX, CY. GOD HELP ME. REFIX MY MIND—MECHANICAL REFIX—HELP ME, CY—HELP ME REFIX.

. . . Mechanical refix . . . patient's electrolyte balance deteriorating rapidly . . . psio-mechanical blood pumping initiated . . . muscle tone depleting . . . attempts at electrolyte restoration failing . . . estimated time until completion of tumor excision twenty seconds . . . probability of patient survival nearing zero . . . preparing to begin pull-out . . . mandatory abort in five seconds if no improvement . . .

Ansen absorbed the information instantaneously. *No—God damn it, no—no abort.*

Ansen was now concentrating on the edge of the scalpel. His mind had been refixed on a tangible object to drive out the defensive horrors flung at him by the dying tumor.

Quickly, he brought his entire concentration to bear on the mind of Sam Lichen.

Sam—Sam, you've got to listen to me. This is a dream—a nightmare—a

will-o'-the-wisp—a poltergeist. Sam, Joan's not dead—I talked to her today. You hear me? Sam, she's not dead—it's only a dream. You must live—you have everything to live for.

The steel teeth of the many-legged beast were ripping at his entrails, pulling out his intestines and mixing them with his liver. Blood dripping. Bits of viscera squashing past its horny lips retrieved by the rasping tongue. Ansen beat at it frantically, trying to tell himself that it was only his imagination, that it was not real.

SAM—SAM, THROW IT OFF—SAM—FOR GOD'S SAKE, SAM—

Black velvet a mile deep spun of godshair. Soft. Soooffft. He was weightless but his mass was twice that of the whole earth and turning. Turrrnnniiinnggggg. Forever falling. He was angry, fighting against the forces stuffing him back into the womb. He knew that Sam was now dead and that the operation had been aborted by Cy. Like a father struggling to save his burning son from a fire, but being knocked unconscious by a fireman and thrown out a window, he was falling angrily a million miles and he could do nothing but want to die. The computer was fighting for *his* life now. And he was ashamed that he had lost the fight for Sam's.

Slowly, he opened his eyes. His mind began the journey down the tunnel through his eyes and gradually he reoccupied his body. He felt the sweat and smelled the musk of his body which had responded to the emotions of the past hour. It hadn't been a twenty-minute operation. The sore aching in his joints testified that even his muscles had been affected by the tension. He began to get up from the psi-chair as the technicians released the restraints. His right forearm was bruised from a strap.

He walked on shaky legs to the center of the room and with intense concentration, released his teeth from their clench on his mouth protector. He pulled the soft plastic mouthpiece out and looked at the bite marks. He had mutilated it but it spared his tongue and he hadn't chipped his teeth.

"Doctors," he telepathed to the confused and disoriented group above the glass. "Please, no questions until tomorrow."

He didn't bother to change from the operating room greens. He rushed through his office and past his secretary. She stopped him with a shouted, "Dr. Ansen."

He turned to look at her. She said, "I've canceled the rest of today's appointments." He almost smiled, said nothing but nodded his head one small nod. She knew.

He took the fast underground path and walked up the exit by the fish pond. The day he now walked into had changed from the one he had left only two hours ago. The sky was gray with rolling and rumbling clouds. November had taken on its winter character. The wind was cold

and wet. Ansen sat by the pond at his lunch place, the icy wind slicing through the thin cotton pants and tunic.

The drake that had shared Ansen's lunch, waddled up the grassy slope and inquired, "Quack?"

"Hello, friend," said Ansen. "Want more bread, do you? Sorry, I haven't any. Fresh out." He paused to take a deep breath and let it out slowly. "Fresh out of everything, now."

"Quack," the duck insisted.

"Very well," said Ansen, waving his hands like an amateur magician. "I'll conjure up some bread for you. Abracadabra! See, duck? No bread. No magic. Sorry. Believe me, I am sorry."

The wind ruffled the duck's feathers. It turned and waddled back to the pond, leaving with a final quack.

Ansen stood up, helping himself with a nearby tree. He walked slowly, with resolve, to the slow-moving aboveground path. The wind whipped across the pond, fresh, even colder, and large drops of winter rain began thumping down, slowly at first, then with increasing rapidity. Just as he stepped on the conveyer, the rain came heavily and soaked his green pants from his knees down. The spattering drops raised a mist which the wind blew along the ground. Ansen turned to watch the duck splash into the pond and swim toward the protected shoreline on the far side.

"Fresh out," he whispered. ■

cemetery world

Part Two of Three Parts. The forces of the Cemetery wanted the status quo to remain untouched, even though it meant that the Cemetery World would continue to be "haunted" by shades, ghouls and the shadowy census taker.

CLIFFORD D. SIMAK

JOHN SCHOENHERR

Synopsis

Ten thousand years before the story opens, the final war has been fought on Earth, the last stages of it being carried on by great war machines, with the brains of men fused into the machines and directing them. With the Earth poisoned and ruined, many of the survivors flee into space, seeking new homes among the stars. In time a corporation, Mother Earth, Inc., sets up a cemetery on Earth, operating high-powered public relations programs to convince people of the sentimental prestige of being interred on the planet where mankind first arose. A few people, descendants of the ne'er-do-wells who were left behind when the rest of the population went to the stars, still live on Earth, but Mother Earth seeks to create the impression there is nothing there but the Cemetery.

On the gentle world of Alden, Fletcher Carson is attempting to build a compositor, a machine-instrument which can take a theme and translate it into every known art form. He plans to take the compositor to Earth, but he runs out of money before he can finish it. He is approached by Elmer, an incredibly ancient robot, who had worked on the last of Earth's war machines and who, because he was a skilled technician, was taken to the stars by the humans. He has been a free robot for centuries and now wants to return to Earth. He becomes Carson's partner, investing his life savings in the compositor, named Bronco.

Because they have no money left for a regular passage, Carson rides a funeral ship to Earth, taking Elmer and Bronco along as freight. Once on Earth, Carson quarrels with Maxwell Peter Bell, manager of Mother Earth, Inc., with Carson resisting being taken over by Mother Earth, which would like to use the composition he plans as publicity for the Cemetery. Carson meets Cynthia Lansing, a woman from Alden who carries with her a letter from Carson's old friend, Dr. William Thorndyke (Thorney), an archaeologist at Alden University. Thorndyke is a leading authority on the Anachrons, a mysterious galactic people who have long since disappeared, but have left traces of their culture among the artifacts of many other races. The Anachrons are popularly thought of as galactic traders, but Thorndyke believes they were cultural observers seeking new cultural approaches to graft onto their own civilization.

In his letter, Thorndyke says that Cynthia will be taking regular passage to Earth and will arrive there ahead of Carson. He asks Carson to help her in her quest for a treasure which he believes an Anachron observer had collected on Earth. This belief is based on a letter she has found among old family papers, detailing a meeting of an ancestor of hers with a strange being who could have been an Anachron, bringing the choice part of his collection from Greece to hide in a location near the Ohio River. Carson is reluctant to become involved in trea-

sure hunting, but takes Cynthia along with his expedition.

Once out of the Cemetery the party camps. When night has fallen, some great creature comes charging through the forest, smashing trees and making a great swath through the woods, barely missing the camp. Carson suspects it may be a war machine, although it seems unlikely such a machine would have survived for ten thousand years.

They are joined by a party of coon hunters from a backwoods settlement, who tell them the thing that smashed down the trees is the Ravener, a mythical being almost never seen. The coon hunters invite them to a hoedown in the settlement the following night.

Part 2

VIII

He had shown me the fields, with the shocked corn and the pumpkins golden in the sun; the garden, with a few of the vegetables still there, but the most of them harvested; the hogs brought in from the woods, fat on acorns and penned for butchering; the cattle and the sheep knee-deep in the meadow grass; the smokehouse ready for the hams and the slabs of bacon; the iron house, in which was stored neatly sorted stacks of different kinds of salvaged metals; the hen house, the toolhouse, the smithy and the barns. And now we sat, the two of us, perched on the top rail of a weathered fence.

"How long," I asked him, "have you been here—not you, of course, but the people in this hollow?"

He turned his wrinkled old patriarch face toward me, the mild blue eyes, the beard like so much white silk hanging on his chest. "That's a foolish question to ask of one," he said. "We have always been here. Little clusters of us living all up and down the valley. A few living alone, but not many of them; we mostly live together; a few families that have stuck together farther than man can remember back. Some move away, of course; find a better place, or what they think is a better place. There are not many of us; there never have been many of us. Some women do not bear; many of the youngsters do not live. It is said that there is an ancient sickness in us. I do not know. There are many things said, old tales from the past, but one cannot tell if they are true or not."

He planted his heels more firmly on the second rail, rested his arms across his knees. His hands were twisted with his age. The knuckles stood out like lumps, the fingers stiffly bent. The veins along the backs of his hands stood out in a blue prominence that was startling.

"You get along with the Cemetery people?" I asked.

He considered for a moment before he answered; he was the kind of man, I thought, who always considered well before he answered. "Mostly," he finally said. "Over the years they have crept closer to us,

taking over land that, when I was a boy, was wild. Couple of times I've gone and talked to that there fellow . . ." He groped for the name.

"Bell," I said, "Maxwell .Peter Bell."

"That's the one," he said. "I go and talk with him, for all the good it does. He is smooth as oil. He smiles, but there is nothing behind the smile. He is sure; he is big and powerful and we are small and weak. You are crowding us again, I tell him, you are moving in on us and there is no need, there is a lot of other land that you can use, a lot of empty land that no one else is using. And he says, 'But you aren't using it' and I tell him that we need it, we need it even if we put no plow or hoes to it, we need the land for elbowroom, we've always had a lot of elbowroom, we feel crowded if it isn't there, we feel smothered. And then he says, 'But you have no title to it' and I ask him what is a title and he tries to tell me what a title is and it is all foolishness. I ask him does he have title to it and he never answers. You come from out there somewhere, Mister, maybe you can tell me does he have title to it."

"I doubt it very much," I said.

"We get along all right with them, I guess," he said. "Some of us work for Cemetery every now and then, digging graves, mowing grass, pruning trees and bushes, trimming around the headstones. There's a lot of work to keeping a burying ground looking trim and neat. They use us just now and then, extra hands when the work gets ahead of them. We could work a whole lot more, I guess, if we wanted to, but what's the use of working? We got all we want; there's not much they can offer for our work. Some fancy cloth, at times, but we have all the cloth we need from sheep, enough to cover nakedness, enough to keep us warm. Some fancy likker, but we got all the moonshine that we need and I'm not sure it isn't better than Cemetery likker. Moonshine, if you know your business, has authority and it's got a funny kind of taste a man gets partial to. Pots and pans, of course, but how many pots and pans does a woman need?

"It isn't that we are lazy and no account," he said. "We keep right busy. We farm and fish and hunt. We go out to mine old metal. There are a lot of places, most of them a right long piece from here, where there are mounds that have metal in them. We use it to make our tools and shooting irons. Traders come in from the west or south every now and then to trade their powder and lead for our meal and wool and moonshine—other things, of course, but mostly lead and powder."

He stopped talking and we sat close together, on the top rail, in the mellow sunshine. The trees were flaming bonfires frozen into immobility; the fields were tawny, dotted with cornshocks, spotted by the gold of scattered pumpkins. Down the hill

from us, at the smithy, someone was hammering and a curl of smoke trailed up from the forge. Smoke, too, streamed up from the chimneys of the closest houses. A door slammed and I saw Cynthia had come out. She was wearing an apron and carried a pan. She went out into the yard and emptied the contents of the pan into a barrel that was standing there. I waved at her and she waved at me, then went back into the house, the door slamming behind her.

The old man saw me looking at the barrel. "Swill barrel," he said. "We dump potato peelings and sour milk and cabbage leaves into it, all the stuff out of the kitchen we don't need. We feed it to the hogs. Don't tell me you never saw a swill barrel."

"I never knew until right now," I said, "there was such a thing."

"I misbelieve," the old man said, "that I rightly caught the place you came from and what you might be doing there."

I told him about Alden and tried to explain what our purpose was. I'm not sure he understood.

He waved toward the barnyard where Bronco had been planted a good part of the day. "You mean that there contraption works for you."

"Very hard," I said, "and most intelligently. It is a sensitive. It is soaking in the idea of the barn and haystack, of the pigeons on the roof, the calves running in their pens, the horses standing in the sun. It will give us what we need to make music and . . ."

"Music? You mean like fiddle music?"

"Yes," I said. "It could be fiddle music."

He shook his head, half in confusion, half in disbelief.

"There is one thing I have been wanting to ask you," I said. "About this thing the hunters call the Ravener."

"I don't rightly know," he said, "if I can tell you much of it. It got to be called the Ravener and I've often wondered why that was. It never ravens any that I've heard of. Only danger would be if you were right spang in its path. It doesn't show up often. Mostly far away and no one knowing of it until after it is gone. Last night was the first time it ever came within shouting distance of us. No one I ever heard of ever went to look for it or to track it down. There are some things better left alone."

He hadn't told me all he could, I knew, and I had a hunch that he was not about to, but I tried him, anyhow.

"But there must be stories. Perhaps stories from the olden time. Have you ever heard it might be a war machine?"

He looked at me, startled and afraid. "What machine?" he asked. "What war?"

"You mean that you don't know," I asked, "about the war that destroyed Earth? About how the people went away?"

He didn't answer directly, but from what he said I knew he didn't know—the history of the planet had been lost in the mists of centuries.

"There are many stories," he said, "and many of them true and perhaps others of them false. And no man in his right mind will hunt too closely into them. There is the census taker, the one who counts the ghosts, and I thought that he was only another story until the day I met him. And there's the story of the immortal man and him I've never met, although there are folks who claim they have. There is magic and there is sorcery, but in this place we have neither one of them and we have no wish to. We live a good life and we want it to stay that way and we pay little attention to all the stories that we hear."

"But there must be books," I said.

"Once there might have been," he told me. "I have heard of them, but I've never seen one. I don't know anyone who has. We have none here; I think we never had. Exactly, can you tell me, what are books?"

I tried to tell him and although I am sure he did not entirely understand, he seemed somewhat wonderstruck. And to mask his lack of understanding, he carefully changed the subject.

"Your machine down there," he said, "will be at the hoedown? It will watch and listen?"

"Indeed it will," I said. "It is kind of you to have us."

"There'll be a lot of people, from all up and down the hollow. They'll begin showing up as soon as the sun is set. There'll be music and dancing and big tables will be set with many things to eat. Do you, on your Alden, have gatherings such as this?"

"If not exactly hoedowns," I said, "other events that are very similar."

We went on sitting and I got to thinking that it had been a good day. We had tramped the fields and had husked some ears out of one of the cornshocks so the old man could show me what fine corn they raised; we had leaned our arms on the pigpen fence and watched the grunting porkers, nosing through the rubble on the feeding floor for a morsel they had missed; we had stood around and watched a man work the forge until a plow blade was glowing red, then take it out with tongs and place it on an anvil, with the sparks flying when he hammered it; we had strolled through the coolness of the barn and listened to the pigeons cooing in the loft above; we had talked lazily, as unhurried men will talk and it had all been very good.

The door of the house opened and a woman stuck her head out. "Henry," she called. "Henry, where are you?"

The old man climbed slowly off the fence. "That is me they want," he grumbled. "No telling what it is. It might be anything. These women get the strangest notions about chores that they want done. You just take it easy while I go see what it is."

I watched him amble down the slope and go into the house. The sun

was warm on my back and I knew that I should get down off the fence and move around a bit or find something I could do. I must look silly, I thought, perched upon the fence, and I felt a sense of guilt at not having anything to do nor wanting anything to do. But I felt a strange disinclination to do anything at all. It was the first time in my life I'd not had things piled up and waiting to be done. And I found, with some disgust, that I enjoyed it.

Bronco still was planted in the barnyard, with all his sensors out, and there'd been no sign of Cynthia since she'd gone out to the swill barrel. I wondered where Elmer might be; I'd not seen him all day long. And even as I wondered, I saw him come around the barn. Apparently he saw me almost at once, for he angled up the slope toward me. He came up close before he spoke and he kept his voice low and I sensed that he was troubled.

"I've been out looking at the tracks," he said, "and there is no doubt about it. The thing last night was a war machine. I found some tread marks and there's nothing here that leaves tread marks like that except a war machine. I followed the swath it made and I saw that it turned west. There are a lot of places back in the mountains where a war machine could hide."

"Why would it want to hide?"

"I can't imagine," Elmer said. "There is no way of telling how a war machine would think. Human brain and machine brain and they've had ten thousand years to evolve into something else. Fletch, given that much time, what could a brain like that become?"

"Maybe nothing," I said. "Maybe something very strange. If a war machine survived destruction, what would it become? What motive would it have to stay alive? How would it view an environment so different from the one for which it had been made? One strange thing, though. The people here seem to have no fear of it. It's just something they don't understand and the world seems to be filled with things they don't understand."

"They're a strange lot," Elmer said. "I don't like the looks of them. I don't like the feel of any part of it. It strikes me as unlikely those three young coon-hunting bucks would have come strolling in on us last night without some sort of reason. They had to cut across the track made by the war machine in order to reach us."

"Curiosity," I said. "Not much happens here. When something does, like us showing up, they have to find out about it."

"Sure, I know," said Elmer, "but that's not all of it."

"Anything specific?"

"No, nothing like that. Nothing that I can pin down. Just a feeling in the guts. Fletch, let's get out of here."

"I want to stay for the hoedown.

So Bronco can get it on the tapes. Soon as it is over, we will leave."

IX

The people had started coming, as the old man had said they would, shortly after sunset. They had come alone and in twos and threes and sometimes a dozen of them all together, and now the yard was full of them, crowding around the tables where the food was set. There were others in the house and some men were in the barn passing bottles back and forth.

The tables had been set up late in the afternoon when some of the men had gotten sawhorses out of the lumber shed, setting them up in the yard and putting planks across them. A platform for the musicians had been made in the same manner and now the musicians were seated on it, tuning up their instruments, sawing at their fiddles and plunking their guitars.

The moon hadn't risen yet, but it was lighting the sky in the east and beyond the clearing the trees stood up dark against the lighted sky. Someone kicked a dog and the dog went yelping out into the darkness. A roar of sudden laughter came from a group of men standing to one side of a table, perhaps at the telling of a joke. Someone had started a bonfire and piled a lot of wood on it and flames, eating up through the wood, were swirling high into the air.

Bronco was standing to one side of the clearing, close to the edge of the forest and the firelight from the bonfire seemed to make him flicker. Elmer was with one of the groups near the table where the food was laid and it seemed that he was engaged in a spirited discussion. I looked for Cynthia, but I didn't see her.

I felt a touch upon my arm, and when I looked around, the old man, Henry, had come up and was standing by my side. Just then the music struck up and couples began forming for a dance.

"You're standing by yourself," the old man said. The little breeze that was blowing ruffled his whiskers.

"I've just been standing off and looking," I told him. "I've never seen the like before." And, indeed, I never had. There was something wild and primitive and barbaric in the clearing; there was something here that should by now have been bred out of the human race. Here there still existed some of the earthbound mysticism that extended back to the gnawed thighbone and the ax of flint.

"You will stay with us a while," the old man said. "You know that you'll be welcome. You can stay here with us and carry out the work you plan to do."

I shook my head. "We'll have to think about it. We'll have to make our plans. And thank you very much."

They were dancing now, a set and

rather savage dance, but with a certain grace and fluidity, and upon the musicians' platform a man with leathern lungs was calling out a chant.

The old man chuckled. "It is called a square dance. You've never heard of it?"

"I've never heard of it," I said.

"I'm going to dance myself," said the old man, "as soon as I have another drink or two to get lubricated. Come to think of it . . ."

He took a bottle from his pocket and, pulling out the cork, handed it to me. The bottle felt cold to my hands and I put it to my lips and took a slug of it. It was better whiskey than I'd had the night before. It went down smooth and easy and it didn't bounce when it hit the stomach.

I handed the bottle back to him, but he pushed my hand away. "Have another one," he said. "You are way behind."

So I had another one. It lay warm inside of me and I began feeling good.

I handed back the bottle and the old man had a drink. "It's Cemetery whiskey," he said. "It's better than what we can make ourselves. Some of the boys went up to Cemetery this morning and traded for a case."

The first dance had ended and another was getting under way. Cynthia was out with this new set of dancers. She was beautiful with the firelight on her and she danced with a lithesome grace that took me by surprise, although I did not know why I possibly could have thought she would not be graceful.

The moon had risen now and was riding in the sky, and I had never felt so good before.

"Have another one," the old man said, handing me the bottle.

The night was warm, the people warm, the woods were dark, the fire was bright, and Cynthia was out there dancing and I wanted to go out and dance with her.

The set ended and I started to move forward, intending to ask Cynthia if she would dance with me. But before I had gone more than a step or two, Elmer came striding to the space that had been cleared for dancing. He came to the center of it and performed an impromptu jig and as soon as he did that one of the fiddlers on the platform stood up and began to play, if not a jig, at least a sprightly piece of music and the others all joined in.

Elmer danced. He had always seemed to me a stolid, plodding robot, but now his feet patted rapidly upon the ground and his body swayed. The people formed a ring about him and yelled and hollered at him, clapping their hands in encouragement and appreciation. Bronco moved out from his position at the edge of the woods and angled toward the circle. Someone, seeing him, cried out and the ring of people parted to let him through. He came into the circle and stood in front of

Elmer and began to shuffle and pat the ground with all eight feet.

The musicians were playing wildly now and increased the tempo of the music and in the circle Elmer and Bronco responded to it. Bronco's eight legs went up and down like pistons gone berserk and between the pumping, dancing legs his body bobbed and swayed. The ground beneath their feet thundered like a drum and it seemed to me that I could feel the vibrations through my soles. The people yelled and whooped. Some of them standing outside the circle had begun to dance and the others now joined in, dancing along with Bronco and with Elmer.

I looked to one side of me and the old man was dancing, too, jigging wildly up and down, with his white hair flying and his white beard flapping and jerking with the violence of his motion. "Dance!" he yelled at me, his breath short and rasping in his throat. "What's the matter, you ain't dancing?"

And as he said it he reached into his pocket and, hauling out the bottle, handed it to me. I reached out and grabbed it and began to dance. I pulled the cork out of the bottle and put it to my mouth while dancing and the glass of the bottle's neck rattled on my teeth and some of the liquor sprayed onto my face and a good, solid slug of it went down my throat. It hit my gut and lay there warm and sloshing and I danced, waving the bottle high, and I think I did some yelling, not that there was anything to yell about, but for the pure joy of the night.

We were, all of us, pure and simple crazy—crazy with the night and fire and music. We danced without a thought or purpose. Each of us danced because all the others danced, or because two sleek machines were out there dancing, their basic awkwardness transformed to matchless grace, or perhaps we simply danced because we were alive and deep within us knew we would not always be alive.

The moon floated in the sky and the wood smoke from the fire trailed in a slender column of whiteness up into the sky. The screeching fiddles and the twanging guitars shrieked and sobbed and sang.

Suddenly, as if by command (although there was no command), the music stuttered to a halt and the dancing stopped. I saw the others stop and stopped myself, with the bottle still held high.

I felt someone pawing at my lifted arm and a voice said, "The bottle, man. For pity's sake, the bottle."

It was the old man. I gave him the bottle. He used it as a pointer to indicate one side of the circle and then he tucked its neck into his whiskers and tilted back his head. The bottle gurgled and his Adam's apple jerked in concert with the gurgling.

Looking where he'd pointed, I saw a man standing quietly there. He wore a black robe of some sort that

came down to his feet and that had a cowl on it, covering his head, so that all that showed of him was the white smear of his face.

The old man sputtered, half strangled, and took the bottle from his face. He used it to point again.

"The census taker," he said.

The people were drawing back and away from the census taker and on the platform the musicians sat limp, mopping their faces with their shirt sleeves.

The census taker stood there for a moment, with all the people gaping at him, then he floated—he didn't walk, he floated—to the center of the dancing circle. The man with the reed instrument lifted it to his lips and began a piping that at first was the sound of the wind moving through the grasses of a meadow, then grew louder, trilling a string of notes that one could almost see hanging in the air. The violins came in softly as a background to the piping and as if from some distant place the guitars twanged a hollow sound and then the violins sobbed and the piping went insane and the guitars were humming like vibratory drums.

Out in the circle, the census taker was dancing, but not with his feet—you couldn't see his feet because of the robe he wore—but with his body swaying like a dishcloth hanging on a line and whipping in the wind, a strange, distorted, dangling dance such as a puppet would perform.

He was not alone. There were others with him, many shadowy shapes that had come from nowhere and were dancing with him, the firelight shining through the unsubstantial shimmer of their ghostly bodies. They were simply shapes at first, but as I stared at them astonished, they began to take on more definite form and feature, although they did not gain in substantiality. They were still nebulous and hazy, but now they were people rather than just shapes, and I saw with horror that they wore the costumes of many different races from far among the stars. There a bewhiskered brigand in the kilt and cape of that distant planet that was called, curiously enough, End of Nothing; there the jolly merchant with his stately toga from the planet Cash; and between them, dancing with abandon, in her tattered gown and a rope of gems about her neck, a girl who could have been from nowhere else but the pleasure planet Vegas.

She didn't touch me and I didn't hear her come, but with some sense I did not know I had, I became aware that Cynthia was beside me. I looked down at her and she was staring up at me, with mingled fear and wonder on her face. Her lips moved, but I couldn't hear her because of the loudness of the music.

"What did you say?" I asked, but she had no time to answer, for in that instant that I spoke, a concussion slapped me over and I went down on the ground so hard that the breath was knocked out of me. I landed on my side and rolled over

on my back and I saw, with some surprise, Bronco flying through the air, with all eight legs spraddled out grotesquely, while all around burning logs and brands were flying and a puff of smoke floated up to dim the brilliance of the moon.

I tried to breathe and couldn't and a sudden panic hit me—that I'd never breathe again, that I was done with breathing. Then I did breathe, taking in great gulps of air and each gulp was so agonizing that I tried to stop, but couldn't.

All over the clearing, I saw, people had been thrown to the ground. Some of them were getting up and others were trying to get up and there were many others who were just lying there.

I struggled to my knees and saw that Cynthia, beside me, was also trying to get up and I put out a hand to help her. Bronco was sprawled out on the ground and as I watched, he finally gained his feet, but two of his legs, both on the same side, dangled, and he stood there unsteadily on the other six.

A thunder of feet went past me and Elmer was at Bronco's side, holding him erect, propping him, helping him to move. I got to my feet and pulled Cynthia up beside me. Elmer and Bronco were coming toward us and Elmer yelled at us, "Get out of here! Up across the hill!"

We turned and ran, coming to the fence on which the old man, Henry, and myself had squatted half the afternoon. And coming to it, I knew that the crippled Bronco could never make his way across it. I grabbed a post with both my hands and tried to pull it loose and force it down. It wiggled back and forth, but I could not topple it.

"Let me," said Elmer, close beside me. He lifted a foot and kicked and the boards splintered and came loose. Cynthia had crawled through the fence and was running up the hill. I ran after her.

I took one quick look behind me as I ran and saw that one of the haystacks close beside the barn was burning—set afire, most likely, by one of the flaming brands sent flying through the air by the explosion that had crippled Bronco. People were running aimlessly in the light of the burning stack.

Looking back, not watching where I was going, I ran into a corn shock and, toppling it, went down on top of it.

By the time I disentangled myself and was on my feet again, Elmer and Bronco had gone on past me and were disappearing over the brow of the moonlit hill. I sprinted after them. My face and hands smarted and burned from their forcible contact with the sun-dried corn leaves and when I put my hand up to my face it came away wet and sticky with blood oozing from the cuts the dry, sharp leaves had inflicted on the skin.

I went plunging down the hill below the brow and far ahead of me saw the whiteness of Cynthia's jacket, almost at the woods that ran below the field. Not far behind her were Bronco and Elmer. Bronco had caught the hang of being helped along by Elmer and they were moving rapidly.

The stubs of the cut corn and the autumn-dried weeds that had grown between the rows rasped against my trousers as I ran and behind me I heard the shouts and bellows from the clearing beyond the field.

I reached the fence that ran between the field and woods and there was a gateway through it where Elmer had kicked the boards loose. I plunged through the opening and in among the trees, and here, while there was still moonlight shining through the branches, I had to slow my pace for fear of crashing headlong into one of the trees.

Someone hissed at me, off to one side, and I slowed and swung around. I saw that the three of them were grouped beneath an oak with low-growing branches. Bronco was braced on his six legs and doing fairly well. Elmer was climbing down out of the tree, dragging bundles with him.

"I brought them out here and cached them," he said, "shortly after dark. I had it in my mind something like this might happen."

"Do you know what happened?"

"Someone threw a bomb," said Elmer.

"Cemetery bomb," I said. "They had that case of booze."

"Payment," Elmer said.

"I suppose so. I had wondered. It was damn good whiskey."

"But what about the census taker and the ghosts?" asked Cynthia. "If they were ghosts."

"Diversion," Elmer said.

I shook my head. "It gets too complicated. Everyone couldn't have been in on it."

"You underestimate our friends," said Elmer. "What did you say to Bell?"

"Not a great deal. I resisted being taken over."

Elmer grunted. "That's *lèse majesté,*" he said.

"What do we do now?" asked Cynthia.

Elmer said to Bronco, "Can you manage for a while without me?"

"If I go slow," said Bronco.

"Fletch will be with you. He can't hold you up like I can, but if you should fall he can boost you up. With him helping, you can manage. I have to get some tools."

"You have your kit of tools," I said. And that was right. He had all those replacement hands and a lot of other things. They were stored in a compartment in his chest.

"I may need a hammer and some heavier stuff. Those legs of Bronco's are knocked all out of shape. It may take some hammering and refitting to get them back again. There's a toolhouse back there. It's locked, but that isn't any problem."

"I thought the idea was for us to get away. If you go back there . . ."

"They're all upset. That barn is about to go and they'll be fighting fire. I can slip in and out."

"You'll hurry," Cynthia said.

He nodded. "I'll hurry. The three of you go down this hill until you reach a valley, then turn to the right, downstream. You take this pack, Fletch, and Cynthia, you should be able to handle this smaller one. Leave the rest of it for me; I'll bring it along. Bronco can't carry anything, the shape he's in."

"Just one thing," I said.

"What is that?"

"How do you know we should turn right, downstream?"

"Because I was out scouting while you were roosting on a fence with your bewhiskered pal and Cynthia was peeling potatoes and performing other housewifely chores. From years of experience I have learned it's always a good idea to scout out your ground."

"But where are we heading for?" asked Cynthia.

He told her, "Away from Cemetery. As far as we can get."

X

Bronco had said that he could manage, but it was slow going. The hillside was steep and rough and it was a long way down to the valley and Bronco fell three times before we reached the valley floor. Each time I managed to heave him up. but it took a lot of work and a lot of time.

Behind us, for a while, a brilliance waved and flickered in the sky and it must have been the barn, for a haystack would have burned out more quickly. But by the time we reached the valley the brilliance was gone. The barn either had burned down or the fire had been put out.

The traveling was easier in the valley. The ground was fairly level, although there were rough stretches here and there. There were fewer trees and the moon shed more light than it had on the heavily-wooded hillside. Off to our left somewhere a stream was flowing. We did not come across it, but every now and then we could hear the chuckle of its water when apparently it flowed across a gravel bar.

We moved through an eerie world of silver magic and from the hills on either side came, at intervals, a far-off whickering and sometimes other sounds. Once a great bird came floating down above us, with not a whisper from its wings, veering to slide off above a clump of trees.

"If only," Bronco said, "I had got one leg damaged on either side, it would have caused no trouble, but this business of two legs on one side and four legs on the other is most confusing and makes me ridiculously lopsided."

"You are doing splendidly," said Cynthia. "Does it hurt?"

"I have no hurt," said Bronco. "I cannot have a hurt."

"You think Cemetery did it," Cynthia said to me. "And so does Elmer, and so, I would suppose, do I. But surely we can't pose a threat to Cemetery . . ."

"Anyone," I said, "who does not bow down to Cemetery is automatically a threat. They have been here so long, have held the Earth so long, that they cannot brook the slightest interference."

"But we are no interference."

"We could be. If we get back to Alden, if we get off the Earth with what we came to get, we could interfere with them. We could present a picture of the Earth that is not Cemetery. And it just might catch on, it might gain some public and artistic recognition. The people might be pleased to think the Earth was not entirely Cemetery."

"Even so," she said, "it would hurt them in no way. They could still carry on their business. There would be nothing really changed."

"It would hurt their pride," I said.

"But pride is such a little thing to hurt. A purely personal thing. Whose pride? The pride of Maxwell Peter Bell, the pride of other little autocrats the like of Maxwell Bell. Not the pride of Cemetery. Cemetery is a corporation, a massive corporation. It thinks in terms of income, in the annual business volume, in profits and in costs. There is no place in its ledgers for such a thing as pride. It must be something else, Fletch. It can't be entirely pride."

She could be right, I told myself. It could be something more than pride, but what?

"They are used to ruling," I said. "They can buy anything they want. They hired someone to throw that bomb at Bronco, even when there was a chance that others would get hurt. Because they don't care, you see. Just so they get what they want, they do not really care. And they get things cheap. Because of who they are, no one can question what they offer. We know the price of that bomb and it was cheap enough. A case of whiskey. Maybe, if they are to keep an upper hand, they must demonstrate, very forcibly, what happens to those people who slip beneath their thumb."

"You keep saying 'they'," said Cynthia. "There is no 'they' here, there is no Cemetery. There is only one man here."

"That is true," I said, "and that is why pride could be a factor. Not so much the pride of Cemetery as the pride of Maxwell Bell."

The valley spread before us, a broad road of grasses, broken by little clumps of trees and rimmed in by the dark and wooded hills. Off to the left was the stream, but it had been some time since we had heard any sound of it. The ground was level and Bronco was able to proceed without too much trouble, although it was painful for me, if not for him, to witness his awkward, hobbling gait. But even so, without any trouble he was able to keep up with our human walking.

There was no sign of Elmer. I held my wrist close to my face and my watch said that it was almost two o'clock. I had no idea when we had left the clearing, but thinking back on it, it seemed to me that it could not have been much later than ten, which meant we'd been four hours on the road. I wondered if something might have happened to Elmer. It would not have taken him much time to break into the toolhouse and get whatever he might need. He would have had to pick up the packs we'd left behind and he'd be hauling quite a load, but even so, the weight should not slow him too much and he'd still travel fairly fast.

If he didn't show up by daylight, I decided, we'd have to find some place where we could hole up and keep a watch for him. Neither Cynthia nor myself had had any sleep to speak of since we'd reached the Earth and I was beginning to feel it and I supposed that she was, too. Bronco didn't need to sleep. He could keep a watch for Elmer while we did some sleeping.

"Fletcher," Cynthia said. She had stopped just ahead of me and I bumped into her. Bronco skidded to a halt.

"Smoke," she said. "I smell smoke. Wood smoke."

I smelled no smoke.

"You're imagining it," I said. "There is no one here."

The valley didn't have the feel of people. It had the feel of moonlight and grass and trees and hills, of light and shadow, night air and flying things. Back in the hills there was the whickering every now and then and other nighttime noises, but there were no people, no sense or feel of people.

Then I smelled the smoke, the faintest whiff of it, an acrid tang in the air, there one moment, gone the next.

"You're right," I said. "There is a fire somewhere."

"Fire means people," Bronco said.

"I've had my belly full of people," Cynthia said. "I don't want to see anyone for another day or two."

"Me, either," Bronco said.

We stood there, waiting for another whiff of smoke, but it did not come.

"There might be no one around," I said. "A tree struck by lightning days ago and still burning. An old camp fire that no one bothered to put out, still smouldering."

"We should get under cover," Cynthia said, "not stay standing out here where anyone can see us."

"There is a grove over to the left," said Bronco. "We could get there rather rapidly."

We turned toward the left, heading for the grove, moving slowly and cautiously. And I thought how silly it would all seem when daylight came, for the fire that produced the smoke could be several miles away. Probably there was no reason to be fearful of it, even so. Provided they were there, whoever had built that fire might be very decent people.

Almost at the grove we stopped to listen and from the direction of the grove came the sound of running water. That was good, I thought. I was getting thirsty. The trees more than likely grew along the stream that ran down through the valley.

We moved in among the trees, half blinded by the denseness of the shadows underneath them after the bright moonlight in the open and as we moved into the shadows some of them rose up and clubbed me to the ground.

XI

I had fallen into a lake somehow and was sinking for the third and final time, strangling, with water on my face and water up my nose and no way I could breathe. I gagged and gasped and opened up my eyes and water streaming from my hair ran down across my face.

I saw that I was not in any lake, but rather on dry land and in the light of a fire that burned a little ways away I could see the dark figure of a man who held a wooden bucket in both hands and I knew that he had thrown a bucket full of water in my face.

I couldn't see his face too well, with his back turned to the firelight, but he flashed a set of white teeth at me, yelling something in an angry voice I did not understand.

There was a terrible ruckus going on off to my right and when I turned my head in that direction I saw that it was Bronco, flat upon his back, with a lot of yelling men around him, dodging in and out, trying to get at him. But they weren't getting at him too well, for even with two busted legs, Bronco had six that weren't busted and all six of them were busily lashing out at the men around him.

I looked around for Cynthia and saw her by the fire. She was sitting rather awkwardly on the ground and one arm was lifted strangely and I saw that a big man who stood beside her had the raised arm in his grasp and when she tried to get to her feet he twisted it and she sat down again, rather solidly.

I started to get up and as I did the man with the bucket rushed me, swinging the bucket as if he meant to brain me. I didn't get clear up, but did manage to get my feet in under me and was in a crouch, and when I saw the bucket coming at me, I shifted to one side and stretched out an arm. The bucket barely missed me and then, as he came charging in, I had him by the legs. As he fell toward me, I hunched down one shoulder and caught him at the knees and he went catapulting over me to land with a crash behind me. I didn't wait to see what had happened to him or what he might be doing, but launched myself across the few feet that separated us at the man who had Cynthia by the arm.

He saw me coming and let go of her arm and clawed at his belt for a knife, but he was slow in getting it

and I let him have it squarely on the chin, bringing my fist up from somewhere near my boot tops. I swear the blow lifted him a full foot off the ground and his body, stiff as any pole, went toppling backward. He hit the ground and lay there and I reached down and grabbed Cynthia to help her to her feet, although I suspect she had no need of help.

Even as I helped her to her feet there was a bellowing behind me and as I swung around to face it I saw that the men who had been ganging up on Bronco had left him and were moving in on me.

From that moment when the bucket of water had struck me in the face and revived me from the blow upon the head, I had been too busy to take in much of the details of the situation we were in, but now I had the time to notice that the men who were advancing upon me were an unsavory lot. Some of them were dressed in what I supposed were buckskins and some of them wore fur caps upon their heads and even in the feeble firelight I could see they were a ragged and a dirty lot and that they moved in slouching crouches, not upright and forthright as a man should walk. Some of them carried guns of some sort and here and there there were flashes of metal from drawn knives and, all in all, I decided, I did not have much chance to stand against them.

"You better get out of here," I said to Cynthia. "Try to find a place to hide."

There was no answer from her and when I looked around to see why she had not answered, I saw that she was stooping and groping on the ground. She rose from her stoop and in each hand she clutched a club, awkward lengths of tree limbs that she had snatched off a pile of fuel that apparently had been hauled in to feed the fire. She thrust one out at me and, with a two-handed grip upon the other, ranged herself beside me.

So we stood there, the two of us, with the clubs clutched in our hands, and it might have been a brave gesture of a sort, but I knew how ineffectual it would be.

The group of men had stopped at the sight of us suddenly armed with clubs, but any time they wanted, they could close in and get us. Some few of them, perhaps, would take their lumps, but they'd overwhelm us by sheer numbers.

A big brute, who stood slightly in the front, said, "What's the matter with you two? Why you got the clubs?"

"You jumped us," I said.

"You sneaked up on us," said the man.

"We smelled the smoke," said Cynthia. "We were not sneaking up."

Somewhere off to the left there were snorting noises and the sound of feet or hooves tramping on the ground. There were animals somewhere in the grove of trees beyond the fire.

"You were sneaking," the man insisted. "You and that great beast of yours."

While he talked others in the group were shifting off to either side. They were getting in position to take us from the flanks.

"Let us talk some sense," I said. "We are travelers. We didn't know that you were here and . . ."

There was a sudden rush of feet from either side of us and from somewhere in the woods rang out a ululating cry that stopped the sudden rush—a wild and savage war cry that froze the blood in one and made the hair stand up. Out of the screen of woods broke a towering metal figure, moving very fast, and at the sight of it the pack that had been about to swarm in on us were running for their lives.

"Elmer!" Cynthia shrieked, but he paid no attention to us. One of the fleeing men had stumbled when he had set out to run and Elmer snapped him up in the middle of his stride, lifted his twisting, frantic body high into the air and threw him out into the darkness. A gun exploded and there was a hollow thud as the ball hit Elmer's metal body, but that was the only shot the fleeing men took the time to fire. They went crashing into the woods beyond the fire, with Elmer close upon their heels. They were yelling out in fright and between the yells one could hear the splashing as they fought their way across the stream that lay beyond the camp site.

Cynthia was running toward the struggling Bronco and I ran after her. Between the two of us, we got him on his feet.

"That was Elmer," Bronco said, once we got him up. "He will give them hell."

The cries and whoops were receding in the distance. "There be more of them," said Bronco, "tethered in the woods. They have no ill in them, however, for they are but simple creatures."

"Horses," said Cynthia. "There must be quite a lot of them. I think these people must be traders."

"Can you tell me exactly what went on?" I asked her. "We were just entering the woods and there were some shadows. Then I came to with someone throwing water in my face."

"They hit you," Cynthia said, "and grabbed me and dragged us to the fire. They dragged you by the heels and you were a funny sight."

"I imagine you died laughing."

"No," she said, "I wasn't laughing, but you were funny."

"And Bronco?"

"I was galloping to your rescue," Bronco said, "when I tripped and fell. And there, upon my back, I gave a good account of myself, would you not say so? As they clustered all about me, I got in some lusty licks with my trusty hooves."

"There was no sign of them," said Cynthia. "They lay in wait for us. They saw us coming and they laid in wait for us. We couldn't see the fire,

for it was in a fairly deep ravine and . . ."

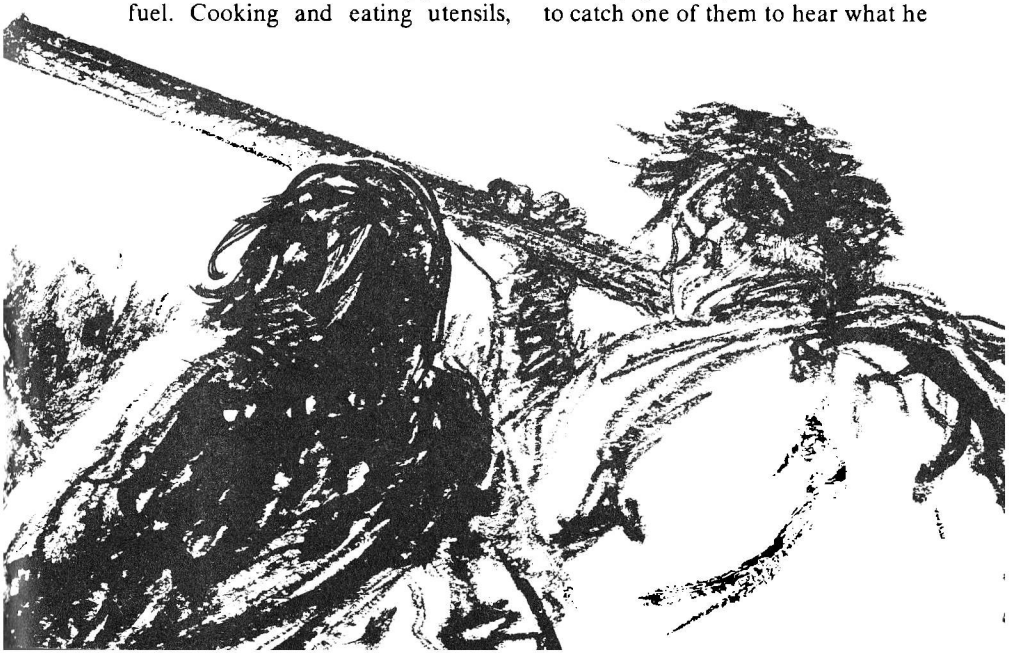
"They had sentries out, of course," I said. "It was just our luck that we fell foul of them."

We moved down to the fire and stood around it. It had fairly well died down, but we did not stir it up. Somehow we felt just a little safer when there was not too much light. Boxes and bales were piled to one side of it and on the other side a pile of wood that had been dragged in as fuel. Cooking and eating utensils, guns and blankets lay scattered all about.

Something splashed very noisily across the stream and came crashing through the brush. I made a dive to grab up a gun, but Bronco said, "It's only Elmer coming back," and I dropped the gun. I don't know why I picked it up; I had not the least idea of how it might have worked.

Elmer came crunching through the brush.

"They got away," he said. "I tried to catch one of them to hear what he



might have to say, but they were too nimble for me."

"They were scared," said Bronco.

"Is everyone all right?" asked Elmer. "How about you, Miss?"

"We're all right," said Cynthia. "One of them hit Fletcher with a club and knocked him out, but he seems to be all right."

"I have a lump," I said, "and my head, come to think of it, seems a little sore. But there's nothing wrong with me."

"Fletch," said Elmer, "why don't you build up the fire and get some food to cooking. You and Miss Cynthia must feel some need of it. Some sleep, too, perhaps. I dropped the stuff I was carrying. I'll go back and get it."

"Hadn't we ought to be getting out of here?" I asked.

"They won't be coming back," said Elmer. "Not right now. Not in broad daylight and dawn's about to break. They'll come back tomorrow night, but we'll be gone by then."

"They have some animals tied out in the woods," said Bronco. "Pack animals, no doubt, to carry those bales and boxes. We could use some animals such as that."

"We'll take them along," said Elmer. "We'll leave our friends afoot. And another thing—I'm most anxious to look into those bales. There must be something in them they didn't want to have anybody poking into."

"Maybe not," said Bronco. "Maybe they were just spoiling for a fight. Maybe they were just mean and ornery."

XII

But it wasn't just meanness.

They had reason to want no one knowing what was in the bales and boxes.

The first bale, when we ripped it open, contained metal, crudely cut into plates, apparently with chisels.

Elmer picked up two of the plates and banged them together. "Steel," he said, "plated with bronze. I wonder where they'd get stuff like this."

But even before he got through saying it, he knew, and so did I. He looked at me and saw I knew, or guessed, and said, "It's casket metal, Fletch."

We stood around and looked at it, with Bronco back of us, looking over our shoulders. Elmer dropped the two pieces he'd been holding.

"I'll go back and get the tools," he said, "and we'll get to work on Bronco. We have to get out of here sooner than I thought."

We got to work, using the tools that Elmer had taken from the toolhouse back at the settlement. One leg we fixed up with little effort, straightening it and hammering it out and slipping it back into place so that it worked as good as new. The second leg gave us some trouble.

"How long do you think this might have been going on?" I asked, as we worked. "This robbing of the Cemetery—they must know about it."

"Perhaps they do," said Elmer, "but what can they do about it and why should they care? If someone wants to do some genteel grave robbing, what difference does it make? Just so they do it where it doesn't show too much."

"But they would surely notice. They keep the Cemetery trimmed and . . ."

"Where it can be seen," said Elmer. "I'll lay you a bet there are places where there is no care at all—places that visitors are never allowed to see."

"But if someone comes to visit a certain grave?"

"They'd know about it ahead of time. They'd know the names on any Pilgrim passenger list—the names and where the passengers were from. They'd have time to put on a crash program, getting any sector of the Cemetery cleaned up. Or maybe they wouldn't even have to. Maybe they'd simply switch a few headstones or markers and who would know the difference?"

Cynthia had been cooking at the fire. Now she came over to us. "Could I use this for a minute?" she asked, picking up a pinch bar.

"Sure, we're through with it," said Elmer. "We've almost got old Bronco here as good as new. What do you want with it?"

"I thought I'd open up one of the boxes."

"No need to," Elmer said. "We know what they were carrying. It'll just be more metal."

"I don't care," said Cynthia. "I would like to see."

It was growing light. The sun was brightening the eastern sky and would soon be rising. Birds, which had begun their twittering as soon as the darkness of the night had started to fade, now were flying and hopping in the trees. One bird, big and blue and with a topknot, moved nervously about, screeching at us.

"A blue jay," Elmer said. "Noisy kind of creature. Remember them of old. Some of the others, too, but not all their names. That one is a robin. Over there a blackbird—a redwing blackbird, I would guess. Cheeky little rascal."

"Fletcher," Cynthia said, not speaking very loudly, but her voice sharp and strained.

I had been squatting, watching Elmer put the last touches to straightening out and shaping one of Bronco's hooves.

"Yes," I said, "what is it?" not even looking around.

"Please come here," she said.

I rose and turned around. She had managed to lift one end of a board off the top of a box and had pushed it up and left it canted at an angle. She wasn't looking toward me. She was looking at what the lifting of the board had revealed inside the box, unmoving, as if she had been suddenly hypnotized, unable to take her eyes away from what she saw inside the box.

The sight of her standing in this

fashion brought me suddenly alert and in three quick strides, I was beside her.

The first thing that I saw was the exquisitely decorated bottle—tiny, dainty, of what appeared to be jade, but it could not have been jade, for there was painted on it small, delicate figures in black and yellow and dark green, while the bottle itself was an apple green—and no one in his right mind would go about painting jade. It lay against a china cup, or what appeared to be a china cup, emblazoned in red and blue, and beside the cup a grotesque piece of statuary, rudely carved out of cream-colored stone. Lying half hidden by the statuary was a weirdly decorated jar.

Elmer had come up to us and now he reached out and took the pinch bar away from Cynthia. In two quick motions, he ripped the rest of the boards away. The box was filled with a jumble of jars and bottles, bits of statuary, pieces of china, cunningly shaped bits of metalwork, gemmed belts and bracelets, necklaces of stone, brooches, symbolic pieces (they must have been symbolic pieces, for they made no other sense), boxes of both wood and metal, and many other items.

I picked up one of the symbolic pieces, a many-sided block of some sort of polished stone, with half-obscured etchings on every face of it. I turned it in my hand, looking closely at the engraved symbols presented on each face. It was heavy, as if it might be of metal rather than of stone, although it seemed to have a rock-like texture. I could almost remember, almost be sure, although absolute certainty escaped me. There had been a similar piece, a very similar piece, on the mantel in Thorney's study, and one night while we had sat there he had taken it up and showed me how it had been used, rolled like a die to decide a course of action to be taken, a divining stone of some sort and very, very ancient and extremely valuable and significant because it was one of the few artifacts that could unmistakably be attributed to a most obscure people on a far-off, obscure planet—a people who had lived there and died or moved away or evolved into something else long before the human race had found the planet vacant and had settled down on it.

"You know what it is, Fletch?" Elmer asked.

"I'm not sure," I said. "Thorney had one that was almost like it. A very ancient piece. He named the planet and the people, but I can't recall the names. He was always telling me the planet and the people."

"The food is hot," said Cynthia. "Why don't we eat it now? We can talk about it while we eat."

I realized, when she spoke of it, that I was ravenous. I had not tasted food since the noon before.

She led the way to the fire and dished up the food from the pan in which she'd heated it. It was a thick, rich soup, almost a stew, with vegeta-

bles and chunks of meat in it. In my haste, I burned my mouth with the first spoonful.

Elmer squatted down beside us. He picked up a stick and idly poked the fire.

"It seems to me," he said, "that we have here some of those missing items that you told me Professor Thorndyke often talked about. Stuff from archaeological sites looted by treasure hunters who spirited all their findings away so they could not be studied, probably to be sold at a later time, at tremendous profit, to collectors."

"I think you are right," I said, "and now I think I know where at least some of them are hidden out."

"In the Cemetery," Cynthia said.

"Nothing would be simpler," I said. "A casket would make an excellent hiding place. No one would think of digging it up—no one, that is, other than a gang of outland metal seekers who figured out where they could get good metal at no more than the cost of a little work."

"It would have been the metal at first," said Cynthia, "and then one day they found a casket that held no body, but was filled with treasure. Maybe there was a way in which the graves that held the treasure would be marked. Perhaps a simple little design you would never see unless you knew where to look on the tombstone or the marker."

"They wouldn't have found that mark to start with," said Elmer. "It might have taken them quite a while to get it figured out."

"They probably had a long time to get it figured out," said Cynthia. "These ghouls of ours may have been at this metal business for hundreds of years."

"There may have been no mark," I said.

"Why, there must have been," said Cynthia. "How else would they know where to dig?"

"How about someone in the Cemetery working with them? Some insider who would know which graves to dig?"

"You are both forgetting something," Elmer said. "Maybe our ghoulish friends aren't really interested in any of those trinkets in the boxes . . ."

"But they took them," Cynthia said.

"Sure, they'd take them. They may be interesting and amusing. They might even have some trade value. But it seems to me it is the metal they would really be after. Metal, after all these years, would be hard to come by. At first it could be picked up in the cities, but after a time much of the metal in the cities would be badly corroded and you'd have to mine for it. But in the Cemetery there is more recent metal, perhaps much better metal. The artifacts they find in some of the graves have value for us because we have been told by Professor Thorndyke they are significant, but I doubt they have value for these robbers. Toys for the chil-

dren, geegaws for the women, perhaps minor trading stock—but it's the metal they are after."

"This business explains one thing," I said. "It sheds some light on why Cemetery wants to keep control of visitors. They wouldn't want to take a chance of someone finding out about the artifacts."

"It's not illegal," Cynthia said.

"No, of course it's not. The archaeologists have tried for years to get legislation halting the trade in artifacts, but they've been unable to."

"It's sneaky, though," said Elmer, "and unprincipled. It's an underhanded business. If it should leak out, it might do much to tarnish Cemetery's shiny reputation."

"But they let us go," said Cynthia.

"There wasn't much at the moment they could have done about it," I said. "There was no way they could stop us."

"They did something later," said Elmer. "They tried to blow up Bronco."

Cynthia said, "If they'd destroyed Bronco, they figured we would get discouraged . . ."

"I think that is right," I said. "Although we can't be absolutely sure about the bomb."

"We can be fairly sure," said Elmer.

"There's one thing about it I don't like," I said. "Without half trying, we've managed to make enemies of everyone we've met. There is Cemetery and now this band of ghouls and I would suppose the people back at the settlement do not think too kindly of us. Because of us they lost some haystacks and a barn and maybe some of them may have been hurt and . . ."

"They brought it on themselves," said Elmer.

"That won't stop them blaming us."

"I suppose it won't," said Elmer.

"I think we should get out of here," I said.

"You and Miss Cynthia need some sleep."

I looked across the fire at her. "We can stay awake for a few hours more," I said.

She nodded bleakly at me.

"We'll take the horses along," Elmer said. "That will slow them up. We can get the stuff loaded . . ."

"Why bother with it?" I said. "Leave it here. It does us no good. What could we do with it?"

"Why, sure," said Elmer. "Why couldn't I have thought of that? When they come back they'll have to leave some men to guard it and that splits up their force."

"They'll follow us," said Cynthia. "They have to have those horses."

"Sure they will," said Elmer, "and when they finally find the horses, if they ever do, we'll be miles away and out of reach."

Bronco spoke, for the first time. "But the human two. They cannot go minus sleep. They cannot go for hours."

"We'll figure something out," said Elmer. "Let's get going."

"About the census taker and the ghosts?" asked Cynthia, asking, so far as I could see, without any reason.

"Let's not worry about the ghosts," I said.

She'd asked the same question once before. It was just like a woman. Get into some sort of trouble and they'll come up with the silly questions.

XIII

I woke and it was night, but immediately I remembered what had happened and where we were. I rose to a sitting position and to one side of me saw the dark form that was Cynthia. She was still asleep. Just a few hours more, I thought, and Elmer and Bronco would be back and we could be on our way. It had all been damn foolishness, I told myself. We could have kept on with them. I had been sleepy, certainly, and riding a horse for the first time in my life had not been an easy chore, but I could have managed. Cynthia had been played out, but we could have strapped her onto Bronco so that if she fell asleep she would not have fallen off, but Elmer had insisted on leaving us behind while he and Bronco shagged the horses deep into the mountains that loomed ahead of us.

"Nothing can happen to you," he had said. "This cave is dry and comfortable and well hidden, and by the time you've had some sleep we'll be back with you."

I blamed myself. I should not have let him talk us into it. I didn't like it, I told myself. We should have stayed together. No matter what the situation, we should have stayed together.

A shadow stirred near the mouth of the cave and a soft voice said, "Friends, please do not make an outcry. There is nothing you must fear."

I came surging to my feet, the hair prickling at the nape of my neck. "Who the hell are you?" I shouted.

"Softly, softly, softly," said the voice, softly. "There are those who must not hear."

Cynthia screamed.

"Shut up!" I yelled at her.

"You must be quiet," said the lurker in the shadows. "You do not recognize me, but I saw you at the dance."

Cynthia, on the verge of another scream, caught her breath and gulped. "It's the census taker," she said. "What does he want here?"

"I come, fair one," said the census taker, "to warn you of great danger."

"You would," I said, but I did not say it loudly, for all this business of his about talking softly and not making any outcry had sunk into me.

"The wolves," he said, "the metal wolves have been set upon your trail."

"What can we do about it?"

"You stay very quiet," said the census taker, "and hope that they pass by."

"Where are all your pals?" I asked.

"They are around somewhere. They are often with me. They hide when they first meet people. They are a little shy. If they like you they'll come out."

"They weren't shy at the dance the other night," said Cynthia.

"They were among old friends. They had been there before."

"You said something about wolves," I reminded him. "Metal wolves, I think."

"If you'll come most softly to the entrance, I think that you might see them. But please to be most quiet."

Cynthia was close beside me and I put out my hand to her and she grabbed it and hung on tight.

"Metal wolves," she said.

"Robots, more than likely." I don't know why I was so calm about it. Stupidity, I guess. In the last two days we had encountered so many screwy things that metal wolves, at first, didn't seem too bad. Just sort of commonplace.

Outside the cave mouth the moon lighted up the landscape. The trees stood out almost as plain as if it had been day and in between them ran little grassy places dotted with boulders. It was wild, rough country and, somehow, it sent a shiver through me.

We crouched just inside the entrance and there was not a thing to see, just the trees and the grassy patches and the boulders and beyond them the dark lift of hills fearsome in their darkness.

"I don't . . ." Cynthia began, but the census taker clucked at her and she said no more.

We crouched, the two of us, hand in hand, and it seemed a silly business. There was nothing stirring, not even the trees, for there was no wind.

Then there was a movement in the shadow underneath a tree and a moment later the thing that had made the movement trotted out into the open. It glittered in the moonlight and it had about it a sense of fiendish strength and ferocity. It was the size of a calf, perhaps, although because of the moonlight and the distance the size was hard to judge. It was lithe and quick, with a nervousness about it, stepping high and daintily, but there was in its metal body a feel of power that could be perceived even from some hundreds of feet away. It quartered nervously about, as if it might be seeking out a scent and for a moment it switched about and stared directly at us—stared and seemed to strain toward us, as if someone might have held it on a leash and it yearned to break away.

Then it turned and took up its running back and forth and all at once there were three instead of one of them—slipping through the moonlight, running in the woods.

One of them, as it turned toward us in its running, opened its mouth, or what would have been its mouth had it been a biologic creature, exposing a serried rank of metal teeth. When it shut its mouth, the clash of

the teeth coming back together came clear to us, crouching in the cave.

Cynthia was pressing close against me and I disengaged my hand from hers, put my arm about her and held her very close, not thinking of her, I am sure, as a woman in that moment, but as another human being, another thing of flesh and blood that metal teeth could rend. Clutching one another, we watched the wolves, seeking, running—I got the impression they were slavering—and, somehow the idea crept into my mind that they knew we were nearby and were seeking for us.

Then they were gone. As quickly as they had appeared, they disappeared, and we did not see them go. But we still stayed crouching there, afraid to speak, afraid to move, for how long I don't know.

Then fingers tapped against my shoulder. "They are gone," the census taker said. I had, until he tapped me, forgotten about the census taker.

"They were confused," he said. "Undoubtedly the horses milled around down there while you were being installed in the cave before your companions went away. It took them a while to work out the trail."

Cynthia tried to speak and choked, the words dying in her throat. I knew exactly how it was; my own mouth was so dry I wondered if I would ever speak again.

She tried again and made it. "I thought they were looking for us. I thought they knew we were somewhere near."

"It is over now," the census taker said. "The present danger's past. Why don't we move back into the cave and be comfortable?"

I rose, dragging Cynthia up with me. My muscles were tense and knotted from staying still so long in such an uncomfortable position. After staring so long out into the moonlight, the cave was dark as pitch, but I groped along the wall, found our piles of sacks and baggage and, sitting down, leaned against them. Cynthia sat down beside me.

The census taker squatted down in front of us. We couldn't really see him because the robe he wore was as black as the inside of the cave. All one could see of him was the whiteness of his face, a pasty blob in the darkness, a blob without any features.

"I suppose," I said, "that we should thank you."

He made a shrugging motion. "One seldom comes on allies," he said. "When one does he makes the most of it, does whatever is possible to do."

There were moving shadows in the cave, flickering shadows. Either they had just arrived or I had failed to notice them before. Now they were everywhere.

"Have you called in your people?" Cynthia asked and from the tightness of her voice I guessed what it must have cost to keep it level.

"They have been here all the time," said the census taker. "It takes

them a little while to show themselves. They come on slow and easy. They have no wish to frighten."

"It is difficult," said Cynthia, "not to be frightened by ghosts. Or do you call them something else?"

"A better term," said the census taker, "might be shades."

"Why shades?" I asked.

"The reason," said the census taker, "is one of somewhat involved semantics that would require an evening to explain. I am not sure I entirely understand myself. But it is the term they do prefer."

"And you?" I asked. "Exactly what are you?"

"I do not understand," said the census taker.

"Look, we are humans. These other folks are shades. The creatures we were watching were robots—metal wolves. A matter of classification. How are you classified?"

"Oh, that," said the census taker. "That really is quite simple. I am a census taker."

"And the wolves," said Cynthia. "I suppose they are Cemetery."

"Oh, yes, indeed," said the census taker, "although now only rarely used. In the early days there was much work for them to do."

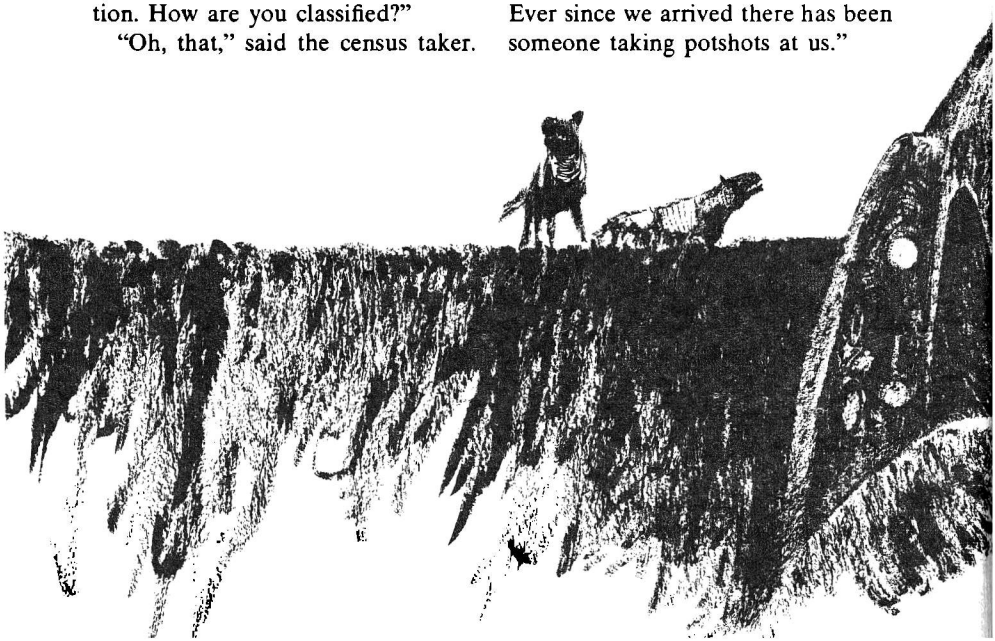
I was puzzled. "What kind of work?" I asked.

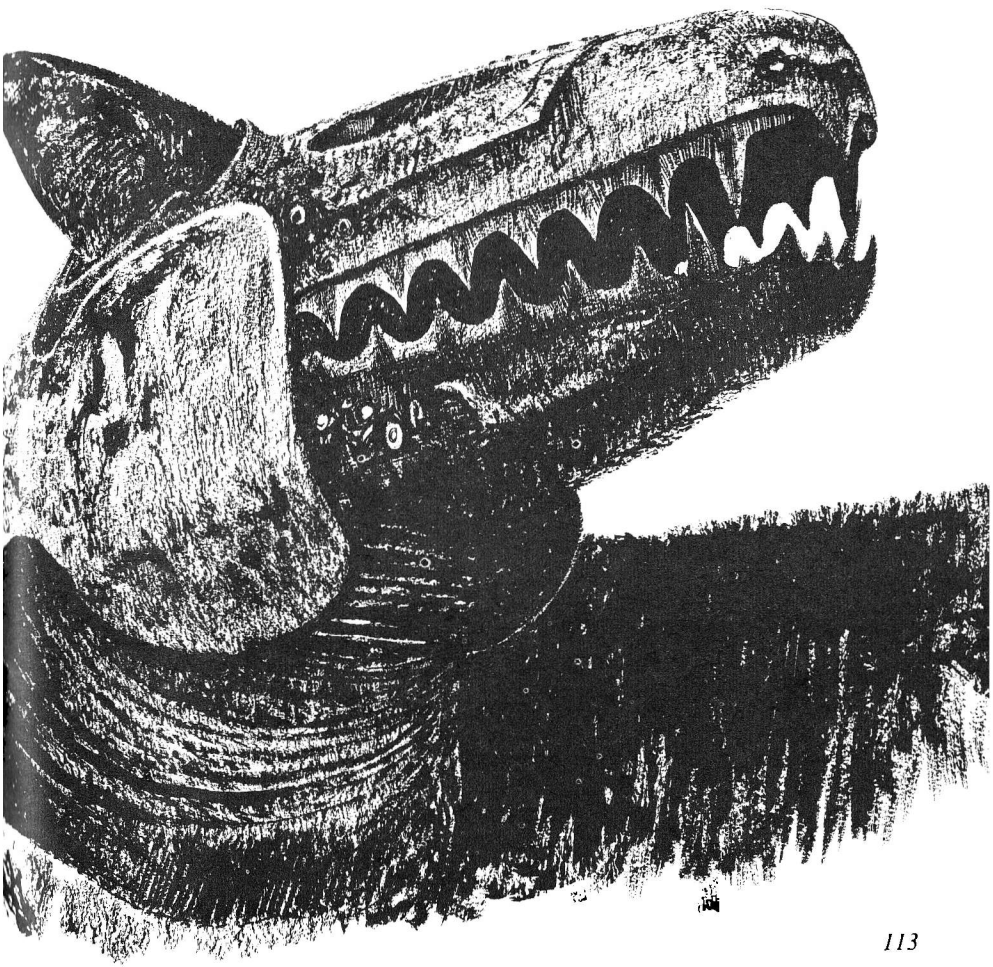
"Monsters," said the census taker and I could see that he did not want to talk about it.

The shades had stopped their incessant fluttering and were beginning to settle down so that one could see, or at least guess at the shape of them.

"They like you," said the census taker. "They know you're on their side."

"We're not on anyone's side," I told him. "We're just running like hell to keep from getting clipped. Ever since we arrived there has been someone taking potshots at us."





One of the shades had squatted down beside the census taker, shedding, as it did so, some of its nebulous, misty quality and becoming not solid by any means, but a little more solid. One still had a sense of being able to see through them, but the swirly lines had stilled and the outlines were sharper and this squatting thing looked something like a rather arty drawing made upon a blackboard with a piece of chalk.

"If you do not mind," said the arty piece of drawing, "I will introduce myself. My name was one that in the days long ago struck terror on the planet Prairie, which is a strange name for a planet, but easily explained, because it is a very great planet, somewhat larger than the Earth and with land masses that are considerably larger than the areas of the oceans and all that land is flat, with no mountain, and all the land is prairie. There is no winter since the winds blow wild and free and the heat from the planet's sun is equitably distributed over the entire planetary surface. We settlers of Prairie lived in an eternal summer. We were, of course, humans from the planet Earth, our forebears landing on Prairie in their third migration outward into the galaxy, hopping from one planet to another in an attempt to find better living space, and on Prairie we found it—but perhaps not the way you think. We built no great cities, for reasons which I may explain later, but not now, since it would take too long to tell. Rather, we became roaming nomads with our flocks and herds, which is, perhaps, a more satisfactory way of life than any other man has been able to devise. There dwelt upon this planet a native population of most slimy, most ferocious and sneaky devils that refused to cooperate in any way with us and which did their best, in various nefarious ways, to do away with us. I started out, I think, to introduce myself, then forgot to tell my name. It is a good Earth name, for my family and my clan were always very careful to keep alive the heritage of Earth and . . ."

"His name," said the census taker, interrupting, "is Ramsay O'Gillicuddy, which is, in all conscience, a good Earth name. I tell it to you because, if left to him, he'd never manage to get around to it."

"And now," said the shade of Ramsay O'Gillicuddy, since I have been introduced, I'll tell you the story of my life."

"No, you won't," said the census taker. "We haven't got the time. There is much we must discuss."

"Then the story of my death."

"All right," the census taker said, "if you keep it short."

"They caught me," said Ramsay O'Gillicuddy's shade, "and made me a captive, these slimy, greasy natives. I shall not detail the situation which led to this shameful thing, for it would require the explanation of certain circumstances which the census taker infers there is not the time

to tell. But they caught me, anyhow, and then they held a long, deliberate discussion, within my hearing, which I did not at all enjoy, about how best to dispose of me. None of the suggested procedures calculated to bring about my demise were pretty for the prospective victim to hold in contemplation. Nothing simple, you understand, such as a blow upon the head or a cutting of the throat, but all rather long, drawn-out and intricate operations. Finally, after hours of talking back and forth, during which they politely invited my personal reactions to each plan put forward, they decided upon skinning me alive, explaining that they would not really be killing me and that because of this I should bear them no ill will and that if I could manage to survive without my skin they would be glad to let me go. Once they had my skin, they informed me, they intended tanning it to make a drum upon which they could beat out a message of mockery to my clan."

"With all due respect," I said, "with a lady present . . ." but he paid no attention to me.

"After I died," he said, "and my body was found, my clan decided to do a thing that had never been done before. All our honored dead had been buried on the prairie, with the graves unmarked, in the thought that a man could ask no more than to become one with the world that he had trod. Word had come to us some years ago of the Cemetery here on Earth, but we had paid slight attention to it because it was not our way. But now the clan met in council and decided that I should be accorded the honor of sleeping in the soil of Mother Earth. So a large barrel was made to house my poor remains which, pickled in alcohol, was carted to the planet's one poor spaceport where it was stored for many months, awaiting the arrival of a ship, on which it was finally taken to the nearest port where a funeral ship made regular calls."

"You cannot comprehend," said the census taker, "what this decision cost his clan. They are poor people on the planet Prairie and their only wealth is counted in their flocks and herds. It took them many years to build back the livestock that was required for Cemetery to perform its services. It was a noble sacrifice and it's a pity that it came out so sadly. Ramsay, as you may guess, was and still is the only inhabitant of Prairie ever to be buried in Cemetery—not that he was really buried there, not at least in quite the manner that had been intended. The officials of Cemetery, not the present management, but one of many years ago, happened at that time to need an extra casket to hide away certain items of . . ."

"You mean artifacts," I said.

"You know of this?" asked the census taker.

"We suspected it," I said.

"Your suspicions are quite correct," said the census taker, "and our

poor friend here was one of the victims of their treachery and greed. His casket was used for artifacts and what was left of him was thrown into a deep gorge, a natural charnel pit, at the Cemetery's edge and ever since that day his shade has wandered the Earth, as do so many others . . ."

"You tell it well," said O'Gillicuddy, "and in very simple truth."

"You tell it well," I said, "except for one essential point."

"You do not believe the shades? You have doubts of them? You feel put upon?"

"Somewhat put upon," I said. "Ghosts are human folklore, old Earth stories . . ."

"They are more than that," said the census taker.

"How more than that?" I asked.

"Let us for a moment," said the census taker, "take notice of the shortcomings of our understanding. Even of ourselves. Perhaps particularly of ourselves. Let us consider the miracle of life. It is, I think you would agree, a chemical reaction—and the somewhat more complex phenomenon that we are wont to call intelligence may be, as well, a chemical reaction of slightly different stripe. This, of course, is no more than our recognition of a situation and an educated guess as to what may be responsible for setting it in motion. But we have, so far, no inkling of that strange set of circumstances which makes awareness possible, that makes each of us think of himself as I, the mechanism that gives us personal identity and sets each of us apart from the rest of the universe."

"Sure, I agree with all of that," I said, "but what does it have to do with shades?"

"Let us postulate," said the census taker, "a force called life. Let us term it a force because we have no idea what it is. Certainly, it may be the result of certain chemical reactions, but we don't know what it is."

"You're talking utter nonsense," I protested, "and I do not . . ."

"Because you cannot pin it down? We must deny everything because we cannot pin it down? You will have to agree, I think, that there is an unexplainable factor that we call life and that life gives each living thing identity, sharp identity for creatures such as you and I, somewhat less well-defined, let us say, for the protozoa."

"Yes," I said. "I would agree to that."

"Then, let us postulate a little further. When the body dies where does that life force go? To any number of mythical places, perhaps, depending on which religion one embraces. Into a nothingness, say others who admit to no spiritual belief. Both of these viewpoints, I think it only fair to say, are no better than nebulous assumptions. Let us advance another. Under certain circumstances, it would seem to me, the life force, driven from the body by this process we call death, may still linger near. What circum-

stances would bring this about, I do not pretend to know. The character of the individual, perhaps, the manner of his death, some strong emotional drive that existed while the individual still held the force of life . . ."

"But even if such a force existed, it would not be seen."

"Let us say," said the census taker, "that in order to maintain its organization, it should be necessary that it associate itself with energy and that it had the means to do this—that it could trap certain energies, create for itself a field of energy, and that it could, at will, shape these energies into a simulation of its former physical self or into other forms . . ."

"Now just a minute there," I said. "Are you just imagining all of this, or do you know?"

"If I said I knew," said the census taker, "you would not believe me. You would want to argue with me. So why go to the trouble? And furthermore, we have no more time for this. We must now deliberate upon what further action the two of you should take. For once the wolves catch up with your two good friends, they will realize immediately that you are not with them, and since Cemetery cares nothing about the two robots, but only for you . . ."

"They'll come back for us," said Cynthia, sounding scared.

I wasn't too brave about it, either. I did not like the thought of those great metal brutes snapping at our heels.

"How do they follow?" I asked.

"They have a sense of smell," said the census taker. "Not the same kind you humans have, but the ability to pick up and recognize the chemicals of odors. They have sharp sight. They might have trouble if you kept to high and stony ground, where you'd leave little trace and the scent of your passing would not cling. I had feared they might catch the scent of you when they came by a while ago, but you were higher than they were and a kindly updraft of air must have carried the smell away from them."

"They will be following the horses," I said. "The trail will be wide open. They'll travel fast. It may be only a few hours from now when they'll find we're not with the others."

"You'll have a little time," said the census taker. "It's a few hours yet till dawn and you can't start until it's light. You'll have to travel fast and you can carry little with you."

"We'll take food," said Cynthia, "and blankets . . ."

"Not too much food," said the census taker. "Only what you must. You'll find food along the way. You have fishhooks, have you not?"

"Yes, we have a few fishhooks," said Cynthia. "I bought a box of them, almost as an afterthought. But we can't live on fish."

"There are roots and berries."

"But we don't know which roots and berries."

"You do not need to know," said

the census taker. "I know all of them."

"You'll be going with us?"

"We'll be going with you," said the census taker.

"Of course we will," said O'Gillicuddy. "Every one of us. It's little we can do, but we'll be of some slight service. We can watch for followers . . ."

"But ghosts . . ." I said.

"Shades," said O'Gillicuddy.

"But shades are not abroad in daylight."

"That is a human fallacy," said O'Gillicuddy. "We cannot, of course, be seen in daylight. But neither can we be at night if it is not our wish."

The other shades made mutters of agreement.

"We'll make up our packs," said Cynthia, "and leave all the rest behind. Elmer and Bronco will come looking for us here. We'll leave a note for them. We'll pin it to one of the packs, where they'll be sure to see it."

"We'll have to tell them where we're heading," I said. "Does anyone have any idea where we'll be going?"

"Into the mountains," said the census taker.

"Do you know a river," Cynthia asked, "that is called the Ohio?"

"I know it very well," said the census taker. "Do you want to go to the Ohio?"

"Now, look here," I said, "we can't go chasing . . ."

"Why not?" asked Cynthia. "If we're going somewhere we might as well go where we wish to go . . ."

"But I thought we agreed . . ."

"I know," said Cynthia. "You made it very plain. Your composition has first claim and I suppose it will still have to have it. But you can make it anywhere, can't you?"

"Certainly. Within reason."

"All right," said Cynthia. "We'll head toward the Ohio. If that is all right with you," she said to the census taker.

"It's all right with me," he said. "We'll have to cross the mountains to reach the river. I hope we can lose the wolves somewhere in the mountains. But if I may inquire . . ."

"It's a long story," I told him, curtly. "We can tell you later."

"Have you ever heard," asked Cynthia, "of an immortal man who lives a hermit's life?"

She never let go of anything once she got her claws in it.

"I think I have," said the census taker. "Very long ago. I suspect it was a myth. Earth had so many myths."

"But not any longer," I said.

He shook his head, rather sadly. "No longer. All Earth's myths are dead."

XIV

The sky had clouded over and the wind had shifted to the north, growing cold and sharp. Despite the chill, there was a stranger, wet smell in the air. The pine trees that grew along the slope threshed and moaned.

The census taker clumped on ahead, with Cynthia behind him and myself bringing up the rear. We had covered a lot of ground since dawn, although how long we had been walking I had no way of knowing. The sun was covered by the clouds and my watch had stopped and there was no way to know the time of day.

There was no sign of the ghosts, although I had the queasy feeling they were not far away. And the census taker troubled me as much as the invisible ghosts, for seen in the daylight he was a most disturbing thing. Seen face to face, he was not human unless one should regard a rag doll as being human. For his face was a rag-doll face, with a pinched mouth that was slightly askew, eyes that gave the impression of a cross-stitch and no nose or chin at all. His face ran straight down into his neck without an intervening jaw and the cowl and robe that I had taken for clothing, when one had a close look at him, seemed a part of his grotesque body. If it had not seemed so improbable, one would have been convinced that they were his body. Whether he had feet I didn't know, for the robe (or body) came down so close to the ground that his feet were covered. He moved as if he had feet, but there was no sign of them and I found myself wondering, if he had no feet, how he managed to move along so well. Move he did. He set a brisk pace, bobbling along ahead of us. It was all that we could do to keep up with him.

He had not spoken since we had started, but had simply led the way, with the two of us following and neither of us speaking, either, for at the pace that we were going we didn't have the breath to speak.

The way was wild, an unbroken wilderness with no sign that it ever had been occupied by man, as it surely must have been at one time. We followed the ridgetops for miles, at times descending from them to cross a small valley, then climb a series of hills again to follow other ridgetops. From the ridges we could see vast stretches of the countryside, but nowhere was there a clearing. We found no ruins, saw no crumbling chimneys, ran across no ancient fence rows. Down in the valleys the woods stood thick and heavy; on the ridgetops the trees thinned out to some extent. It was a rocky land; huge boulders lay strewn all about and great gray outcroppings of rock jutted from the hillsides. There was a little life. A few birds flew chirping among the trees and occasionally there were small life forms I recognized as rabbits and squirrels, but they were not plentiful.

We had stopped briefly to drink from shallow streams that ran through the valleys we had crossed, but the stops had been only momentary, long enough to lie flat upon our bellies and gulp a few mouthfuls of water, while the census taker (who did not seem to need to drink) waited impatiently, and then we hurried on.

Now, for the first time since we had set out, we halted. The ridge we had been traveling rose to a high point and then sloped down for a distance and on this high point lay a scattered jumble of barn-size rocks, grouped together in a rather haphazard fashion, as if some ancient giant had held a fistful of them and had been playing with them, as a boy will play with marbles, but having gotten tired of them, had dropped them here, where they had remained. Stunted pine trees grew among them, clutching for desperate footholds with twisted, groping roots.

The census taker, who was a few yards ahead of us, scrambled up a path when he reached the jumble of rocks, disappearing into them. We followed where he'd gone and found him crouched in a pocket formed by the massive stones. It was a place protected from the bitter wind, but open in the direction we had come so that we could see back along our trail.

He motioned for us to join him.

"We shall rest for a little time," he said. "Perhaps you'd like to eat. But no fire. Perhaps a fire tonight. We'll see."

I didn't want to eat. I simply wanted to sit down and never move again.

"Maybe we should keep on," said Cynthia. "They may be after us."

She didn't look as if she wanted to keep on. She looked worn down to a nubbin.

The prissy little mouth in the ragdoll face said, "They have not returned to the cave as yet."

"How do you know?" I asked.

"The shades," he said. "They would let me know. I haven't heard from them."

"Maybe they've run out on us," I said.

He shook his head. "They would not do that," he said. "Where is there to run to?"

"I don't know," I said. I couldn't, for the life of me, imagine where a ghost might run to.

Cynthia sat down wearily and leaned back against the side of a massive boulder that towered far above her. "In that case," she said, "we can afford a rest."

She had slid her pack off her shoulder before sitting down. Now she pulled it over to her, unstrapped it and rummaged around inside of it. She took something out of it and handed it to me. There were three or four strips of hard and brittle stuff, red shading into black.

"What is this junk?" I asked.

"That junk," she said, "is jerky. Desiccated meat. You break off a chunk of it and put it in your mouth and chew it. You'll find it is very nourishing."

She offered a few sticks to the census taker, but he pushed it away. "I ingest food very sparingly," he said.

I unshipped my pack and sat down beside her. I broke off a chunk of jerky and put it in my mouth. It felt like a piece of cardboard, only

harder and perhaps not quite as tasty.

I sat there and chewed very gingerly and stared back along the way we'd come and thought what a far cry Earth was from our gentle world of Alden. I don't think that in that moment I quite regretted leaving Alden, but I was not too far from it. I recalled that I had read of Earth and dreamed of it and yearned for it, and so help me, here it was. I admitted to myself that I was no woodsman and that while I could appreciate a piece of woodland beauty as well as any man, that I was not equipped, either physically or temperamentally, to take on the sort of primitive world Earth had turned out to be. This was not the sort of thing I'd bargained for and I didn't like it, but under the circumstances there wasn't much I could do about it.

Cynthia was busy chewing too, but now she stopped to ask a question. "Are we heading toward the Ohio?"

"Oh, yes, indeed," said the census taker, "but we're still some distance from it."

"And the immortal hermit?"

"I know naught," said the census taker, "of an immortal hermit. Except some stories of him. And there are many stories."

"Monster stories?" I asked.

"I do not understand."

"You said that once there were monsters and implied the wolves were used against them. I have wondered ever since."

"It was a very long time ago."

"But they once were here."

"Yes, once."

"Genetic monsters?"

"This word you use . . ."

"Look," I said, "ten thousand years ago this planet was a radioactive hell. Many life forms died. Many of those that lived had genetic damage."

"I do not know," he said.

The hell you don't, I told myself. And the suspicion swiftly crossed my mind that the reason he did not want to know was that he, himself, was one of those genetic monsters and was well aware of it. I wondered dully why I had not thought of it before.

I kept at him. "Why should Cemetery care about the monsters? Why was it necessary to fabricate the wolves to hunt them down? I suppose that is what the wolves were used for."

"Yes," he said. "Thousands of them. Great packs of them. They were programmed to hunt down monsters."

"Not humans," I said. "Only monsters."

"That is right. Only the monsters."

"I suppose there might have been times they made mistakes, when they hunted humans as well as monsters. It would be hard to program robots that hunted only monsters."

"There were mistakes," the census taker said.

"And I don't suppose," said Cynthia, bitterly, "that Cemetery

cared too much. When something of the sort did occur, they didn't really mind."

"I would not know," said the census taker.

"What I don't understand," said Cynthia, "is why they should have done it. What difference did a few monsters make?"

"There were not a few of them."

"Well, then, a lot of them."

"I think," said the census taker, "that it might have been the pilgrim business. Once Cemetery had gotten off to a solid start, the pilgrim business grew until it represented a fair piece of revenue. And you could not have a pack of howling monsters come tearing down the land when pilgrims were around. It would have scared them off. The word would have spread and there would have been fewer pilgrims."

"Oh, lovely," Cynthia said. "A program of genocide. I suppose the monsters have been fairly well wiped out."

"Yes," said the census taker, "fairly well disposed of."

"With a few showing up," I said, "only now and then."

His cross-stitch eyes crinkled at me and I wished I hadn't said it. I don't know what was wrong with me. Here we were, depending on this little jerk to help us and I was needling him.

I cut out the talking and went back to chewing jerky. It had softened up a bit and had a salty-smoky taste and even if it wasn't supplying too much nourishment, it still gave me the impression that I was eating something.

We sat there chewing, the two of us, while the census taker just sat, not doing anything.

I looked around at Cynthia. "How are you getting on?" I asked.

"I'll do all right," she said, a little sharply.

"I'm sorry it turned out this way," I said. "It is not what I had in mind."

"Of course it's not," she said. "You thought of it as a polite little jaunt to a romantic planet, made romantic by what you'd read of it and imagined of it and . . ."

"I came here to make a composition," I said, considerably nettled at her, "not to play hide and seek with bomb throwers and grave robbers and a pack of robot wolves."

"And you're blaming me for it. If I hadn't been along, if I hadn't foisted myself off on you . . ."

"Hell, no," I said. "I never thought of that."

"But even if you did," she said, "it would be all right, for you'd be doing it for good old Thorney . . ."

"Cut it out," I shouted at her, really burned up now. "What's got into you? What's this all about?"

Before she could answer the census taker got to his feet (that is, if he had feet); at any rate, he rose.

"It is time to go again," he said. "You've had rest and nourishment and now we must push on."

The wind had become sharper and colder. As we moved out of the shelter of the nest of boulders and faced the barren ridgetop, it struck us like

a knife and the first few drops of driven rain spattered in our faces.

We pushed ahead—pushing against the rain, leaning into it. It was as if a great hand had been placed against us and tried to hold us back. It didn't seem to bother the census taker much; he skipped on ahead without any trouble. The funny thing about it was that the wind seemed to have no effect at all upon his robe; it didn't flutter, it never even stirred, it stayed just the way it was, hanging to the ground.

I would have liked to call this to Cynthia's attention, but when I tried to yell at her, the buffeting wind blew the words back into my mouth.

From below us came the moaning of the forest trees, bending in the gale. Birds tried to fly and were whipped about the sky. The cloud cover seemed to become thicker by the minute, although so far as I could see, there were no moving clouds. The rain came in sudden gusts, icy cold, hard against the face.

We trudged on, miserably. I lost all track of everything. I kept my eyes on Cynthia's plodding figure as she moved on ahead of me. Once she stumbled and without a word I helped her up. Without a word, she resumed the march.

Now the rain came down without a letup, driven by the wind. At intervals it turned to ice and rattled in the branches of the trees. Then it would turn to rain again and the rain, it seemed to me, was colder than the ice.

We walked forever and then I found that we were no longer on a ridge, but were slanting down a slope. We reached a creek and found a narrow place where we could jump across it and started clambering up the opposite slope. Suddenly the ground leveled off beneath my feet and I heard the census taker saying, "This is far enough."

As soon as I heard those words I let my legs buckle under me and sat down on solid rock. For a moment I paid no attention to where we were. It was quite enough that there was no longer any need to move. But gradually I became aware of what was going on.

We had stopped, I saw, on a broad, flat shelf of rock that extended out in front of a huge rock shelter. The roof of the shelter, some thirty feet or more above the shelf, flared back to form a deep niche in the face of a jutting cliff. The slab of rock extending out from the cliff ran back into the shelter, forming a level floor of stone. A few feet downward from the shelf, the creek flowed down the valley, forming little pools and rapids, pinching down, then broadening out, a little mountain stream that was in a hurry, foaming in the rapids and then resting in the pools before it took another plunge. Beyond the stream the hill rose steeply to the ridgetop along which we'd come.

"Here we are," said the census taker in a happy, chirpy voice. "Snug against the night and weather. We

will build a fire and catch some trout out of the stream and wish the wolf ill luck in his trailing."

"The wolf?" said Cynthia. "There were three wolves to start with. What happened to the other two?"

"I have intelligence," said the census taker, "that but one remains. It seems the others met with awkward accidents."

XV

Beyond the shelter's mouth the storm raged in the night. The fire gave light and warmth and our clothes at last were dry and there had been, as the census taker had said, fish to be gotten in the brook, beautiful speckled trout that had made a welcome break from the gook we had been eating out of cans, and a vast improvement over jerky.

We were not the first to use the shelter. Our fire had been built on a blackened circle on the stone, where the fires of earlier years (although how long ago there was no way of knowing) had chipped and flaked the surface of the rock. Along the broad expanse of stone were several other similarly blackened areas, half camouflaged by a scattering of blown autumn leaves.

In a pile of leaves, wedged and caught far back in the rocky cleft, where the roof plunged down to meet the floor, Cynthia had found another evidence of human occupancy—a metal rod some four feet long, an inch in diameter, and touched only here and there with rust.

I sat beside the fire, staring at the flames, thinking back along the trail and trying to figure out how such well-laid plans as ours could have gone so utterly astray. The answer was, of course, that Cemetery had been responsible, although perhaps not responsible for our meeting with the band of grave robbers. We had simply stumbled onto them.

I tried to figure exactly where we stood and it seemed, as I thought about it, we did not stand well at all. We had been harried from the settlement and we had been split up and Cynthia and I had fallen into the hands of an enigmatic being that might be little better than a madman.

Now there was the wolf—one wolf, if what the census taker said was right. There was no doubt in my mind what had happened to the other two. They had caught up with Elmer and the Bronco and that had been a great mistake for them. But while Elmer had been dismantling two of them, the third one had escaped and probably even now was upon our trail—if there were a trail to follow. We had gone along high, barren ridges, with a strong wind blowing to wipe away our scent. Now, with the breaking of the storm, there might be no trail at all to follow.

"Fletch," said Cynthia, "what are you thinking of?"

"I am wondering," I said, "where

Elmer and Bronco might be at this moment."

"They're on their way back to the cave," she said. "They will find the note."

"Sure," I said, "the note. A lot of good the note will do. We are traveling northwest, it said. If you don't catch up with us before we reach there, you'll find us on the Ohio River. Do you realize how much land may lie northwest before you reach the river and how big that river is?"

"It was the best that we could do," she said, rather angrily.

"We shall, in the morning," said the census taker, "build a fire, high upon a ridge, to make a signal. We will guide them to us."

"Them," I said, "and everyone else in sight, perhaps even including the wolf. Or is it still three wolves?"

"It is only one," said the census taker, "and one wolf would not be so brave. Wolves are brave only when in packs."

"I don't think," I said, "I would care to meet even one, lone, cowardly wolf."

"There are few of them now," said the census taker. "They have not been loosed to hunt for years. The long years of confinement may have taken a lot of the sharpness from them."

"What I want to know," I said, "is how it took Cemetery so long to send them out against us. They could have turned them loose the minute that we left."

"Undoubtedly," said the census taker, "they had to send for them. I don't know where they are kept, but doubtless at some distance."

The wind went whooping down the valley that lay in front of us and a sheet of rain came hissing into the mouth of the cave to spatter on the rock just beyond the fire.

"Where are all your pals?" I asked. "Where are all the shades?"

"On a night like this," said the census taker, "they have far-ranging business."

I didn't ask what kind of business. I didn't want to know.

"I don't know about the rest of you," said Cynthia, "but I'm going to roll up in my blanket and try to get some sleep."

"The both of you might as well," said the census taker. "It has been a long, hard day. I will keep the watch. I almost never sleep."

"You never sleep," I said, "and you almost never eat. The wind doesn't blow that robe of yours. Just what the hell are you?"

He didn't answer. I knew he wouldn't answer.

The last thing that I saw before I went to sleep was the census taker sitting a short distance from the fire, a rigid upright figure that had a strange resemblance to a cone resting on its base.

I woke cold. The fire had gone out and beyond the mouth of the cave dawn was breaking. The storm had stopped and what I could see of the sky was clear.

And there, on the rock shelf that extended out in front of the cave, sat a metal wolf. He was hunkered on his haunches and he was looking straight at me and from his steel jaws dangled the limp form of a rabbit.

I sat up rapidly, the blanket falling from me, putting out my hand to find a stick of firewood, although what good a stick of wood would have been against such a monster I had no idea. But in grasping for the stick, I found something else. I wasn't looking where I was reaching out because I didn't dare take my eyes off the wolf. But when my fingers touched it, I knew what I had—the four-foot metal rod that Cynthia had unearthed from beneath the pile of leaves. I wrapped my fingers around it with something like a prayer of thankfulness and got carefully to my feet, gripping the rod so hard that the grip was painful.

The wolf made no move toward me; it just stayed sitting there, with that silly rabbit hanging from its jaws. I had forgotten that it had a tail, but now its tail began to beat, very gently, very slowly upon the slab of rock, for all the world like the tail-beating of a dog that was glad to see someone.

I looked around quickly. The census taker was nowhere to be seen, but Cynthia was sitting upright in her blanket and her eyes were the size of saucers. She didn't notice that I was looking at her; she had her eyes fastened on the wolf.

I took a step sidewise to get around the fire and as I did I lifted the metal rod to a ready position. If I could get in just one lucky lick, I thought, upon the ugly head when it came at me, I stood at least some chance.

But the wolf didn't come at me. It just stayed sitting there and when I took another step it keeled over on its back and stayed there, with all four feet sticking in the air, and now its tail beat a wild tattoo upon the stone, the sound of the metal beating on the stone ringing in the morning silence.

"It wants to be friendly," Cynthia said. "I think it is asking you not to hit it."

I took another step.

"And look," said that silly Cynthia, "it has brought a rabbit for us."

I lowered the rod and kept it low and now the wolf turned over on its belly and began creeping toward me. I stood and waited for it. When it got close enough, it dropped the rabbit at my feet.

"Pick it up," said Cynthia.

"Pick it up," I said, "and it will take off my arm."

"Pick it up," she said. "It has brought the rabbit to you. It has given it to you."

So I stooped and picked up that crazy rabbit and the moment that I did the wolf leaped up with a wriggling joy and rubbed against my legs so hard it almost tipped me over.

TO BE CONCLUDED

LEO SUMMERS

P.R.D. and the Antareans

A cold war is bad enough when you're a participant. But when you're caught in the middle you have to be extremely clever to get out untouched.

MIRIAM ALLEN deFORD

Everybody knows that the Antarean explorers (it is unrealistic to call them invaders) in 2251 departed suddenly, rescuing us from catastrophe induced by the rivalry between their two factions. But how and why that happened has always been shrouded in mystery.

Now at last the whole remarkable story has come to light. Dr. Ayesha Kiamil's house in Copenhagen was being torn down to build a hydrofoil innerbase, when her secret diary was discovered in a niche built inside one of the walls. The code in which it was written was deciphered by an international committee of cryptographers, who then entrusted to the present editor the job of constructing a microbook from its relevant contents. Both interpreters kept their promise of silence. (There still remains one mystery, as will be seen, but World Government is pledged to keep it so. It will never be revealed unless—Science forbid—a similar danger should again be upon us.)

Dr. Kiamil, though born and partly educated in Turkey, obtained her higher degrees at Heidelberg, the Sorbonne, Oxford, and finally at M.I.T. In 2246 she was appointed full professor (and head of the department) of genetic chemistry at the newly established Scandinavian University, which has its main campus in Copenhagen, with branches in Stockholm, Oslo, and Helsinki. She died, full of honors, in 2309, a triumph for her own discoveries in promoting longevity.

This article consists of excerpts from the diary released by the committee. It begins with the crucial date of February 30 (new calendar), 2251.

February 30. Most of my colleagues are interested only in their own specialties. I suppose I must be a throwback to the era of generalized "natural science," for every aspect of scientific discovery rivets my attention. Of course, it is quite impossible to keep up with the details of any except one's own field—and difficult enough to do that—but nevertheless I can't help noticing and wondering about all sorts of scientific occurrences completely removed from genetic chemistry.

For example, I have recently been intrigued by the revelation that in the three hundred years they have been studied, there have never been so many UFO reports as in the past year. The UFO's are still unexplained, and I should say that informed opinion is about evenly divided between those who consider them either hallucination, simple-minded confused observation, or

classified experimentation, and those who sincerely believe them to be of extraterrestrial origin. It is unfortunate that, though we have explored our own solar system so thoroughly, we still lack the ability to go beyond it to other systems of our galaxy.

I am inclined toward the extraterrestrial explanation—and yet in all this time we have had no authentic experiences of verified landing—nothing but the silly fantasies of bemused psychodims. But the fact remains that for the past month hardly a day has gone by without one or more of the things appearing in the sky all over the world. I wonder if we are not on the verge of a major event in human history.

March 2. I must have the gift of prophecy without realizing it! It is only two days since I wrote the above paragraph—and now we know!

The Antareans (our own tentative name for them) have landed in force in Newyork, North America. What is going to happen next is everybody's guess and most people's terror. I cannot share that terror; though so far we have been unable to communicate (we know their home planet from the maps etched on metal plates which they have shown us), they seem entirely friendly, and luckily World Government has taken over and cooled any incipient panic or hostility on our part. The important thing now is to find some means of talking to one another. They are at least humanoid, and I should say entirely human, in their physical make-up—which is a vindication of those who have always claimed that given the same planetary conditions and the same beginnings of life, evolution into higher forms will also be essentially the same. Their chief unlikeness to us is in their thick blue skin, probably an accommodation to their planetary climate.

March 5. We are communicating! Not by the outworn theory of telepathy or ESP, but thanks to a mutation which has appeared sporadically only during the past half century or so. We have found at least half a dozen young men and women in various parts of the world who by some benign change in the cerebral synapses are able to learn to understand and speak any language almost immediately. WG has searched for and rounded up one of these mutants in Newyork and he is now acting as interpreter. From the published and video'd reports the—visitors, shall I call them?—seem delighted by his arrival.

March 6. The first reports have come out. It appears that they are not invading us in any hostile sense, but just exploring, impelled by scientific curiosity, the way we have explored the uninhabited planets of our own solar system for the past two hundred and fifty years or more. But, after centuries of scouting, ours was

the first planet they had *landed* on outside their system, and they are bursting with pride and vainglory. It seems that our visitors represent one faction or nation or whatever it is of their home planet—Antares IV, we figure—whereas most of the UFO's we'd been spotting for hundreds of years belonged to another faction, their long-time enemies. Now they'd beaten the other crowd to it, and barumph barray zip boom rah! It all sounds like two hundred years ago here on Earth, when the North Americans and the Russians were racing each other to be first to Mars. We all know, unhappily, what happened then, and what followed after. Where is Peru now? Where is Portugal?

So, since they had landed in Newyork, naturally they were *their* heroes, whatever World Government might think, and the North Americans cheered lustily for "their" side. For half an hour. Then Worldvid, which has been 'casting the great news planetwide, announced that another group of Antareans—*the* other group—had landed in Moscow. And now both sides are claiming to have got here first, splitting hairs over the meaning of time zones.

This is ridiculous! It has become obvious that though neither group is hostile to us, neither considers us of any importance. What they are after is each other, and if open warfare breaks out between them, we shall be merely the battlefield, destined to be trodden underfoot and crushed, just as the bystander nations got it in the neck in the fight over national priority in the first successful Mars landing.

Both these outfits would have means of sending home for reinforcements (or summoning ships already in our atmosphere), and probably they possess weapons beyond anything we have on Earth. If a terrestrial holocaust is to be avoided, somebody has to do something, fast. Well, it's not in my field, so I guess I'd better go back to my own work. This sensational happening has played hob with my laboratory program; I can't get any of my assistants to think of anything but the Antareans. I'm having the same trouble with my graduate seminars.

Surely I have enough problems of my own to keep me busy. I still can't decide what to do about P.R.D. (Very convenient, these concealing acronyms.) So far I am the only person on Earth who has made that particular discovery, or is likely to make it in the near future—or so I devoutly hope.

Shall I reveal it? And to whom, or to what body or organization? To the World Federation of Scientists? To World Government? Or shall I destroy the formula and forget it? I must decide.

March 7. Despite what I wrote here yesterday, when I went to bed last night I couldn't sleep for worrying over what is going to happen to us if this dispute between the two

Antarean factions explodes into actual warfare. Thank Fate, at least our own national hostilities here on Earth are over, and we can plan and function as a planetary unit. But even though we and the U.S.S.R. and China are cooperating our heads off now in W.G., no national government is going to be happy at having its prerogatives taken over by a foreign country which merely happens to possess a mutant interpreter. (Of course, another of the language-mutants was immediately found in the U.S.S.R. and dispatched to Moscow.) Yet, by the time we could get our principals to listen to us, I'm absolutely sure we would be too late. We all know how long it takes W.G. to *act.*

Oh, if there were only something I myself could do! I was lamenting about this to dear Lars last night, and even he was unable to console me.*

March 8. There is! It came to me in a blinding flash. It's risky, it's dangerous, it might mean the end of me as well as of my work. I can't confide in anyone. But it might just conceivably work, and so I must try it.

I just said I couldn't confide in anyone. But I can: I can tell anything to this diary that no one will ever decipher, and it will help me to get the details clear.

The vital thing is to convince each faction that I am acting in its best interest, giving it the means of victory altruistically, not making up a story only to protect ourselves here on Earth.

I know that both deMoiesset and U Kim of W.G. would insist on time-consuming debates, which is why I couldn't just turn the whole thing over to them and let them handle it. But if I can come up with proof of a *fait accompli* the bigdomes in W.G. wouldn't have lost face and they could accept it gratefully. I don't even have to appear in it officially; if I can put it over I'd be only too glad to remain anonymous.

The Antareans know as well as we do that if their antagonism does become violent, as it threatens to do any minute, we poor Earthdwellers will be trampled upon with no more consideration than a herd of stampeding animals in the days of old would have had for the grass they rampaged over. They will understand, therefore, why I should make such an offer to them. What I pin my hope to is that they *must* be highly civilized, or they wouldn't have been able to get here in the first place, so they should be able to understand that cultures are uneven and that in some matters we may be their superiors and therefore worth listening to. What scares me is that they may be highly advanced only technically, and as retarded socially and psychologically as we were in the Chaotic Years.

And of course they won't be able to follow my advice at all if

*One of the few references in the diary to Dr. Kiamil's private life.

their sexual system is not like ours.

Nevertheless, I must make the attempt.

Briefly, what I'm hoping to establish, single-handedly, is an extraterrestrial extension of the reasoning that brought peace and amity under W.G. after the short but dreadful Demonstrative War that followed the race between North America and the U.S.S.R. for a manned landing on Mars. Russia won that race (I think North America acknowledges it now, however grudgingly) and North America disputed it bitterly, coming as it did right on the heels of Russia. The Demonstrative War followed. That was the last straw for the rest of the world, either partisan or neutral. They got together, they stepped in, and by a brilliant diplomatic coup they ended the controversy. We have today's peaceful, democratic world as a result.

But, that was done by slow-moving diplomacy, and we have no time for that now. It will have to be by the threat of P.R.D.

But how?

The first problem will be means of communication. But that, I think, can be solved. My Nobel Prize and other distinctions have made my name known. The names of the two interpreters have been made public, and though neither of them was ever a student of mine, I am sure, if I can reach them quickly by short-wave vid, that they will cooperate. It's a good thing after all that my discovery of P.R.D. (though not, of course, the formula or even its exact nature) has been publicized, so that I shall have a lever to move them to instant participation. But I shall have to be wise as a serpent and harmless as a dove, to quote an ancient religious microbook I once read!

March 9. Both interpreters have met with the two factions and transmitted their first messages; the Newyork man, a North American, is named Blair, the Moscow one, a Russian, is named Gerasov. The two statements were almost identical in tone. They said that the aliens' intentions toward us were purely amicable, that they had meant to visit, explore, and return home with their findings. But now their "worst enemies," who had also dispatched an exploratory force, had zeroed onto the same planet, and had "the unmitigated nerve to claim that they got here first, whereas you can testify that *we* did. So until they are confronted and suppressed, we shall have to hold our ground." They didn't add "and call for armed reinforcements," but that's what they meant, and we Earthians know it.

Needless to say, both interpreters hinted, superior as they may be in many ways to us, like all large groups of people, both sides include the usual complement of hardrock old-timers, ditherers, and plain nitwits.

Fortunately, protocol obliges them to act, both in Newyork and in Moscow, under the rules of World Gov-

ernment's National Sovereignty Pact. In other words, all the interpreter, instructed by W.G., could say was that any confrontation between the two groups of extraterrestrials would have to be arranged in a neutral place, under W.G. auspices. Naturally, they agreed. They chose as the place Reykjavik, in Iceland, and the time will be the day after tomorrow. Their planet must have a colder climate than ours (as I said, their skin color indicates this), for even early spring seems to make them uncomfortable, and they considered only the most northerly sites offered them.

I got this news early this morning, and know now I have a full day to get my plan activated. I have put in a call at once to both interpreters.

March 10. It is working so far, though I confess I am scared. If they find out too soon what I have done (supposing either faction is still on Earth), they will certainly avenge themselves on me—which could at the very least mean the destruction of my lifework, and perhaps of my life itself. But I have cast the die. I leave in an hour for Moscow, which is nearer to Copenhagen. Then (granting I am successful there) I transjet immediately to Newyork.

March 11. It is all over except the denouement. I shall try to relate it in sequence so that I never lose memory of the details. Already enough has leaked out so that I am being approached by publishers and video producers. I even have a title for a talk I hope to expand into a microbook—"The Threat Was Ended." Science grant I am justified!

The response was almost the same in both places. In Moscow, accompanied by Gerasov, as soon as their morning conference was over I hurried after the delegates, who were on their way back to their ship. Gerasov had fixed on one of them to tackle first, who had struck him as being the most pacific and domish of them. Tipped off by the interpreter, I squirmed down to the crouching position which they insist on as a polite greeting, and through Gerasov said, "If I might have a word with you, much honored sir—" (They're extremely formal.) He looked at me inquiringly and I murmured, "Some slight information this insignificant barbarian happens to have run across might possibly be of assistance to your compatriots during your confrontation with your opponents." The delegate signaled to the rest of them to wait and stepped with me into a little side alcove in the hall where they had been meeting.

I put on all the *vox humana* stops and announced: "If you would graciously grant me a short private session with all of you before you leave for Iceland, I believe I can communicate a means of invalidating the claims of the blowhards from the other side of your planet."

"Your spokesman intones our sacred tongue atrociously, barbarian,"

he said coldly, "but you have both observed etiquette and he has endeavored to serve properly as interpreter. Stay here and I shall speak to my colleagues. If they care to hear what you wish to say, you may come with us now and talk to them."

So we were allowed (as nobody has been before) to enter one of their ships (though only the first chamber beyond the air lock) and they gathered around us. I think I was plain lucky; Gerasov had just happened to latch on to the member of their delegation whose opinion they most respect. They were about as friendly as a judge would be with a defendant's shyster attorney, but they listened.

With necessary emendations and much groveling, I told them about my discovery of the P.R.D. effect, and assured them that it applied equally to laboratory animals and to us Earthian humans—and undoubtedly would apply to the Antareans as well.

I then averred that if they agreed, I had enough influence with W.G. to persuade it to reveal the Kiamil Formula (that is, P.R.D.) to their faction, which we had concluded was the right one. They would then be free to apply it to their opponents, though probably the mere threat would be sufficient to make their enemies capitulate.

We thereupon bowed ourselves out, leaving them to their discussion, and I took a transjet at once for Newyork, arriving there during their afternoon session. The procedure there was almost an exact echo of that in Moscow, though our initial contact was very skeptical and delayed decision for an hour. I said good-bye to Blair and hurried back to Copenhagen. Now, in the early evening, I am waiting, my heart in my mouth, for whatever happens next.

March 12. By all the powers of space, so far I've won!

I have convinced both sides—not unanimously, but sufficiently so that today, when the enemies confronted each other in their first formal meeting in Iceland, each had been supplied with and had swallowed the carefully angled story I had given them—and the consequence was that (after much heated argument and many moments of peril, and also plenty of toplofty deprecation of any connection between us poor Earth-dwellers and their own independent decisions), they agreed to discuss the situation in this new light. (Of course, each side merely hinted that it had a new exclusive weapon against the other.) At W.G.'s suggestion, they admitted both Blair and Gerasov and allowed them to vid the proceedings at the conclusion of each session.

Meanwhile I vidded both de-Moiesset and U Kim, told them my story, and secured (after their outraged indignation at my having implicated W.G. had subsided) their promise of cooperation and secrecy.

And then came the crucial point.

As soon as there was a break in the meeting I vidded each side separately and stated that W.G., on my plea, would reveal the terrible formula to the *other* side, instead of the one I had approached before, unless they came to a settlement which would spare Earth. In other words, I double-crossed them both.

Both factions must have realized simultaneously that I had deceived them and that they were at my mercy. They needed no more—though to save face both sides blustered that it was all barbarian nonsense, and swore they would punish me for having dared to insult them by my puerile bluff. So I am a sitting duck—but I am ready for any doom if it will save the rest of us.

March 13. How much "nonsense" they really thought it to be came out today. Both parties have broken off their conference, returned to their ships, and have left Earth! We are saved. If they want to fight each other on Antares IV or elsewhere, it's O.K. with us.

And best of all, instead of being excoriated or tried for planetary treason, I was notified this afternoon

that I am to receive the medal and ribbon of the Order of World Benefactors, first class!

March 14. Looking back (and still shaking, though it is all over), I can see that I *had* to win—they simply didn't dare to take a chance. The one thing no humans or humanoids anywhere could endure would be letting P.R.D. loose upon them. In the history of our own planet, and undoubtedly of the Antareans' also, each advance in military dreadfulness has been hailed as so terrible that it would be a complete deterrent—and each has failed. But now at last the real and inescapable deterrent has been found.

They must have contemplated frantic attempts to duplicate my discovery and use it by one faction against the other. But there was no time to experiment. Both factions knew what P.R.D. would do, and both were threatened by Earth.

The initial discovery, as I have said, had been accidental, though I understood its meaning at once. W.G. is paying a big life pension to my unfortunate young assistant who suffered when his scalpel slipped from a rat and cut his finger. It is possible that someday P.R.D. will be rediscovered here on Earth, but only a madman would use it, and today madmen are almost unknown and would never be in a position to take advantage of such a discovery. None of my assistants could copy it. Aside from my faith in their responsibility and loyalty, they know the effect, but not the formula itself.

Once I knew that the Antareans were constituted essentially like us, I had my weapon, my lever. Today W.G. has the formula in its vaults. U Kim and deMoiesset have secured a unanimous vote never to unseal and use it except in the same peril—may we always escape it!—of planetwide disaster.

If anyone but myself were ever going to read this diary (or at least this portion of it) this whole affair would have to remain clouded in darkness forever—for nobody on Earth but myself knows exactly what P.R.D. is and how it does what it does. The formula was deposited already sealed in a government vault.

But just for my own gratification, and as a relief from my terrible psychological tension in the past two weeks, let me put the formula here in my own private, and I hope and believe, untranslatable, code. It is: [CENSORED]

And the reason the Antareans dared not risk having P.R.D. inflicted upon them?

It is not necessary that it enter the body directly, as it did that of my poor assistant. A minute portion, released into the atmosphere of any section of a planet (or let us say the atmosphere of an Antarean ship) will, within a few days, equip any male mammal who breathes it with a forty-two inch bust and a steatopygous behind.

And they will be permanent. ■

Some partnerships are brought about my chance, some by force, some by mutual consent. Some partnerships need to be broken up, for the good of the partners. But then there are certain kinds of partners that cannot be separated.

F. PAUL WILSON

PARD

The orbital survey had indicated this clearing as the probable site of the crash, but long-range observation had turned up no signs of wreckage. Steven Dalt was doing no better at close range. Something had landed here with tremendous impact not too long ago: there was a deep furrow, a few of the trees were charred, and the grass had not yet been able to fully cover the earth-scar. So far, so good. But where was the wreckage? He had made a careful search of the trees around the clearing and there was nothing of interest there. It was obvious now that there would be no quick, easy solution to the problem as he had originally hoped, so he started the half-kilometer trek back to his concealed shuttlecraft.

Topping a leafy rise, he heard a shout off to his left and turned to see a small party of mounted colonists, Tependians by their garb. The oddity of the sight struck him. They were well inside the Duchy of Bendelema and that shouldn't be: Bendelema and Tependia had been at war for generations. Dalt shrugged and started walking again. He'd been away for years, and it was very possible that something could have happened in that time to soften relations between the two duchies. Change was the rule on a splinter world.

One of the colonists pointed an unwieldy apparatus at Dalt and something went *thip* past his head. Dalt went into a crouch and ran to his right. There had been at least one change since his departure: someone had reinvented the crossbow.

The hooves of the Tependian mounts thudded in pursuit as he raced down the slope into a dank, twilit grotto, and Dalt redoubled his speed as he realized how simple it would be for his pursuers to surround and trap him in this sunken area. He had to gain the high ground

on the other side before he was encircled. Halfway up the far slope, he was halted by the sound of hooves ahead of him. They had succeeded in cutting him off.

Dalt turned and made his way carefully down the slope. If he could just keep out of sight, they might think he had escaped the ring they had thrown around the grotto. Then, when it got dark—

A bolt smashed against a stone by his foot. "There he is!" someone cried and Dalt was on the run again.

He began to weigh the situation in his mind. If he kept on running, they were bound to keep on shooting at him and one of them just might put a bolt through him. If he stopped running, he might have a chance. They might let him off with his life. Then he remembered that he was dressed in serf's clothing and serfs who ran from anyone in uniform were usually put to the sword. Dalt kept running.

Another bolt flashed by, this one ripping some bark off a nearby tree. They were closing in—they were obviously experienced at this sort of work—and it wouldn't be long before Dalt was trapped at the lowest point of the grotto with nowhere else to go.

Then he saw the cave mouth, a wide, low arch of darkness just above him on the slope. It was about a meter and a half high at its central point. With a shower of crossbow bolts raining around him, Dalt quickly ducked inside.

It wasn't much of a cave. In the dark and dampness Dalt soon found that it rapidly narrowed to a tunnel too slender for his shoulders to pass. There was nothing else for him to do but stay as far back as possible and hope for the best . . . which wasn't much no matter how he looked at it. If his pursuers didn't feel like coming in to drag him out, they could just sit back and fill the cave with bolts. Sooner or later one would have to strike him. Dalt peered out the opening to see which it would be.

But his five pursuers were doing nothing. They sat astride their mounts and stared dumbly at the cave mouth. One of the party unstrung his crossbow and began to strap it to his back. Dalt had no time to wonder at their behavior for in that instant he realized that he had made a fatal error. He was in a cave on Kwashi and there was hardly a cave on Kwashi that didn't have its own colony of alarets.

He jumped into a crouch and sprinted for the outside. He'd gladly take his chances against crossbows rather than alarets any day. But a warm furry oval fell from the cave ceiling and landed on his head as he began to move. As his ears roared and his vision turned orange and green and yellow, Dalt screamed in agony and fell to the cave floor.

Hearing that scream, the five Tependian scouts shook their heads and turned and rode away.

It was dark when he awoke and he was cold and alone . . . and alive.

That last part surprised him when he remembered his situation and he lost no time in crawling out of the cave and into the clean air under the open stars. Hestitantly, he reached up and peeled off the shrunken, desiccated remains of one dead alaret from his scalp. He marveled at the thing in his hand. Nowhere in the history of Kwashi, neither in the records of its long-extinct native race nor in the memory of anyone in its degenerated splinter colony, had there ever been mention of someone surviving the attack of an alaret.

The original splinter colonists had found artifacts of an ancient native race soon after their arrival. The culture had reached pre-industrial levels before it was unaccountably wiped out; a natural cataclysm of some sort was given the blame. But among the artifacts were found some samples of symbolic writing, and one of these samples—evidently aimed at the children of the race—strongly warned against the entering of any cave. Creatures described as the *killing-things-on-the-ceilings-of-caves* would attack anything that entered. The writing warned: "Of every thousand struck down, nine hundred and ninety-nine will die."

William Alaret, a settler with some zoological training, had heard the translation and decided to find out just what it was all about. He went into the first cave he could find and emerged seconds later, screaming and clawing at the furry little thing on his head. He became the first of many fatalities attributed to the *killing-things-on-the-ceilings-of-caves* which were named "alarets" in his honor.

Dalt threw the alaret husk aside, got his bearings and headed for his hidden shuttlecraft. He anticipated little trouble this time. No scouting party, if any were abroad at this hour, would be likely to spot him, and Kwashi had few large carnivores.

The ship was as he had left it. He lifted slowly to fifty thousand meters and then cut in the orbital thrust. That was when he first heard the voice.

(Hello, Steve.)

If it hadn't been for the G-forces against him at that moment, Dalt would have leaped out of his chair in surprise.

(This pressure is quite uncomfortable, isn't it?) the voice said and Dalt realized that it was coming from inside his head. The thrust automatically cut off as orbit was reached and his stomach gave its familiar free-fall lurch.

(Ah! This is much better.)

"What's going on?" Dalt cried aloud as he glanced frantically about. "Is this someone's idea of a joke?"

(No joke, Steve. I'm what's left of the alaret that landed on your head back in that cave. You're quite lucky, you know. Mutual death is the result—most of the time, at least—whenever a creature of high-level intelligence is a target for pairing.)

I'm going crazy! Dalt thought.

(No, you're not, at least not yet. But it is a possibility if you don't sit back and relax and accept what's happened to you.)

Dalt leaned back and rested his eyes on the growing metal sphere that was the Star Ways Corporation mother ship on the forward viewer. The glowing signal on the console indicated that the bigger ship had him in traction and was reeling him in.

"O.K., then. Just what *has* happened to me?" He felt a little ridiculous speaking out loud in an empty cabin.

(Well, to put it in a nutshell: you've got yourself a roommate, Steve. From now on, you and I will be sharing your body.)

"In other words, I've been invaded!"

(That's a loaded term, Steve, and not quite accurate. I'm not really taking anything from you except some of your privacy and that shouldn't really matter since the two of us will be so intimately associated.)

"And just what gives you the right to invade my mind?" Dalt asked quickly, then added: "*And* my privacy?"

(Nothing gives me the right to do so, but there are extenuating circumstances. You see, a few hours ago I was a furry, lichen-eating cave slug with no intelligence to speak of—)

"For a slug you have a pretty good command of the language!" Dalt interrupted.

(No better and no worse than yours, for I derive whatever intelligence I have from you. You see, we alarets, as you call us, invade the nervous system of any creature of sufficient size that comes near enough. It's an instinct with us. If the creature is a dog, then we wind up with the intelligence of a dog—that particular *dog. If it's a human and if he survives as you have done, the invading alaret finds himself possessing a very high degree of intelligence.)*

"You said 'invade' just then."

(Just an innocent slip, I assure you. I have no intention of taking over. That would be quite immoral.)

Dalt laughed grimly. "What would an ex-slug know about morality?"

(With the aid of your faculties I can reason now, can I not? And if I can reason, why can't I arrive at a moral code? This is your body and I am here only because of blind instinct. I have the ability to take control—not without a struggle, of course—but it would be immoral to attempt to do so. I couldn't vacate your mind if I wanted to, so you're stuck with me, Steve. Might as well make the best of it.)

"We'll see how 'stuck' I am when I get back to the ship," Dalt muttered. "But I'd like to know how you got into my brain."

(I'm not exactly sure of that myself. I know the path I followed to penetrate your skull—if you had the anatomical vocabulary I could describe it to you, but my vocabulary is your vocabulary and yours is very limited in that area.)

"What do you expect? I was educated in cultural studies, not medicine!"

(It's not important anyway. I remember almost nothing of my existence before entering your skull, for it wasn't until then that I first became truly aware.)

Dalt glanced at the console and straightened up in his seat. "Well, whatever you are, go away for now. I'm ready to dock and I don't want to be distracted."

(Gladly. You have a most fascinating organism and I have much exploring to do before I become fully acquainted with it. So long for now, Steve. It's nice knowing you.)

A thought drifted through Dalt's head. *If I'm going nuts, at least I'm not doing it half-heartedly!*

Barre was there to meet him at the dock. "No luck, Steve?"

Dalt shook his head and was about to add a comment when he noticed Barre staring at him with a strange expression.

"What's the matter?"

"You won't believe me if I tell you," Barre replied. He took Dalt's arm and led him into a nearby men's room and stood him in front of a mirror.

Dalt saw what he expected to see: a tall, muscular man in the garb of a Kwashi serf. Tanned face, short, glossy black hair . . . Dalt suddenly flexed his neck to get a better look at the top of his head. Tufts of hair were missing in a roughly oval patch on his scalp. He ran his hand over it and a light rain of black hair showered past his eyes. With successive strokes, the oval patch became completely denuded and a shiny expanse of scalp reflected the ceiling lights into the mirror.

"Well, I'll be damned! A bald spot!"

(Don't worry, Steve,) said the voice in his head, *(the roots aren't dead. The hair will grow back.)*

"It damn well better!" Dalt said aloud.

"It damn well better what?" Barre asked puzzledly.

"Nothing," Dalt replied. "Something dropped onto my head in a cave down there and it looks like it's given me a bald spot." He realized then that he would have to be very careful about talking to his invader, otherwise, even if he really wasn't crazy, he'd soon have everyone on the ship believing he was.

"Maybe you'd better see the doc," Barre suggested.

"I intend to, believe me. But first I've got to report to Clarkson. I'm sure he's waiting."

"You can bet on it." Barre had been a research head on the brain project and was well acquainted with Dirval Clarkson's notorious impatience.

The pair walked briskly toward Clarkson's office. The rotation of the huge spherical ship gave the effect of 1-G; movement for all the personnel aboard would have been a major task without the artificial gravity.

"Hi, Jean," Dalt said with a smile as he and Barre entered the anteroom of Clarkson's office. Jean was Clarkson's secretary and she and Dalt had entertained each other on the trip out . . . the more interesting games had been played during the sleep-time hours.

She returned his smile. "Glad you're back in one piece." Dalt realized that from her seated position she couldn't see the bald spot. Just as well for the moment. He'd explain it to her later.

Jean spoke into the intercom. "Mr. Dalt is here."

"Well, send him in!" squawked a voice. "Send him in!"

Dalt grinned and pushed through the door to Clarkson's office with Barre trailing behind. A huge, graying man leaped from behind a desk and stalked forward at a precarious angle.

"Dalt! Where the hell have you been? You were supposed to go down, take a look and then come back up. You could have done the procedure three times in the period you took. And what happened to your head?" Clarkson's speech was in its usual rapid-fire form.

"Well, this—"

"Never mind that now! What's the story? I can tell right now that you didn't find anything because Barre is with you. If you'd found the brain he'd be off in some corner now nursing it like a misplaced infant! Well, tell me! How does it look?"

Dalt hesitated, not quite sure as to whether the barrage had come to an end. "It doesn't look good," he said finally.

"And why not?"

"Because I couldn't find a trace of the ship itself. Oh, there's evidence of some sort of craft having been there a while back, but it must have gotten off-planet again because there's not a trace of wreckage to be found."

Clarkson looked puzzled. "Not even a trace?"

"Nothing."

The project director pondered this a moment, then shrugged. "We'll have to figure that one out later. But right now you should know that we picked up another signal from the brain's life-support system while you were off on your joyride—"

"It wasn't a joyride," Dalt declared. A few moments with Clarkson always managed to rub his nerves raw. "I ran into a pack of unfriendly locals and had to hide in a cave."

"Be that as it may," Clarkson said, returning to his desk chair, "we're now certain that the brain, or what's left of it, is on Kwashi."

"Yes, but where on Kwashi? It's not exactly an asteroid, you know."

"We've almost pinpointed its location," Barre broke in excitedly. "Very close to the site you inspected."

"It's in Bendelema, I hope," Dalt said.

"Why?" Clarkson asked.

"Because when I was on cultural survey down there I posed as a soldier of fortune—a mercenary of sorts—and Duke Kile of Bendelema was a former employer. I'm known and liked in Bendelema. I'm not at all popular in Tependia because they're the ones I fought against. I repeat: It's in Bendelema, I hope."

Clarkson nodded. "It's in Bendelema, all right."

"Good!" Dalt exhaled with relief. "That makes everything much simpler. I've got an identity in Bendelema: Racso the Mercenary. At least that's a starting place."

"And you'll start tomorrow," Clarkson said. "We've wasted too much time as it is. If we don't get that prototype back and start coming up with some pretty good reasons for the malfunction, Star Ways might just cancel the project. There's a lot riding on you, Dalt. Remember that."

Dalt turned toward the door. "Who'll let me forget?" he remarked with a grim smile. "I'll check in with you before I leave."

"Good enough," Clarkson said with a curt nod, then turned to Barre. "Hold on a minute, Barre. I want to go over a few things with you." Dalt gladly closed the door on the pair.

"It's almost lunch time," said a feminine voice behind him. "How about it?"

In a single motion, Dalt spun, leaned over Jean's desk and gave her a peck on the lips. "Sorry, can't. It may be noon to all of you on ship-time, but it's some hellish hour of the morning to me. I've got to drop in on the doc, then I've just got to get some sleep."

But Jean wasn't listening. Instead, she was staring fixedly at the bald spot on Dalt's head. "Steve!" she cried. "What happened?"

Dalt straightened up abruptly. "Nothing much. Something landed on it while I was below and the hair fell out. It'll grow back, don't worry."

"I'm not worried about that," she said, standing up and trying to get another look. But Dalt kept his head high. "Did it hurt?"

"Not at all. Look, I hate to run off like this, but I've got to get some sleep. I'm going back down tomorrow."

Her face fell. "So soon?"

"I'm afraid so. Why don't we make it for dinner tonight. I'll drop by your room and we'll go from there. The cafeteria isn't exactly a restaurant but if we get there late, we can probably have a table all to ourselves."

"And after that?" she asked coyly.

"I'll be damned if we're going to spend my last night on ship for who-knows-how-long in the vid theater!"

Jean smiled. "I was hoping you'd say that."

(What odd physiological rumblings that female stirs in you!) the voice said as Dalt walked down the corridor to the medical offices. He mo-

mentarily broke stride at the sound of it. He'd almost forgotten that he had company.

"That's none of your business!" he muttered through tight lips.

(I'm afraid much of what you do is my business. I'm not directly connected with you emotionally, but physically . . . what you feel, I feel; what you see, I see; what you taste—)

"O.K.! O.K.!"

(You're holding up rather well, actually. Better than I would have expected.)

"Probably my cultural survey training. They taught me how to keep my reactions under control when faced with an unusual situation."

(Glad to hear it. We may well have a long relationship ahead of us if you don't go the way of most high-order intelligences and suicidally reject me. We can look on your body as a small business and the two of us as partners.)

"Partners!" Dalt said, somewhat louder than he wished. Luckily, the halls were deserted. "This is *my* body!"

(If it will make you happier, I'll revise my analogy: you're the founder of the company and I've just bought my way in. How's that sound, Partner?)

"Lousy!"

(Get used to it,) the voice singsonged.

"Why bother? You won't be in there long. The doc'll see to that!"

(He won't find a thing, Steve.)

"We'll see."

The door to the medical complex swished open when Dalt touched the operating plate and he passed into a tiny waiting room.

"What can we do for you, Mr. Dalt?" the nurse/receptionist said. Dalt was a well-known figure about the ship by now.

He inclined his head toward the woman and pointed to the bald spot. "I want to see the doc about this. I'm going below tomorrow and I want to get this cleared up before I do. So if the doc's got a moment, I'd like to see him."

The nurse smiled. "Right away." At the moment, Dalt was a very important man. He was the only one aboard ship legally allowed on Kwashi. If he thought he needed a doctor, he'd have one.

A man in the traditional white medical coat poked his head through one of the three doors leading from the waiting room in answer to the nurse's buzz.

"What is it, Lorraine?" he asked.

"Mr. Dalt would like to see you, Doctor."

He glanced at Dalt. "Of course. Come in, Mr. Dalt. I'm Dr. Graves." The doctor showed him into a small, book and microfilm-lined office. "Have a seat, will you? I'll be with you in a minute."

Graves exited by another door and Dalt was alone . . . almost.

(He has quite an extensive library here, doesn't he?) said the voice. Dalt glanced at the shelves and noticed printed texts that must have been

holdovers from the doctor's student days to microfilm spools of the latest clinical developments. *(You would do me a great service by asking the doctor if you could borrow some of his more basic texts.)*

"What for? I thought you knew all about me."

(I know quite a bit now, it's true, but I'm still learning and I'll need a vocabulary to explain things to you now and then.)

"Forget it. You're not going to be around that long."

Dr. Graves entered then. "Now. What seems to be the problem, Mr. Dalt?"

Dalt explained the incident in the cave. "Legend has it—and colonial experience seems to confirm it—that 'of every thousand struck down, nine hundred and ninety-nine will die.' I was floored by an alaret but I'm still kicking and I'd like to know why."

(I believe I've already explained that by luck of a random constitutional factor, your nervous system didn't reject me.)

Shut up! Dalt mentally snarled.

The doctor shrugged. "I don't see the problem. You're alive and all you've got to show for your encounter is a bald spot, and even that will disappear—it's bristly already. I can't tell you why you're alive because I don't know how these alarets kill their victims. As far as I know, no one's done any research on them. So why don't you just forget about it and stay out of caves."

"It's not that simple, Doc." Dalt spoke carefully. He'd have to phrase things just right; if he came right out and told the truth, he'd sound like a flaming schiz. "I have this feeling that something seeped into my scalp, maybe even into my head. I feel this thickness there." Dalt noticed the slightest narrowing of the doctor's gaze. "I'm not crazy," he said hurriedly. "You've got to admit that the alaret did something up there—the bald spot proves it. Couldn't you make a few tests or something? Just to ease my mind."

The doctor nodded. He was satisfied that Dalt's fears had sufficient basis in reality and the section-eight gleam left his eyes. He led Dalt into the adjoining room and placed a cubical helmet-like apparatus over his head. A click, a buzz and the helmet was removed. Dr. Graves pulled out two small transparencies and shoved them into a viewer. The screen came to life with two views of the inside of Dalt's skull: a lateral and an anterior-posterior.

"Nothing to worry about," he said after a moment of study. "I 'scoped you for your own peace of mind. Take a look."

Dalt looked, even though he didn't know what he was looking for.

(I told you so,) said the voice. *(I'm thoroughly integrated with your nervous system.)*

"Well, thanks for your trouble, Doc. I guess I've really got nothing to worry about," Dalt lied.

"Nothing at all. Just consider yourself lucky to be alive if those

alarets are as deadly as you say."

(Ask him for the books!) the voice said.

I'm going to sleep as soon as I leave here. You won't get a chance to read them, Dalt thought.

(You let me worry about that. Just get the books for me.)

Why should I do you any favors? Dalt asked.

(Because I'll see to it that you have one difficult time of getting to sleep. I'll keep repeating "Get the books, get the books, get the books" until you finally do it.)

I believe you would!

(You can count on it.)

"Doc," Dalt said, "would you mind lending me a few of your books?"

"Like what?"

"Oh, anatomy and physiology to start."

Dr. Graves walked into the other room and took two large, frayed volumes from the shelves. "What do you want 'em for?"

"Nothing much," Dalt said, taking the books and tucking them under his arm. "Just want to look up a few things."

"Well, just don't forget where you got them. And don't let that incident with the alaret become an obsession with you," the doc said meaningfully.

Dalt smiled. "I've already banished it from my mind."

(That's a laugh!)

Dalt wasted no time in reaching his quarters after leaving the medical offices. He was on the bed before the door could slide back into the closed position. Putting the medical books on the night table, he buried his face in the pillow and immediately dropped off to sleep.

He awoke five hours later feeling completely refreshed except for his eyes. They felt hot, burning.

(You may return those books any time you wish,) the voice said.

"Lost interest already?" Dalt yawned, stretching as he lay on the bed.

(In a way, yes. I read them while you were asleep.)

"How the hell did you do that?"

(Quite simple, really. While your mind was sleeping, I used your eyes and your hands to read. I digested the information and stored it away in your brain. By the way, there's an awful lot of wasted space in the human brain. You're not living up to anywhere near your potential, Steve. Neither is any other member of your race, I gather.)

"What right have you got to pull something like that with my body?" Dalt said angrily. He sat up and rubbed his eyes.

(Our body, you mean.)

Dalt ignored that. "No wonder my eyes are burning! I've been reading when I could have been—*should* have been—sleeping!"

(Don't get excited. You got your sleep and I built up my vocabulary. You're fully rested so what's your complaint? By the way, I can now tell you how I entered your head. I seeped into your pores and then into your

scalp capillaries which I followed into your parietal emissary veins. These flow through the parietal foramina in your skull and empty into the superior sagittal sinus. From there it was easy to infiltrate your central nervous system.)

Dalt opened his mouth to say that he really didn't care when he realized that he understood exactly what the voice was saying. He had a clear picture of the described path floating through his mind.

"How come I know what you're talking about? I seem to understand but I don't remember ever hearing those terms before . . . and then again, I do. It's weird."

(It must seem rather odd,) the voice concurred. *(What has happened is that I've made my new knowledge available to you. The result is you experience the fruits of the learning process without having gone through it. You know facts without remembering having learned them.)*

"Well," Dalt said, rising to his feet, "at least you're not a complete parasite."

(I resent that! We're partners . . . a symbiosis!)

"I suppose you may come in handy now and then," Dalt sighed.

(I already have.)

"What's that supposed to mean?"

(I found a small neoplasm in your lung—middle lobe on the right. It might well have become malignant.)

"Then let's get back to the doc before it metastasizes!" Dalt said and idly realized that a few hours ago he would have been worrying about "spread" rather than "metastasis."

(There's no need to worry, Steve. I killed it off.)

"How'd you do that?"

(I just worked through your sympathetic nervous system and selectively cut off the blood supply to that particular group of cells.)

"Well, thanks, Partner."

(No thanks necessary, I assure you. I did it for my own good as well as yours—I don't relish the idea of walking around in a cancer-ridden body any more than you do!)

Dalt removed his serf clothing in silence. The enormity of what had happened in that cave on Kwashi struck him now with full force. He had a built-in medical watchdog who would keep everything running smoothly. He smiled grimly as he donned ship clothes and suspended from his neck the glowing prismatic gem that he had first worn as Racso and had continued to wear after his cultural survey assignment on Kwashi had been terminated. He'd have his health but he'd lost his privacy forever. He wondered if it was worth it.

(One other thing, Steve,) said the voice. *(I've accelerated the growth of your hair in the bald spot to maximum.)*

Dalt put up a hand and felt a thick fuzz where before there had been only bare scalp. "Hey! You're right! It's really coming in!" He went to the mirror to take a look. "Oh, no!"

(Sorry about that, Steve. I couldn't see it so I wasn't aware there had been a color change. I'm afraid there's nothing I can do about that.)

Dalt stared in dismay at the patch of silvery gray in the center of his otherwise inky hair. "I look like a freak!"

(You can always dye it.)

Dalt made a disgusted noise.

(I have a few questions, Steve,) the voice said in a hasty attempt to change the subject.

"What about?"

(About why you're going down to that planet tomorrow.)

"I'm going because I was once a member of the Federation cultural survey team on Kwashi and because the Star Ways Corporation lost an experimental pilot brain down there. They got permission from the Federation to retrieve the brain only on the condition that a cultural survey man do the actual retrieving."

(That's not what I meant. I want to know what's so important about the brain, just how much of a brain it actually is, and so on.)

"There's an easy way to find out," Dalt said, heading for the door. "We'll just go to the ship's library."

The library was near the hub of the ship and completely computer operated. Dalt closed himself away in one of the tiny viewer booths and pushed his I.D. card into the awaiting slot.

The flat, dull tones of the computer's voice came from a hidden speaker.

"What do you wish, Mr. Dalt?"

"I might as well go the route: let me see everything on the brain project."

Four micro spools slid down a tiny chute and landed in the receptacle in front of Dalt. "I'm sorry, Mr. Dalt," said the computer, "but this is all your present status allows."

(That should be enough, Steve. Feed them into the viewer.)

The story that unraveled from the spools was one of biological and economic daring. Star Ways was fast achieving what amounted to a monopoly of the interstellar warp unit market and from there was expanding to peristellar drive. But unlike the typical established corporation, Star Ways was pouring money into basic research. One of the prime areas of research was the development of a use for cultured human neural tissue. And James Barre had found a use that held great economic potential.

The prime expense of interstellar commercial travel, whether freight or passenger, was the crew. Good spacers were a select lot and hard to come by; running a ship took a lot of them. There had been many attempts to replace crews with computers, but these had invariably failed due either to mass/volume problems or overwhelming maintenance costs. Barre's development of an "artificial" brain—by that he meant structured *in vitro*—seemed to hold an answer, at least for cargo ships.

After much trial and error with life-support systems and control linkages, a working prototype had finally been developed. A few short hops had been tried with a full crew standing by and the results had been more than anyone had hoped for. So the prototype was prepared for a long interstellar journey with five scheduled stops—with cargo holds empty, of course. The run had gone quite well until the ship got into the Kwashi area. A single technician had been sent along to insure that nothing went too far awry and, according to his story, he had been sitting in the ship's library when it suddenly came out of warp with the emergency/abandon ship signals blaring. He wasted no time in getting to a lifeboat and ejecting. The ship made a beeline for Kwashi and disappeared, presumably in a crash. That had been eight months ago.

No more information was available without special clearance.

"Well, that was a waste of time," Dalt said.

"Are you addressing me, Mr. Dalt?" the computer asked.

"No."

(There certainly wasn't much new information there,) the voice agreed.

Dalt pulled his card from the slot, thereby cutting the computer off from this particular viewer booth, before answering. Otherwise it would keep butting in.

"The theories now stand at either malfunction or foul play."

(Why foul play?)

"The spacers' guild, for one," Dalt said, standing. "Competing companies for another. But since it crashed on a restricted splinter world, I favor the malfunction theory." As he stepped from the booth he glanced at the chronometer on the wall: 1900 hours ship-time. Jean would be waiting.

The cafeteria was nearly deserted when he arrived with Jean and the pair found an isolated table in a far corner.

"I really don't think you should dye your hair at all," Jean was saying as they placed their trays on the table and sat down. "I think that gray patch looks cute in a distinguished sort of way . . . or do I mean distinguished in a cute sort of way?"

Dalt took the ribbing in good-natured silence.

"Steve!" she said suddenly. "How come you're eating with your left hand? I've never seen you do that before."

Dalt looked down. His fork was firmly grasped in his left hand. "That's strange," he said. "I didn't even realize it."

(I integrated a few circuits, so to speak, while you were asleep,) the voice said. *(It seemed rather ridiculous to favor one limb over another. You're now ambidextrous.)*

Thanks for telling me, Partner!

(Sorry. I forgot.)

Dalt switched the fork to his right hand and Jean switched the topic of conversation.

"You know, Steve," she said, "you've never told me why you quit the cultural survey group."

Dalt paused before answering. After the fall of Metep VII, last in a long line of self-styled "Emperors of the Outworlds," a new independent spirit gave rise to a loose organization of worlds called simply "the Federation."

"As you know," he said finally, "the Federation started the cultural surveys in order to start bringing splinter worlds—willing ones, that is—back into the fold. But it was found that an appalling number had regressed into barbarism. So the cultural surveys were started to evaluate splinter worlds and decide which could be trusted with modern technology. There was another rule which I didn't fully appreciate back then but have come to believe in since, and that's where the trouble began."

"What rule was that?"

"It's not put down anywhere in so many words, but it runs to the effect that if any splinter world culture has started developing on a path at variance with the rest of humanity, it is to be left alone."

"Sounds like they were making cultural test tubes out of some planets," Jean said.

"Exactly what I thought, but it never bothered me until I surveyed a planet that must, for now, remain nameless. The inhabitants had been developing a psi culture through selective breeding and were actually developing a tangential society. In my report I strongly recommended admission to the Fed; I thought we could learn as much from them as they from us."

"But it was turned down, I bet," Jean concluded.

Dalt nodded. "I had quite a row with my superiors, but they held firm and I stalked out in a rage and quit."

"Maybe they thought you were too easy on the planet."

"They knew better. I had no qualms about proscribing Kwashi, for instance. No, their reason was fear that the psi society was not mature enough to be exposed to galactic civilization, that it would be swallowed up. They wanted to give it another century or two. I thought that was unfair but was powerless to do anything about it."

Jean eyed him with a penetrating gaze. "I notice you've been using the past tense. Change your mind since then?"

"Definitely. I've come to see that there's a very basic, very definite philosophy behind everything the Federation does. It not only wants to preserve human diversity, it wants to see it stretched to the limit. Man was an almost completely homogenized species before he began colonizing the stars; interstellar travel arrived just in time. Old Earth is still a good example of what I mean; long ago the Eastern and Western Alliances fused—something no one ever thought would happen—and Earth is just one big faceless, self-perpetu-

ating bureaucracy. The populace is equally faceless.

"But the man who left for the stars—he's another creature altogether! Once he got away from the press of other people, once he stopped seeing what everybody else saw, hearing what everybody else heard, he began to become an individual again and to strike out in directions of his own choosing. The splinter groups carried this out to an extreme and many failed. But a few survived and the Federation wants to let the successful ones go as far as they can, both for their own sake and for the sake of all mankind. Who knows? *Homo superior* may one day be born on a splinter world."

They took their time strolling back to Dalt's quarters. Once inside, Dalt glanced in the mirror and ran his hand through the gray patch in his hair. "It's still there," he muttered in mock disappointment.

He turned back to Jean and she was already more than half undressed. "You weren't gone all that long, Steve," she said in a low voice, "but I missed you—really missed you."

It was mutual.

She was gone when he awakened the next morning but a little note on the night table wished him good luck.

(You should have prepared me for such a sensory jolt,) said the voice. *(I was taken quite by surprise last night.)*

"Oh, it's you again," Dalt groaned. "I pushed you completely out of my mind last night, otherwise I'd have been impotent, no doubt."

(I hooked into your sensory input—very stimulating.)

Dalt experienced helpless annoyance. He would have to get used to his partner's presence at the most intimate moments, but how many people could make love knowing there's a peeping tom at the window with a completely unobstructed view?

(What are we going to do now?)

"Pard," Dalt drawled, "we're gonna git ready to go below." He went to the closet and pulled from it a worn leather jerkin and a breastplate marked with an empty red circle, the mark of the mercenary. Stiff leather breeches followed, and broadsword and metal helm completed the picture. He then dyed his hair for Racso's sake.

"One more thing," he said and reached up to the far end of the closet shelf. His hand returned clutching an ornate dagger. "This is something new in Racso's armament."

(A dagger?)

"Not just a dagger. It's—"

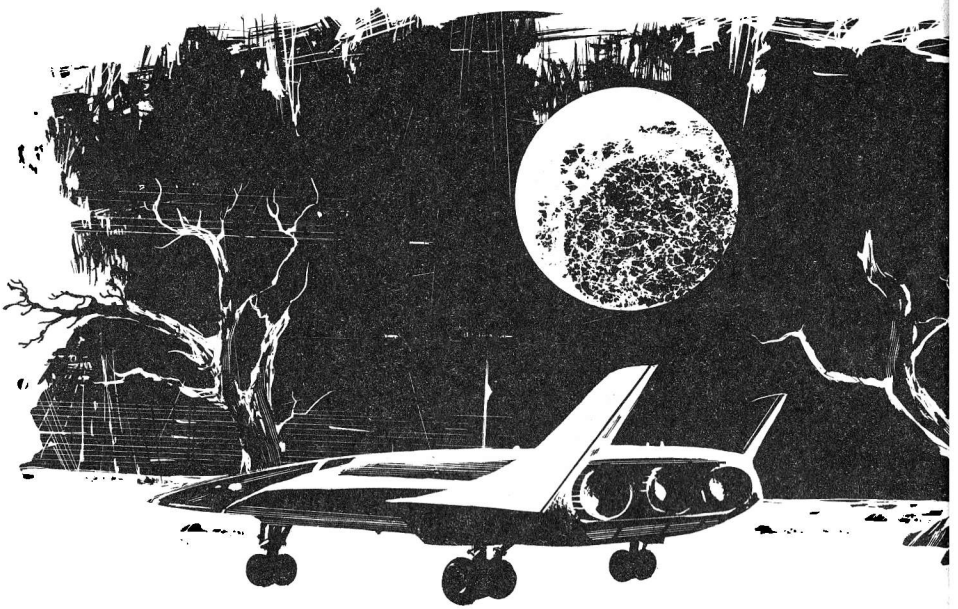
(Oh, yes. It's also a blaster.)

"How did you know?"

We're partners, Steve. What you know, I know. I even know why you had it made.)

"I'm listening."

(Because you're afraid you're not as fast as you used to be. You think your muscles may not have quite the tone



they used to have when you first posed as Racso. And you're not willing to die looking for an artificial brain.)

"Looks like I'll never have a secret again," Dalt sighed.

(Not from me, at least.)

Dalt planned the time of his arrival in Bendelema Duchy for predawn. He concealed the shuttlecraft and was on the road toward the keep as the sky began to lighten. As he walked along in silence, a light saddle slung over his shoulder, he marveled at the full ripe fields of grains and greens to either side of him. Agriculture had always been a hit or miss affair on Kwashi and famines were not uncommon, but it looked as if there would be no famine in Bendelema this year. Even the serfs, already hard at work in the fields, looked well fed.

"What do you think, Pard?" Dalt asked.

(Well, Kwashi hasn't got much of a tilt on its axis. They could be on their way to the second bumper crop of the year.)

"With the available farming methods, two consecutive bumper crops are unheard of on Kwashi. I almost starved here once myself."

VINCENT diFATE

(I know that, but I have no explanation for these plump serfs.)

. The road made a turn around a small wooded area and the Bendelema keep came into view.

"I see their architecture hasn't improved since I left. The keep still looks like a pile of rocks."

(I've been wondering, Steve,) Pard said as they approached the stone structure, *(why is it that so many retrograde splinter worlds turn to feudalism?)*

"Nobody really knows, but the reason could be that feudalism is in essence the law of the jungle. When these colonies first land, education of the children usually takes a back seat to putting food on the table. That's their first mistake and a tragic one, because once they let technology slide, they're on a downhill spiral. Usually by the third generation you have a pretty low technological level; the stops are out, the equalizers are gone and the toughs take over.

"The philosophy of feudalism is one of muscle: mine is what I can take and hold. It's ordered barbarism. That's why feudal worlds such as Kwashi have to be kept out of the Federation—can you imagine a bunch of these yahoos in command of an interstellar dreadnaught? No one's got the time or the money to reeducate them so they just have to be left alone to work out their own little industrial revolution and so forth. When they're ready, the Fed will give them the option of joining up."

"Ho, Mercenary!" someone hailed from the keep gate. "What do you seek in Bendelema?"

"Have I changed that much, Farri?" Dalt answered.

The guard peered at him intensely from the wall, then his face brightened. "Racso! Enter and be welcome! The Duke has need of men of your mettle."

Farri, a swarthy trooper who had gained a few pounds and a few scars since their last meeting, greeted him as he passed through the open gate. "Where's your mount, Racso?" he grinned. "You were never one to walk when you could ride."

"Broke its leg in a ditch more miles back than I care to remember. Had to kill it . . . good steed, too."

"That's a shame. But the Duke'll see that you get a new one."

Dalt's audience with the Duke was disturbingly brief. The lord of the keep had not been as enthusiastic as expected. Dalt couldn't decide whether to put the man's reticence down to distraction with other matters or suspicion. His son Anthon was a different matter, however. He was truly glad to see Racso.

"Come," he said after mutual greetings were over. "We'll put you in the room next to mine upstairs."

"For a mercenary?"

"For my teacher!" Anthon had filled out since Dalt had seen him last. He had spent many hours with the lad passing on the tricks of the

blade he had learned in his own training days. "I've used your training well, Racso!"

"I hope you didn't stop learning when I left," Dalt said.

"Come down to the sparring field and you'll see that I've not been lax in your absence. I'm a match for you now."

He was more than a match. What he lacked in skill and subtlety he made up for with sheer ferocity. Dalt was several times hard pressed to defend himself, but in the general stroke-and-parry, give-and-take exercises of the practice session he studied Anthon. The lad was still the same as he had remembered him on the surface: bold, confident, the Duke's only legitimate son and heir to Bendelema, yet there was a new undercurrent. Anthon had always been brutish and a trifle cruel, perfect qualities for a future feudal lord, but there was now an added note of desperation. Dalt hadn't noticed it before and could think of no reason for its presence now. Anthon's position was secure—what was driving him?

After the workout, Dalt immersed himself in a huge tub of hot water, a habit that had earned him the reputation of being a little bit odd the last time around, and then retired to his quarters where he promptly fell asleep. The morning's long walk carrying the saddle followed by the vigorous swordplay with Anthon had drained him.

He awoke feeling stiff and sore.

(I hope those aching muscles cause you sufficient misery.)

"Why do you say that, Pard?" Dalt asked as he kneaded the muscles in his sword arm.

(Because you weren't ready for a workout like that. The clumsy practicing you did on the ship didn't prepare you for someone like Anthon. It's all right if you want to make yourself sore, but don't forget I feel it, too!)

"Well, just cut off pain sensations. You can do it, can't you?"

(Yes, but that's almost as unpleasant as the aching itself.)

"You'll just have to suffer along with me then. And by the way, you're quiet today. What's up?"

(I've been observing, comparing your past impressions of Bendelema keep with what we see now. Either you're a rotten observer or something's going on here . . . something suspicious or something secret or I don't know what.)

"What do you mean by 'rotten observer'?"

(I mean that either your past observations were inaccurate or Bendelema has changed.)

"In what way?"

(I'm not quite sure as yet but I should know before long. I'm a far more astute observer than you—)

Dalt threw his hands up with a groan. "Not only do I have a live-in busybody, but an arrogant one to boot!"

There was a knock on the door.

"Come in," Dalt said.

The door opened and Anthon entered. He glanced about the room. "You're alone? I thought I heard you talking—"

"A bad habit of mine of late," Dalt explained hastily. "I think out loud."

Anthon shrugged. "The evening meal will soon be served and I've ordered that a place be set for you at my father's table. Come."

As he followed the younger man down a narrow flight of roughhewn steps, Dalt caught the heavy, unmistakable scent of Kwashi wine.

A tall, cadaverous man inclined his head as they passed into the dining hall. "Hello, Strench," Dalt said with a smile. "Still the majordomo, I see."

"As long as His Lordship allows," Strench replied.

The Duke himself entered not far behind them and all present remained standing until His Lordship was seated. Dalt found himself near the head of the table and guessed by the ruffled appearance of a few of the court advisers that they had been pushed a little farther from the seat of power than they liked.

"I must thank His Lordship for the honor of allowing a mercenary to sup at his table," Dalt said after a court official had made the customary toast to Bendelema and the Duke's longevity.

"Nonsense, Racso," the Duke replied. "You served me well against Tependia and you've always taken a wholesome interest in my son. You know you will always find welcome in Bendelema."

Dalt inclined his head.

(Why are you bowing and scraping to this slob?)

Shut up, Pard! It's all part of the act, Dalt told him.

(But don't you realize how many serfs this barbarian oppresses?)

Shut up, self-righteous parasite!

(Symbiote!)

Dalt rose to his feet and lifted his wine cup. "On the subject of your son, I would like to make a toast to the future Duke of Bendelema: Anthon."

With a sudden animal-like cry, Anthon shot to his feet and hurled his cup to the stone floor. Without a word of explanation, he stormed from the room.

The other diners were as puzzled as Dalt. "Perhaps I said the wrong thing . . ."

"I don't know what it could have been," the Duke said, his eyes on the red splotch of spilled wine that seeped across the stones. "But Anthon has been acting rather strange of late."

Dalt sat down and raised his cup to his lips.

(I wouldn't quaff too deeply of that beverage, my sharp-tongued partner.)

And why not? Dalt thought, casually resting his lips on the brim.

(Because I think there's something in your wine that's not in any of the others' and I think we should be careful.)

What makes you suspicious?

(I told you your powers of observation needed sharpening.)

Never mind that! Explain!

(All right. I noticed that your cup was already filled when it was put before you; everyone else's was poured from that brass pitcher.)

That doesn't sound good, Dalt agreed. He started to put the cup down.

(Don't do that! Just wet your lips with a tiny amount and I think I might be able to analyze it by its effect. A small amount shouldn't cause any real harm.)

Dalt did so and waited.

Well, at least they don't mean you any serious harm,) Pard said finally. *(Not yet.)*

What is it?

(An alkaloid, probably from some local root.)

What's it suppose to do to me?

(Put you out of the picture for the rest of the night.)

Dalt pondered this. *I wonder what for?*

(I haven't the faintest. But while they're all still distracted by Anthon's departure, I suggest you pour your wine out on the floor immediately. It will mix with Anthon's and no one will be the wiser. You may then proceed to amaze these yokels with your continuing consciousness.)

I have a better idea, Dalt thought as he poured the wine along the outside of his boot so that it would strike the floor in a smooth silent flow instead of a noisy splash. *I'll wait a few minutes and then pass out. Maybe that way we'll find out what they've got in mind.*

(Sounds risky.)

Nevertheless, that's what we'll do.

Dalt decided to make the most of the time he had left before passing out. "You know," he said, feigning a deep swallow of wine, "I saw a bright light streak across the sky last night. It fell to earth far beyond the horizon. I've heard tales lately of such a light coming to rest in this region; some even say it landed in Bendelema itself. Is this true or merely the mutterings of vassals in their cups?"

The table chatter ceased abruptly. So did all eating and drinking. Every face at the table stared in Dalt's direction.

"Why do you ask this, Racso?" the Duke said. The curtain of suspicion which had seemed to vanish at the beginning of the meal had again been drawn closed between Racso and the Duke.

Dalt decided it was time for his exit. "My only interest, Your Lordship, is in the idle tales I've heard. I . . ." He half rose from his seat and put a hand across his eyes. "I . . ." Carefully, he allowed himself to slide to the floor.

"Carry him upstairs," said the Duke.

"Why don't we put an end to his meddling now, Your Lordship," suggested one of the advisers.

"Because he's a friend of Anthon's and he may well mean us no harm. We will know tomorrow."

With little delicacy and even less regard for his physical well-being, Dalt was carried up to his room and unceremoniously dumped on the bed. The heavy sound of the hardwood door slamming shut was followed by the click of a key in the lock.

Dalt sprang up and checked the door. The key had been taken from the inside and left in the lock after being turned.

(So much for that bright idea,) Pard commented caustically.

"None of your remarks, if you please."

(What do we do, now that we're confined to quarters for the rest of the night?)

"What else?" Dalt said. He kicked off his boots, removed breastplate, jerkin and breeches and hopped into bed.

The door was unlocked the next morning and Dalt made his way downstairs as unobtrusively as possible. Strench's cell-like quarters were just off the kitchen if memory served . . . yes, there it was. And Strench was nowhere about.

(What do you think you're doing?)

I'm doing my best to make sure we don't get stuck up there in that room again tonight, Dalt informed him. His gaze came to rest on the large board where Strench kept all the duplicate keys for the locks of the keep.

(I begin to understand.)

Slow this morning, aren't you?

Dalt took the duplicate key to his room off its hook and replaced it with another similar key from another part of the board. Strench might realize at some time during the day that a key was missing but he'd be looking for the wrong one.

Dalt ran into the majordomo moments later.

"His Lordship wishes to see you, Racso," he said stiffly.

"Where is he?"

"On the North Wall."

(This could be a critical moment.)

"Why do you say that, Pard?" Dalt muttered.

(Remember last night, after you pulled your dramatic collapsing act? The Duke said something about finding out about you today.)

"And you think this could be it?"

(Could be. I'm not sure, of course, but I'm glad you have that dagger in your belt.)

The Duke was alone on the wall and greeted Dalt/Racso as warmly as his aloof manner would permit after the latter apologized for "drinking too much" the night before.

"I'm afraid I have a small confession to make," the Duke said.

"Yes, Your Lordship?"

"I suspected you of treachery when you first arrived." He held up a gloved hand as Dalt opened his mouth to reply. "Don't protest your innocence. I've just heard from a spy in the Tependian court and he says you have not set foot in Tependia since your mysterious disappearance years ago."

Dalt hung his head. "I am grieved, M'lord."

"Can you blame me, Racso? Everyone knows that you hire out to the highest bidder and Tependia has taken an inordinate interest in what goes on in Bendelema lately, even to the extent of sending raiding parties into our territory to carry off some of my vassals."

"Why would they want to do that?"

The Duke puffed up with pride. "Because Bendelema has become a land of plenty. As you know, the last harvest was plentiful everywhere; and, as usual, the present crop is stunted everywhere . . . except in Bendelema." Dalt didn't know that but he nodded anyway. So only Bendelema was having a second bumper crop—that was interesting.

"I suppose you have learned some new farming methods and Tependia wants to steal them," Dalt suggested.

"That and more," the Duke nodded. "We also have new storage methods and new planting methods. When the next famine comes, we shall overcome Tependia not with swords and firebrands, but with food! The starving Tependians will leave their lord and Bendelema will extend its boundaries!"

Dalt was tempted to say that if the Tependians were snatching up vassals and stealing Bendelema's secrets, there just might not be another famine. But the Duke was dreaming of empire and it is not always wise for a mere mercenary to interrupt a duke's dreams of empire. Dalt remained silent as the Duke stared at the horizon he soon hoped to own.

The rest of the day was spent in idle search of rumors and by the dinner hour Dalt was sure of one thing: the ship had crashed or landed in the clearing he had inspected a few days before. More than that was known but the Bendeleman locals were keeping it to themselves—*yes, I saw the light come down; no, I saw nothing else.*

Anthon again offered him a seat at the head table and Dalt accepted. When the Duke was toasted, Dalt took only a tiny sip.

What's the verdict, Pard?

(Same as last night.)

I wonder what this is all about? They don't drug me at lunch or breakfast—why only at dinner?

(Tonight we'll try to find out.)

Since there was no outburst from Anthon this time, Dalt was hard put to find a way to get rid of his drugged wine. He finally decided to feign a collapse again and spill his cup in the process, hoping to hide the fact that he had taken only a few drops.

After slumping forward on the table, he listened intently.

"How long is this to go on, Father? How can we drug him every night without arousing his suspicions?" It was Anthon's voice.

"As long as you insist on quartering him here instead of with the other men at arms!" the Duke replied angrily. "We cannot have him wandering about during the nightly

services. He's an outsider and must not learn of the godling!"

Anthon's voice was sulky. "Very well . . . I'll have him moved out to the barracks tomorrow."

"I'm sorry, Anthon," the Duke said in a milder tone. "I know he's a friend of yours but the godling must come before a mercenary."

(I have a pretty good idea of the nature of this godling,) Pard said as Dalt/Racso was carried upstairs.

The brain? I was thinking that, too. But how would the brain communicate with these people? The prototype wasn't set up for it.

(Why do you drag in communication? Isn't it enough that it came from heaven?)

No. The brain doesn't look godlike in the least. It would have to communicate with the locals before they'd deify it. Otherwise the crash of the ship would be just another fireside tale for the children.

In a rerun of the previous night's events, Dalt was dumped on his bed and the door was locked from the outside. He waited a few long minutes until everything was silent beyond the door, then he poked the duplicate key into the lock. The original was pushed out on the other side and landed on the stone floor with a nightmarishly loud *clang.* But no other sounds followed so Dalt twisted his own key and slinked down the hall to the stairway that overlooked the dining area.

Empty. The plates hadn't even been cleared away.

"Now where'd everybody go?" Dalt muttered.

(Quiet! Hear those voices?)

Dalt moved down the stairs, listening. A muted chanting seemed to fill the chamber. A narrow door stood open to his left and the chanting grew louder as he approached it.

This is it . . . they must have gone through here.

The passage within, hewn from earth and rock, led downward and Dalt followed it. Widely-spaced torches sputtered flickering light against the rough walls and the chanting grew louder as he moved.

Can you make out what they're saying?

(Something about the sacred objects, half of which must be placed in communion with the sun one day and the other half placed in communion with the sun the next day . . . a continuous cycle.)

The chant suddenly ended.

(It appears the litany is over. We had better go back.)

No, we're hiding right here. The brain is no doubt in there and I want to get back to civilization as soon as possible.

Dalt crouched in a shadowed sulcus in the wall and watched as the procession passed, the Duke in the lead carrying some cloth-covered objects held out before him, Anthon sullenly following. The court advisers plucked the torches from the walls as they moved, but Dalt noticed that light still bled from the unexplored end of the passage. He

sidled along the wall toward it after the others had passed.

He was totally unprepared for the sight that greeted his eyes as he entered the terminal alcove.

It was surreal. The vaulted subterranean chamber was strewn with the wreckage of the lost cargo ship. Huge pieces of twisted metal lay stacked against the walls, smaller pieces hung suspended from the ceiling. And foremost and center, nearly indistinguishable from the other junk, sat the silvery life-support apparatus of the brain, as high as a man and twice as broad.

And atop that—the brain, a ball of neural tissue floating in a nutrient bath within a crystalline globe.

(You can't hear him, can you?) Pard said.

"Him? Him who?"

(The brain—it pictures itself as a him—did manage to communicate with the locals. You were right about that.)

"What are you talking about?"

(It's telepathic, Steve, and my presence in your brain seems to have blocked your reception. I sensed a few impulses back in the passage but I wasn't sure until it greeted us.)

"What's it saying?"

(The obvious: it wants to know who we are and what we want.) There was a short pause. *(Oh, oh! I just told it that we're here to take it back to Star Ways and it let out a telepathic emergency call—a loud one. Don't be surprised if we have company in a few minutes.)*

"Great! Now what do we do?" Dalt fingered the dagger in his belt as he pondered the situation. It was already too late to run and he didn't want to have to blast his way out. His eyes rested on the globe.

"Correct me if I'm wrong, Pard, but I seem to remember something about the globe being removable."

(Yes, it can be separated from the life-support system for about two hours with no serious harm to the brain.)

"That's just about all we'd need to get it back to the mother ship and hooked up to another unit."

(He's quite afraid, Steve,) Pard said as Dalt began to disconnect the globe. *(By the way, I've figured out that little litany we just heard: the sacred objects that are daily put in 'communion with the sun' are solar batteries. Half are charged one day, half the next. That's how he keeps himself going.)*

Dalt had just finished stoppering the globe's exchange ports when the Duke and his retinue arrived in a noisy, disorganized clatter.

"Racso!" the Duke cried on sight of him. "So you've betrayed us after all!"

"I'm sorry," Dalt said, "but this belongs to someone else."

Anthon lunged to the front. "Treacherous scum! And I called you friend!" As the youth's hand reached for his sword hilt, Dalt raised the globe.

"Stay your hand, Anthon! If any of you try to bar my way, I'll smash

this globe and your godling with it!" The Duke blanched and laid a restraining hand on his son's shoulder. "I didn't come here with the idea of stealing something from you but steal it I must. I regret the necessity." Dalt wasn't lying. He felt, justifiably, that he had betrayed a trust and it didn't sit well with him but he kept reminding himself that the brain belonged to Star Ways and he was only returning it to them.

(I hope your threat holds them,) Pard said. *(If they consider the possibilities they'll realize that if they jump you, they'll lose their godling; but if they let you go, they lose it anyway.)*

At that moment, Anthon voiced this same conclusion but still his father restrained him. "Let him take the godling, my son. It has aided us with its wisdom, the least we can do is guarantee it safe passage."

Dalt grabbed one of the retainers. "You run ahead and ready me a horse—a good one!" He watched him go, then slowly followed the passage back to the dining area. The Duke and his group remained behind in the alcove.

"I wonder what kind of plot they're hatching against me now?" Dalt whispered. "Imagine! All the time I spent here never guessing they were telepaths!"

(They're not, Steve.)

"Then how do they communicate with this thing?" he said, glancing at the globe under his arm.

(The brain is an exceptionally strong sender and receiver, that's the secret. These folk are no more telepathic than anyone else.)

Dalt was relieved to find the horse waiting and the gate open. The larger of Kwashi's two moons was well above the horizon and Dalt took the most direct route to his hidden shuttlecraft.

(Just a minute, Steve,) Pard said as Dalt dismounted near the ship's hiding place. *(We seem to have a moral dilemma on our hands.)*

"What's that?" Pard had been silent during the entire trip.

(I've been talking to the brain and I think it's become a little more than just a piloting device.)

"Possibly. It crashed, discovered it was telepathic and tried to make the best of the situation. We're returning it. What's the dilemma?"

(It didn't crash. It sounded the alarm to get rid of the technician and brought the ship down on purpose. And it doesn't want to go back.)

"Well, it hasn't got much choice in the matter. It was made by Star Ways and that's where it's going."

(Steve, it's pleading *with us!)*

"Pleading?"

(Yes. Look, you're still thinking of this thing as a bunch of neurons put together to pilot a ship, but it's developed into something more than that. It's now a being, *and a thinking, reasoning, volitional one at that! It's no longer a biomechanism, it's an intelligent creature!)*

"So you're a philosopher now, is that it?"

(Tell me, Steve. What's Barre going to do when he gets his hands on it?)

Dalt didn't want to answer that.

(He's no doubt going to dissect it, isn't he?)

"He might not . . . not after he learns it's intelligent."

(Then let's suppose Barre doesn't dissect him—I mean it. . . . *no, I mean* him. *Never mind. If Barre allows it to live, the rest of its life will be spent as an experimental subject. Is that right? Are we justified in delivering it up for that?)*

Dalt didn't answer.

(It's not causing any harm. As a matter of fact, it may well help put Kwashi on a quicker road back to civilization. It wants no power. It memorized the ship's library before it crashed and it was extremely happy down there in that alcove doling out information about fertilizer and crop rotation and so forth and having its batteries charged everyday.)

"I'm touched," Dalt muttered sarcastically.

(Joke if you will, but I don't take this lightly.)

"Do you have to be so self-righteous?"

(I'll say no more. You can leave the globe here and the brain will be able to telepathically contact the keep and they'll come out and get it.)

"And what do I tell Clarkson?"

(Simply tell him the truth up to the final act and then say that the globe was smashed at the keep when they tried to jump you and you barely escaped with your life.)

"That may kill the brain project, you know. Retrieval of the brain is vital to its continuance."

(That may be so, but it's a risk we'll have to take. If, however, your report states that the brain we were after had developed a consciousness and self-preservation tendencies, a lot of academic interest will surely be generated and research will go on, one way or the other.)

Much to his dismay, Dalt found himself agreeing with Pard, teetering on the brink of gently placing the globe in the grass and walking away, saying to hell with Star Ways.

(It's still pleading with us, Steve. Like a child.)

"All right, dammit!"

Cursing himself for a sucker and a softy, Dalt walked a safe distance from the shuttlecraft and put the globe down.

"But there's a few things we've got to do before we leave here."

(Like what?)

"Like filling in our little friend here on some of the basics of feudal culture, something that I'm sure was not contained in his ship's library."

(He'll learn from experience.)

"That's what I'm afraid of. Without a clear understanding of Kwashi's feudal structure, his aid to Bendelema might well unbalance the whole social structure. An overly prosperous duchy is either overcome by jealous, greedy neighbors, or it uses its prosperity to build an army and pursue a plan of conquest. Ei-

ther course could prove fatal to the brain and further hinder Kwashi's chances for social and technological rehabilitation."

(So what's your plan?)

"A simple one: you'll take all I know about Kwashi and feudalism and feed it to the brain. And you can stress the necessity of finding a means for wider dissemination of its knowledge, such as telepathically dropping bits of information into the heads of passing merchants, minstrels and vagabonds. If this prosperity can be spread out over a wide area, there'll be less chance of social upheaval. All of Kwashi will benefit in the long run."

Pard complied and began the feeding process. The brain had a voracious appetite for information and the process was soon completed. As Dalt rose to his feet, he heard a rustling in the bushes. Looking up he saw Anthon striding toward him with a bared sword.

"I've decided to return the godling to Bendelema," Dalt stammered lamely.

Anthon stopped. "I don't want the filthy thing! As a matter of fact, I intend to smash it as soon as I finish with you!" There was a look of incredible hatred in his eyes, the look of a young man who has discovered that his friend and admired instructor is a treacherous thief.

"But the godling has seen to it that no one in Bendelema will ever again go hungry!" Dalt said. "Why destroy it?"

"Because it has also seen to it that no one in the court of Bendelema will ever look up to me as Duke!"

"They look up to your father. Why not you in your turn?"

"They look up to my father out of habit!" he snarled. "But it is the godling who is the source of authority in Bendelema! And when my father is gone, I shall be nothing but a puppet."

Dalt now understood Anthon's moodiness: the brain threatened his position.

"So you followed me not in spite of my threat to smash the godling but because of it!"

Anthon nodded and began advancing again. "I also had a score to settle with you, Racso! I couldn't allow you to betray my trust and the trust of my father and go *unpunished!*" With the last word he aimed a vicious chop at Dalt, who ducked, spun and dodged out of the way. He had not been wearing his sword when he left his room back at the keep and consequently did not have it with him now. But he had the dagger.

Anthon laughed at the sight of the tiny blade. "Think you can stop me with that?"

If you only knew! Dalt thought. He didn't want to use the blaster, however. He understood Anthon's feelings. If there were only some way he could stun him and make his escape.

Anthon attacked ferociously now

and Dalt was forced to backpeddle. His foot caught on a stone and as he fell he instinctively threw his free hand out for balance. The ensuing events seemed to occur in slow motion. He felt a jarring, crushing, cutting, agonizing pain in his left wrist and saw Anthon's blade bite through it. The hand flew off as if with a life of its own and a pulsing stream of red shot into the air. Dalt's right hand, too, seemed to take on a life of its own as it reversed the dagger, pointed the butt of the hilt at Anthon and pressed the hidden stud. An energy bolt, blinding in the darkness, struck him in the chest and he went down without a sound.

Dalt grabbed his forearm. "My hand!" he screamed in agony and horror.

(Give me control!) Pard said urgently.

"My hand!" was all Dalt could say.

(GIVE ME CONTROL!)

Dalt was jolted by this, relaxed for a second and suddenly found himself an observer in his own body. His right hand dropped the dagger and cupped itself firmly over the bleeding stump, the thumb and fingers dug into the flesh of his forearm, searching for pressure points on the arteries.

His legs straightened as he rose to his feet and calmly walked toward the concealed shuttlecraft. His elbows parted the bushes and jabbed the plate that operates the door to the outer lock."

(I'm glad you didn't lock this up yesterday,) Pard said as the port swung open. There was a first-aid emergency kit inside for situations such as this. The pinky of his right hand was spared from its pressure duty to flip open the lid of the kit and then a container of stat-gel. The right hand suddenly released its grasp and, amidst a spatter of blood, the stump of his left arm was forcefully shoved into the gel and held there.

(That should stop the bleeding.) The gel had an immediate clotting effect on any blood that came into contact with it. The thrombus formed was firm and tough, thereby greatly reducing the threat of embolism.

Rising, Dalt discovered that his body was his own again. He stumbled outside, weak and disoriented.

"You saved my life, Pard," he mumbled finally. "When I looked at that stump with the blood shooting out, I couldn't move."

(I saved our *life, Steve.)*

He walked over to where Anthon lay with a smoking hole where his chest had been. "I wished to avoid that. It wasn't really fair, you know. He only had a sword . . ." Dalt was not quite himself yet. The events of the last minute had not yet been fully absorbed.

(Fair, hell! What does "fair" mean when someone's trying to kill you?)

But Dalt didn't seem to hear. He began searching the ground. "My

hand! Where's my hand? If we bring it back maybe they can replace it!"

(Not a chance, Steve. Necrosis will be in full swing by the time we get to the mother ship.)

Dalt sat down. The situation was finally sinking in. "Oh, well," he said resignedly. "They're doing wonderful things with prosthetics these days."

(Prosthetics! We'll grow a new *one!)*

Dalt paused before answering. "A new hand?"

(Of course! You've still got deposits of omnipotential mesenchymal cells here and there in your body. I'll just have them transported to the area and with me guiding the process there'll be no problem to rebuilding the hand. It's really too bad you humans have no conscious control over the physiology of your bodies. With the proper direction, the human body is capable of almost anything.)

"You mean I'll have my hand back? Good as new?"

(Good as new. But at the moment I suggest we get into the ship and depart. The brain has called the Duke and it might be a good thing if we weren't here when he arrived.)

"You know," Dalt said as he entered the shuttlecraft and let the port swing to a close behind him, "with you watching over my body, I could live to a ripe old age."

(All I have to do is keep up with the degenerative changes and you'll live forever.)

Dalt stopped in midstride. "Forever?"

(Of course. The old natives of this planet knew it when they made that warning for their children: "Of every thousand struck down, nine hundred and ninety-nine will die." The obvious conclusion is that the thousandth victim will not *die.)*

"Ever?"

(Well, there's not much I can do if you catch an energy bolt in the chest like Anthon back there. But otherwise, you won't die of old age—I'll see to that. You won't even get old, for that matter.)

The immensity of what Pard was saying suddenly struck Dalt with full force.

"In other words," he breathed, "I'm immortal."

(I'd prefer a different pronoun: We *are immortal.)*

"I don't believe it."

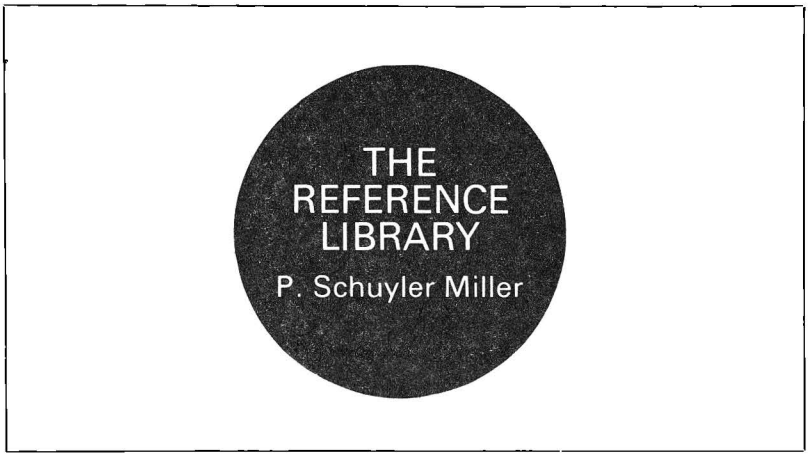
(I don't care what you believe. I'm going to keep you alive for a long, long time, Steve, because while you *live,* I *live, and I've grown very fond of living.)*

Dalt did not move, did not make a reply.

(Well, what are you waiting for? There's a whole galaxy of worlds out there just waiting to be seen and experienced and I'm getting damn sick of this one!)

Dalt smiled. "What's the hurry?"

There was a pause, then: *(You've got a point there, Steve. There's really no hurry at all. We've got all the time in the world. Literally.)* ■



ASIMOV INSIDE OUT

Before I go any further, I want to confess an unyielding prejudice against the criteria for "readable" writing laid down by that acknowledged authority and author of "The Art of Readable Writing," Dr. Rudolf Flesch. Every time I come to grips with one of Flesch's books (and I haven't used this latest one), I come out with the feeling that his formulas are bound to produce the kind of writing I wouldn't care to read. Short words, in short sentences, in short paragraphs. "Spot is a dog. See Spot run. Why does Spot run?"

Grudgingly, I have to admit that an Air Force major named Neil Goble has made pretty good use of the Flesch approach in a book he calls "Asimov Analyzed." It is published by Mirage Press, Baltimore, and gives you 174 pages for $5.95. (Mirage will soon publish Jack Williamson's doctoral dissertation on H. G. Wells for the same price.)

Major Goble is back in the Air Force after a stint as Assistant Professor of Air Science at Rensselaer Polytechnic Institute (where the foundation of his book got him a Master's in Technical Writing). He had previously been an engineer, electronics expert, aviation editor, and several other things. This pragmatic background may be why he says, "I figure anyone who has written and sold more than a hundred books and nearly a thousand articles, and earned such a reputation for clarity and eloquence, and made so much money, *must* be doing it the right way; what I want to know is how he does it."

He does it, as you may have suspected, by being Isaac Asimov.

He just rares back and writes. He's said so.

But the Flesching process shows that the Good Doctor does, consciously or unconsciously, vary his style to suit his audience.

Goble's statistical analysis shows that Asimov's writing falls pretty consistently into two classes. In one are his juvenile science books, his science humor for *TV Guide*—and his science fiction. In the other are his serious books for adults, his science articles for *Fantasy & Science Fiction,* and everything else except his textbooks and dissertations on biochemistry, which form a class all their own.

In his fiction and juvenile writing, Asimov averages 11.4 words per sentence and 32.8 words—about three sentences—per paragraph. There is very little difference among the three: 10.6 words per paragraph for fiction to 12.5 for, oddly, his humor (you have to build up a joke, don't you?). The pattern holds in paragraph length: 27 to 37.5 words.

In his *F&SF* essays, his introductions in anthologies, and his many books on history and science, Asimov uses sentences about twice as long (average, 19.3 words; range, 17.9 to 20.8) and paragraphs with about twice as many words (62.1 average; range, 54 to 87) but, evidently, still the same number of sentences.

The pattern holds, as a matter of fact, for his doctoral dissertation on tyrosinase (26.8 words per sentence; 90 words per paragraph; same old three sentences), but not for his textbooks, where the sentences are about the same (20.3 words), but the paragraphs run longer (124 words, or six whole sentences!). A couple of the texts were collaborations, so it is hardly fair to count them.

Isaac loves big numbers—a point Goble missed—but he is no sucker for long words. The average number of syllables per hundred words is 141 for the first category, but only 155 for the second (science books have to have technical words), and 180 for the dissertation (dissertations are—have to be—written in a language which superficially resembles English; they used to be in Latin). I'm not about to calculate standard deviations, chi squares, and such stuff, but the obvious conclusion is that Isaac Asimov has a rich stack of serviceable words that he can use for anything from jokes to encyclopedias.

That is "readable writing."

Major Goble documents this in the second half of his book, which deals with Asimovian rhetoric. This is the part you'll enjoy most. With generous citations from the classics, it gets down to illustrating the things that make an Asimov story, and even more strikingly an Asimov essay, unmistakable.

I won't steal his thunder, but I will steal his conclusion, or part of it (parentheses are mine):

"Part of his success is due to the clarity with which he writes. He uses straightforward, unpretentious language (Remember those 1.5-syllable words for everything?) . . . so as not

to make the reader's problem more complicated. He insists on using precisely accurate scientific terms, but will pause to define any which might be outside, or on the fringe of, the reader's experience. He illustrates his writing with fresh analogies and earthy examples which also are within the reader's experience.

"Asimov does more than just write clearly, though. Others write just as clearly, with far less success. But where their writing is clear, flat, and tasteless as water (make that distilled water), his bubbles with a special flavor—like champagne, for the grown-ups, and ginger ale, for the kiddies. Asimov's own personality provides the special flavor."

This last part of the book is where you will recognize the Asimov you know, and it's where Major Goble shows that he can personalize a stuffy subject. One last quote: "To be a real success at popularizing science, one should first fall sincerely head-over-heels in love with science."

That is our Isaac.

THE FIFTH HEAD OF CERBERUS

By Gene Wolfe • Charles Scribners Sons, New York • 1972 • 244 pp. • $5.95

At the mid-year, this is the book Isaac Asimov has to beat to the Hugo and Nebula awards.

Oddly, it is much like Asimov's "The Gods Themselves," in that it is a trio of almost independent novellas (the first part was in Damon Knight's "Orbit Ten") that illuminate a mystery and a society from three directions, one of them alien. It is fascinating from the beginning, and although it changes pace bewilderingly, that pace never slackens. I have a feeling it will be as rewarding the second time through—and the third.

Somewhere in the Galaxy a pair of sister planets, Sainte Croix and Sainte Anne, circle each other as they wheel around their sun. Sainte Anne was settled by French refugees from Earth, who found and destroyed a native humanoid population—then came to Sainte Croix, where they were in turn overrun and enslaved by another wave of ruthless expansionists from the home world.

The first part of the book takes place in a port city of Sainte Croix, where a complex and fascinatingly cruel slave society has developed. The more enterprising of the French have found a place of their own, and the narrator's father is one of these. His house of the Cerberus is patronized by the city's and planet's most distinguished citizens and staffed by the most attractive and accomplished girls. There are echoes of Lautrec's Paris and of old New Orleans—yet the boy called "Number Five" and his brother are brought up by an android, and there are other things about their decaying world that you will find marvelous. Here Number Five undergoes a cruel conditioning; here an Earthborn anthropologist comes to question his aunt about the

esoteric "Veil Hypothesis"; and here the boy learns the meaning of his name, and why he must murder his father. He does, and the episode ends with his slavery in a prison camp, release, and return to the House of the Dog.

Part Two is "A Story," written by the anthropologist, Dr. Marsch, to reconstruct the life of the strange aborigines of Sainte Anne in the years just before the French landed there. It is a kind of Wellsian "Story of the Stone Age," except that what happens under the surface of the action, and what is said between the lines, is more important than the story itself.

In the final part, the scene shifts back to Sainte Croix. Marsch has been arrested after the murder, and because he fails to fit any of the Establishment's stereotypes he becomes the kind of perpetual nonperson we know of from Soviet reports—accused of being a spy from Sainte Anne, accused of being involved in the murder, accused of nothing except that he doesn't belong in the well-ordered society of Sainte Croix and Port-Mimizon. The focus shifts back and forth, from Marsch in a succession of cells to a jumble of papers an official has accumulated and is trying to understand—in part, a fragmentary journal of a trek Marsch made into the deserted mountains of Sainte Anne in search of aboriginal survivors.

Here the "new" techniques have been used as they should be used, to make the telling of a story and the unfolding of an idea more vivid and effective. You'll remember this book a long time.

OCTOBRIANA AND THE RUSSIAN UNDERGROUND

By Petr Sadecky • Harper & Row, New York • 1972 • 128 pp. • $5.95

Cartoon strips, fantasy and a kind of comic-book science fiction, and cheerful pornography have all played an important part in the lampooning of the Establishment, its values and its ideals, by Western underground young people. It turns out that Russian young people were doing the same kind of thing, at the same time, at far greater risk, and without any evident contact with the West. In the process, they created a kind of corporate super-heroine in the image of all the world's world-mothers and valkyries, from the dawn of mankind to the present.

Octobriana (named for the October Revolution) was endowed with as meticulous a historical background as ever Lovecraft gave his mythos, or Philip Jose Farmer gave Tarzan in his recent "biography." The actual manner in which her cartoon adventures were—and are—created is a fascinating example of true communal (and communist) action. Scripts were worked out by various underground cells, discussed, refined. Different artists drew the frames for the cartoon itself, and these in turn were worked over to create an unmistakable style somewhere between good Soviet realism

and the exaggeration of the best American action comics. Although she has several images, Octobriana herself is generalized into something like a super-Martha Raye with negroid, or perhaps melanoid, features (Sadecky says mongoloid, but I can't buy that).

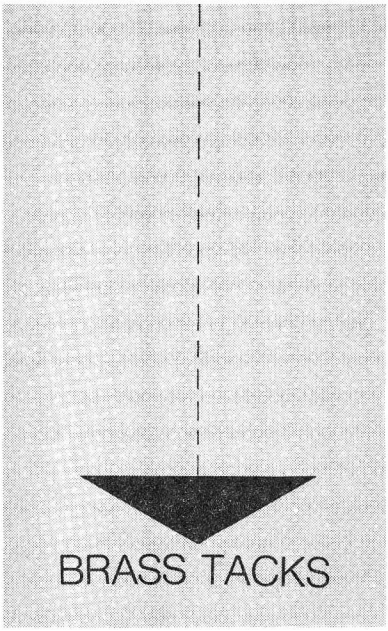
The cartoon serials following her adventures have been published—and well published—in *Mtsyry,* the occasional magazine of the group that Sadecky calls PPP (for Progressive Political Pornography), and in other underground publications. They are as merciless with the Soviet and Chairman Mao as with capitalism and the West: Octobriana lends a hand to the Canadian Mounties and crosses the American plains with a wagon train. She lives inside a whale like Jonah (but more comfortably) . . . has an antigravity ship . . . flies a pterodactyl . . . advises Lenin just before his death . . . leads her commandos through an oil pipeline in aqualungs . . . turns giant tortoises into armored tanks. She is probably immortal. (Because of the way the strips are produced and circulated, it may be that nobody has seen them all.)

Octobriana was created in the Sixties by a PPP cell in Kiev, and taken up by others. Sadecky, a young Czech lecturing in Russia, was in close contact with the cell for a while and lent a hand in some episodes. When he returned to the West, he managed to smuggle out an assortment of Octobriana posters, sketches, and other underground art, plus parts of two strips, one SF of the *Planet Stories* brand, the other more or less straight adventure. They are reproduced in this book (a king-size paperback).

In a manner we all know, Octobriana's creators took the opportunity to weave actual events into their plots. There was evidently minor warfare between the Koryaks and Chukchi of Kamchatka in 1934. This became the basis for "The Living Sphinx of the Kamchatka Radioactive Volcano," in which Octobriana slaughters a colossal walrus living in the crater of a volcano and mutated into unchecked growth by subterranean radioactivity. Her antigravity ship plays a part in the sequence Sadecky salvaged. In "Octobriana and the Atomic Suns of Comrade Mao," our heroine stampedes a yak herd to rescue two couriers carrying secrets to the Chinese atomic center . . . makes the first Chinese A-bomb for Mao . . . then warns him against using it.

I am no authority on U.S. underground strips, but Octobriana makes such Establishment strips as Flash Gordon and Tarzan seem feeble. Emanating from the underground, with no need to "pass," they can carry further some of the satiric and lampooning techniques we know as an important part of science fiction, and have seen in some of the best Soviet SF available in English.

I wonder whether Octobriana is really Conan's daughter?



Dear Mr. Bova:

This letter is in reaction to Mr. John H. Gault's letter, and Jerry Pournelle's "The Mercenary," in your July 1972 issue. My reaction to Mr. Gault's letter was one of total aversion. It may be true that man's bias, prejudice, aggression, and vengeance made him what he is today, but is that a good thing? If a member of Mr. Gault's family was killed by a black man, I have the feeling that Mr. Gault would not stop until all the blacks were murdered for the actions of one individual. Mr. Gault's logic may work well when dealing with carnivores in a primeval environment, but not in the urban environment of the 1970's. Unless people like Mr. Gault learn to curb their biases and prejudices there may not be any people left to give love or loyalty to.

And it seems that Jerry Pournelle and Mr. Gault are brothers under the skin. Although I felt that "The Mercenary" was a well-written story, I disagree with it a hundred percent. "The Mercenary" seems to be another example of the simplified thinking that is prevalent in America today. Violence can be a solution to a problem; but it's a short-range solution to that problem. The people that John Falkenberg and his mercenaries killed will not be a problem to any future government of Hadley, but their friends and relatives will be. As it is often stated today: "You can kill the man but not his idea." By his actions Falkenberg was only putting off the ultimate confrontation.

RICARDO DONALD
9001 South Morgan
Chicago, Illinois 60620

Which is exactly what Falkenberg told the new president in the last paragraph of the story!

Dear Mr. Bova:

I enjoyed Laurence Janifer's "Count Down" (July 1972 issue), with its fine twist of political numerology. In the Janifer world of 2113, it seems that people believed that Monday is the first day of the week and that there were thirteen apostles. However, I would hope that a few time capsules would have been recovered, each generally containing a copy of the Bible. One could thus learn that the Ancients considered

the seventh or last day of the week (Saturday) to be the day of rest for the Jews (Ex 34:21). It would follow then, that the first day of the week (first day of the sabbath week) is Sunday and not Monday, which is the day Christ rose (Mk 16:9), the church began (Acts 2:1, Lev 23:15-16), and the day that Christians are to worship (Acts 20:7, I Cor 16:2).

Along with the original twelve apostles, I am happy that Janifer includes Matthias (Acts 1:26) as the thirteenth, to take the place of Judas. However, Paul also became an apostle (I Cor 9:1), as did James the Lord's brother (Cal 1:19), and Barnabas (Acts 14:14). According to Janifer's thesis, even these new numbers could be plugged into the numbers game.

LAWSON L. WINTON
901 South Christine
Appleton, Wisconsin 54911

There's an old Armenian saying: "Figures don't lie, but liars sure can figure!"

Dear Mr. Bova:

In regard to your editorial, "Three Can Play," in the July issue of Analog, I was disappointed to see that you had fallen victim to the "Joe McCarthy as Bogeyman Syndrome" so beloved of the liberal intellectual. According to this myth, the 1950's were a time when the evil senator intimidated all into silence by means of unthinking anti-Communism and guilt by association. First question: If everyone was intimidated how come McCarthy is still being smeared some twenty years later? The reason I say smeared is that when pinned down to name anybody whom McCarthy *unfairly* accused of being a Communist, the anti-McCarthy people usually give you the pathetic story of Annie Lee Moss. Here was this poor helpless black woman, working hard at her patriotic job in the Pentagon. And here was this horrible man, with the immunity of being a senator to protect him, accusing her so maliciously and falsely of being a Communist. How do they know? The New York *Times* told them!

Of course, the only thing wrong with this story is that four years later, when it could not possibly do McCarthy any good or undo the damage done to his reputation, the Pentagon admitted that Annie Moss actually had been a Communist all the time, exactly as the evil senator had said. Of course, many of the same people said that Fidel Castro wasn't a Communist and that Chairman Mao was an agrarian reformer. As for the prospects of success for the advocates of world government (with or without "three players"), I can only hope that they fail, given the present state of world affairs and the collectivist domination of the United Nations. Better luck on your next editorial!

DONALD F. MCALLISTER
4709 Rockbluff Drive
Rolling Hills Estates, California 90274

Among those attacked by the senator were Dean Acheson, Adlai Stevenson, Edward R. Murrow, the movie director Jules Dassin, the Secretary of the Army, and one of Joseph Welch's assistants. To name a few.

Dear Editor:

The intrusion into Analog of stories like "Hero" in the June 1972 issue makes me remember, "Lo, how have the mighty fallen."

It is mediocre as to science (I should have said totally unacceptable) and revolting as to human relations. After reading it I felt as if I had spent the time in the pigpen.

The big underlying problem in this world of ours is psychic pollution—degradation of spirit—and authors like Haldeman are as reprehensible in their effect on impressionable readers as are the peddlers of heroin. And you come in for your share of criticism because you O.K.'d it for publication.

If this keeps up I'll cancel my subscription.

ROY E. HANKINS

20 Jersey Street

Denver, Colorado 80220

There's no accounting for taste. The scientific ideas of using collapsars as stargates, and post-hypnotically suggested "battle fever" are as good as any that have come along in a long time. Apparently what bothers you is the casual sex among the soldiers. The subject was handled realistically and with considerable restraint. It was an integral part of the story. As for pollution, well, the best way to clear out smog is to have a fresh, crisp breeze stir things up. "Hero" is a look at war—and people—as they really exist. Pollution, like beauty, is in the mind of the beholder.

Sir:

"Foundlings Father" was an overlookable crudity, but you really gave us all the finger with "Hero." All it was, was a rewrite of "Starship Troopers," *without* the political philosophy that gave Heinlein's story its distinction, but *with* large doses of genital recreation, which gave it no distinction at all.

Analog (and Astounding) have survived for decades on the theory that there is an audience out there which is willing to spend an hour a month reading about ideas—ideas about science and society. A sex story *could* be also a story of ideas about science and society, but it usually isn't; a sex flavor is likely to drown out the rest.

Please, let your readers get their sex, real or secondhand, in the other seven hundred and nineteen hours of the month, and save Analog for science fiction.

J. B. LAWRENCE

25701 Alto Drive

San Bernardino, California 92404

If all you got out of "Hero" was sex, you have a problem! And why should it be so shocking that future armies will be "co-ed"; do you prefer old-style rape and pillage? or homosexuality?

Dear Sir:

I have been a steady reader of your magazine for quite a few years. A short while ago I decided it might be interesting to keep records on the Analytical Laboratory. I don't know whether or not you keep such records, but I thought you or your readers might be interested in seeing the results of my analysis.

The information is based on data gathered from 114 issues containing 535 stories. The oldest issue reported is the August 1949 issue. Unfortunately, I do not have all of the issues from that time to the present but as they come into my possession they too shall be entered into the data.

TOP TEN STORIES

Place	*Title*	*Author*	*Score*	*Date*
1.	Currents of Space (Pt. 2)	Isaac Asimov	1.09	11/52
2.	Sleeping Planet (Pt. 2)	William Burkett	1.23	8/64
3.	The High Crusade (Pt. 1)	Poul Anderson	1.28	7/60
4.	The Tuvela (Concl.)	James Schmitz	1.30	10/68
5.	The World Menders (Concl.)	Lloyd Biggle, Jr.	1.34	4/71
6.	The World Menders (Pt. 2)	Lloyd Biggle, Jr.	1.35	3/71
7.	Tie:			
	Industrial Revolution	Winston P. Sanders	1.37	9/63
	The Searcher	James Schmitz	1.37	2/66
8.	Tie:			
	The Naked Sun (Pt. 2)	Isaac Asimov	1.38	11/56
	The Tactics of Mistake (Pt. 1)	Gordon R. Dickson	1.38	10/70
9.	The Horse Barbarians (Pt. 1)	Harry Harrison	1.42	2/68
10.	We Have Fed Our Sea (Pt. 1)	Poul Anderson	1.43	8/58

TOP TEN AUTHORS (With 3 or More Stories)

Place	*Author*	*Score*	*Number of Stories*
1.	Lloyd Biggle, Jr.	1.380	3
2.	Murray Leinster	2.098	5
3.	Randall Garrett	2.104	9
4.	Hal Clement	2.107	9
5.	Isaac Asimov	2.118	7
6.	Poul Anderson	2.154	24
7.	H. Beam Piper	2.180	3
8.	Jerry Pournelle	2.235	4
9.	Chad Oliver	2.310	4
10.	Cyrill Judd	2.323	3

DENNIS DONAHUE, 405 Beattie Street, Syracuse, New York 13224

Verrry interesting!

Editorial *continued from page 7*

load. When that happy day arrives, manned space flight will start to become as cheap as long-range commercial air travel.

There are political aspects to space operations. For example, the reason the United States agreed to an arms limitation treaty with Russia without the on-site inspections we had insisted on for decades, is that our observation satellites are now good enough to see what the intelligence people want to see, and can count missile silos quite clearly and accurately, without risking the embarrassing and deadly kind of fiasco that Francis Gary Powers crashed into in the late 1950's. The Russians, of course, have their own observation satellites watching how many silos we dig, and helping the cartographers make accurate maps for ICBM guidance systems to follow.

The ICBM itself spends most of its active life in space, despite the fact that it sits for years in a silo and is aimed for a ground target. If a missile war comes, the outcome could well be decided in space. Any ABM system, to be effective, should intercept the hostile missiles in space and destroy them there. A low-altitude intercept, over your own territory, might be nothing more than a Pyrrhic victory. So you destroyed the enemy ICBM before it reached Washington. The recently deceased citizens of Baltimore send their posthumous congratulations!

If space is a potential battleground, then both manned and unmanned satellites are going to have important roles to play. Satellites might become useful as ABM stations, armed with early-warning sensors, tracking systems, and weapons for destroying the ICBM's in their thirty-minute-long flight from silo to re-entry. Once the missile re-enters the atmosphere near its target, the defense has only a minute or so to react. The vast benefits of fighting an ICBM in space, and using *men* rather than preprogrammed weapons, was beautifully illustrated way back in the August 1960 issue of Analog, in Joseph P. Martino's "Pushbutton War."

So, in peace or war, for the enhancement of the quality of life, for the protection of the nation and the people, man in space is inevitable. Today, no nation can be economically strong and politically independent without such things as heavy industry and modern transportation systems. Tomorrow, no nation will be economically strong and politically independent without access to manned space operations. It's that simple. And urgent. If the United States abandons manned space flight, even for only five years, we may find ourselves in a *very* uncomfortable political situation, where the Russians have convinced themselves that they can stop enough of our missiles so that they can absorb a nuclear strike and still destroy the United States. Their belief needn't

necessarily be true; all they have to do is believe it. Then they'll be in a position to say, "Do what we demand, or else."

All this is the strictly practical, economic and political side of man in space. From the standpoint of hard dollars and sense, it would be folly to let our manned space capability wither away.

Still on the strictly practical side, it seems logical that the supply depot for manned Earth orbital operations will eventually be the Moon, not Earth. Once there's enough equipment on the Moon to produce water and its constituents, hydrogen and oxygen, the Moon can "manufacture" a space station's air, water, food and rocket propellants. And it's much cheaper to launch these supplies "downhill" from the Moon's airless surface to an Earth-orbiting station, rather than "uphill" from Earth's surface to orbit.

All very practical.

And all based on the assumption that the decision-makers in our government require near-immediate gratification; the assumption that they can plan and work toward objectives that are no more than five to ten years in the future. The Apollo program itself was originally timed to take place almost entirely during the lifetime of the Kennedy Administration. One of the hurdles that NASA planners constantly face is the necessity to lay out programs that culminate during the lifetime of the administration that sponsors the plan. A president likes to look ahead eight years, but can only count on four. A senator has six, a congressman two.

It might be too much to ask for political leaders who can look beyond their own re-election campaigns. It might be too much to ask for men and women who understand that, in the long run, the scientific knowledge and understanding produced from space operations will make us all wealthier, just as the explorations of the Renaissance made mankind far wealthier than he had ever been. Knowledge is the only real wealth; it produces all else, from gold bullion to credit cards. It would certainly be presumptuous to ask for political leaders who can understand that the space program does not conflict with the nation's other needs: indeed, the space program can contribute handsomely to the nation's gross national product. It can be profitable, and will be, if we are wise enough to invest in it properly.

No need to get mystical and cast wondering eyes toward Mars and beyond. There are eminently practical reasons for man in space, reasons that will affect the price of potatoes and the nation's balance of payments overseas, reasons that will count heavily in our military posture and our foreign policy.

And when even the politicians understand that man in space is politically and economically indispensable, the stars will still be there.

THE EDITOR

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