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The author and the contributors.

R. D. Heitchue, the editor, has been associa with Douglas Aircraft Missile and Space Syst Division since 1957. For four years he had responsibility of directing advanced studies space launch vehicles, unmanned spacecraft, a manned planetary systems. All the contributors senior members of the technical staff at Doug and have an average of 19 years of professio experience.

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WORLDS OF IF SCIENCE FICTION

ALL NEW STORIES

Cover by BOK from THE PAWOB DIVISION

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Three In A Row

We're proud and pleased to be able to tell you that, for the third year in a row, *If* has won the "Hugo" award as the world's best science-fiction magazine.

There were also, of course, a number of awards in other categories — best science-fiction novel, best short story, best artist and so on. We're going to try to do again what we did once before, which is to celebrate the occasion by rounding up a new story by each of these worthies (in Jack Gaughan's case, it would be more accurate to say a new cover) and print them in a special Hugo issue. With a little luck, we'll do just that, and the special issue will be in March.

As most of you know, the Hugos are awarded by vote of the annual World Science-Fiction Convention. The current one was in Berkeley, California; next year's, to be held as usual on Labor Day Weekend, will be in St. Louis — and it appears that the 1970 one will once again get outside the United States, probably occurring in Heidelberg, Germany. We'll have a full report on this year's doings, provided for us by Bob Bloch, in an early issue.

This is just by way of saying "thank you". We do appreciate the vote of confidence, and we wanted you to know.

We'd also like to call your attention to the rather unusual circumstances surrounding the cover on this issue.

Hannes Bok and Ray Bradbury discovered each other. Bok encouraged Bradbury to embark on the story-a-week program that got him a wastepaper-basket full of rejection slips, then a few sales, and ultimately one of the most distinguished writing careers in science fiction. And Bradbury repaid him by touting the merits of the artist, Bok, to every editor who would listen.

A lot of editors did listen; Hannes was one of the most popular artists of a couple of decades ago. His tragic death, at an early age, has kept us from seeing much of his art lately — but this cover was found and offered to us, and we were delighted to be able to print it. It is very unlikely anybody will ever have a Bok cover on a science-fiction magazine again.

— THE EDITOR

The Holmes-Ginsbook Device

by ISAAC ASIMOV

Illustrated by GAUGHAN

In Science, the double feel licks the one-pinch effect every time!

I have never seen Myron Ginsbook in a modest mood.

But then, why should I have? Mike — we all call him Mike, although he is Dr. Ginsbook, Nobel Laureate, to a reverential world — is a typical product of the 21st Century. He is self-confident, as so many of us are, and by right should be.

He knows the worth of mankind, of society, and most of all of himself.

He was born on January 1, 2001, so he is as old as the Century exactly. I am ten years younger, that much farther removed from the unmentionable Twentieth.

Oh, I mentioned it sometimes. All youngsters have their quirks and mine had been a kind of curiosity about mankind's earlier history, concerning which so little is known and so little, I admit, ought to be known. But I was curious.

It was Mike who rescued me in those days. "Don't," he would say, leering at the girls as they passed in their bikini business suits, and leaning over at intervals to feel the material judiciously, "don't play with the past. Oh, ancient his-

tory isn't bad, nor medieval times, but as soon as we reach the birth of technology, forget it. From then on it's scatology; just filth and perversion. You're a creature of the Twenty-first. Be free! . Breathe deeply of our century's clean air! It will do wonders for you. Look at what it's doing for that remarkable girl to your left."

And it was true. Her deep breathing was delightful. Ah, those were great days, when science was pulsing and we two were young, carefree and eager to grab the world by the tail.

Mike was sure he was going to advance science enormously and I felt the same. It was the great dream of all of us in this glorious Century, still youthful. It was as though some great voice were crying: *Onward! Onward! Not a glance behind!*

I picked up that attitude from Paul Derrick, the California wizard. He's dead now, but a great man in his time, quite worthy of being mentioned in the same breath with myself.

I was one of his graduate students and it was hard at first. In college, I had carefully selected those courses which had had the least mathematics and the most girls and had therefore learned how to hemstitch with surpassing skill but had, I admit, left myself weak in physics.

After considerable thought, I realized that hemstitching was not going to help me make further advances in our great Twenty-first Century technology. The demand for improvements in hemstitching was meager and I could see clearly that my expertise would not lead me to the coveted Nobel Prize. So I pinched the girls good-by and joined Derrick's seminars.

I understood little at first but I did my best to ask questions designed to help Derrick demonstrate his brilliance and rapidly advanced to the head of the class in consequence. I was even the occasion for Derrick's greatest discovery.

He was smoking at the time. He was an inveterate smoker and proud of it, always taking his cigarette out and looking at it lovingly between puffs. They were girlie-cigarettes, with fetching nudes on the clear white paper — always a favorite with scientists.

"Imagine," he would say in the course of his famous lectures on Twenty-first Century Technological Concepts, "how we have advanced on the Dark Ages in the matter of cigarettes alone. Rumors reach us that in the Ill-Famed Twentieth Century, cigarettes were a source of disease and air-pollution. The details are not known, of course, and no one, I imagine, would care to find out, yet the rumors are convincing. Now, however,


NOT ALL HEART
Asenion

a cigarette liberates air-purifying ingredients into the atmosphere, fills it with a pleasant aroma, and strengthens the health of the smoker. It has, in fact, only one drawback."

Of course, we all knew what it was. I had frequently seen Derrick with a blistered lip, and he had a fresh blister that day. It impeded his speech somewhat.

Like all thoughtful scientists, he was easily distracted by passing girls, and on those occasions he would frequently place his cigarette in his mouth wrong-end-in. He would inhale deeply and the cigarette would spontaneously ignite, with the lit end in his mouth.

I don't know how many learned professors I had seen, in those days, interrupt their intimate conversations with secretaries to yell in agony as another blister was added to tongue or lip.

On this occasion, I said in jest, "Professor Derrick, why don't you remove the igno-tip before putting the cigarette in your mouth?" It was a mild witticism and actually, if I remember correctly, I was the only one who laughed. Yet the picture brought up by the remark was a funny one. Imagine a cigarette without its ignitable tip! How could one smoke it?

But Derrick's eyes narrowed. "Why not?" he said. "Observe!"

In front of the class, Derrick whipped out a cigarette, observed it carefully — his particular brand presented its girlies in life-like tints — then pinched off the igno-tip.

He held it up between two fingers of his left hand and said again, "Observe!" He placed the unignitable residue of the cigarette in his mouth. A thrill went through us all as we observed from the position of the girlie that he had deliberately placed the cigarette in his mouth wrong-end-in. He inhaled sharply and nothing, of course, happened.

"The unblistering cigarette," he said.

I said, "But you can't light it."

"Can't you?" he said and, with a flourish, brought the igno-tip up against the cigarette. We all caught our breath. It was a sheer stroke of genius, for the igno-tip would light the safe outside end of the cigarette, *whichever end it was.*

Derrick inhaled sharply and the igno-tip flared into life, igniting the outer tip of the cigarette — and the tip of Derrick's thumb and forefinger. With a howl, he dropped it and naturally, the entire class laughed with great cheerfulness this time.

It was a stroke of misfortune for me. Since I had suggested the miserable demonstration, he kicked me out of his class forever.

This was, of course, unfair, since I had made it possible for him to win the Nobel Prize, though neither of us realized it at the time.

You see, the laughter had driven Derrick to frenzy. He was determined to solve the problem of the unblisterable cigarette. To do so, he bent his giant mind to the problem full time, cutting down his evenings with the girls to five a week — almost unheard of in a scientist, but he was a notorious ascetic.

In less than a year, he had solved the problem. Now that it is over, of course, it seems obvious to all of us, but at the time, I assure you, it dumbfounded the world of science.

The trick was to separate the igno-tip from the cigarette and then devise some way of manipulating the igno-tip safely. For months, Derrick experimented with different shapes and sizes of handles.

Finally, he decided on a thin shaft of wood as ideal for the purpose. Since it was difficult to balance a cigarette-tip on the wood, he discarded the tobacco and paper and made use of the chemicals with which the cigarette tip had been impregnated. These chemicals he coated on the tip of the shaft.

At first, he lost considerable time trying to make the shaft hollow so that it could be sucked or blown through to ignite the chemicals. The resulting fire might then be applied to the cigarette. This, however, revived the original problem. What if one put the wrong end of the shaft in the hand?

Derrick then got his crowning idea. It would only be necessary to increase the temperature of the chemicals by friction, by rubbing the tip of the wood against a rough surface. This was absolutely safe for if, in the course of bestowing a fatherly kiss on the lips of a girl student intent on an A in her course at any hazard — a typical event in every scientist's life — one should rub the wrong end of the wood on a rough surface, nothing at all would happen. It was a perfect fail-safe mechanism.

The discovery swept the world. Who, today, is without his package of igno-splints, which can be lit at any time in perfect safety, so that the day of the blistered lip is gone forever? Surely this great invention is a match for any other this great Century has seen; so much a match, in fact, that some wags have suggested the igno-splints be called "matches". Actually, that name is catching on.

Derrick received his Nobel Prize in Physics almost at once and the world applauded.

I returned then and tried to reenroll in his class, pointing out that but for me he would never have earned that Nobel Prize. He kicked me out with harsh expletives, threatening to apply an igno-splint to my nose.

After that my one ambition was to win a Nobel Prize of my own, one that would drown out Derrick's

achievement. I, John Holmes, would show him.

But how? How?

I managed to get a grant that would take me to England in order to study Lancashire hemstitching, but I had no sooner got there than I pulled every string I could to get into Cambridge, with its famous covey of girl students and its almost equally famous Chumley - Maudlin (pronounced Cholmondeley - Magdalen) Technological Institute.

The girl students were warm and exotic and I spent many an evening stitching hems with them. Many of the Cantabrigian scientists were struck with the usefulness of the pursuit, not having discerned earlier this particular advantage of sewing. Some of them tried to get me to teach them to hemstitch but I followed that old First Law of Scientific Motivation: "What's in it for me?" I didn't teach them a thing.

Mike Ginsbook, however, having watched me from a distance, quickly picked up the intricate finger-manipulations of hemstitching and joined me.

"It's my talent," he said with charming immodesty. "I have a natural aptitude at manipulation."

He was my man! I recognized at that moment that he would help me to the Nobel Prize. There remained only to choose the field of activity that would get it for us.

For a year our association produced nothing except for a sultry brunette or two; and then one day I said to him lazily, "I can't help but notice, Mike, that your eyes are extraordinately limpid. You're the only one on campus who doesn't have bloodshot sclera."

He said, "But the answer is simple. I never view micro-films. They are a curse."

"Oh?"

"I've never told you?" A somber look crossed his face and a clear stab of pain furrowed his brow. I had clearly activated a memory almost too sharp to bear. He said, "I was once viewing a micro-film with my head completely enclosed in the viewer, naturally. While I was doing that, a gorgeous girl passed by — a girl who won the title of Miss Teacher's Pet the next two years running, I might say — and I never noticed her. I was told about it afterward by Tancred Hull, the gynecologist. He spent three nights with her, the cad, explaining that he was giving her a physical checkup. Had pictures taken to prove it that were the talk of Cambridge."

Mike's lips were quivering. "From that time on," he said in a low, suffering voice, "I have vowed never to view a film again."

I was almost faint with the sudden inspiration that struck me.

"Mike," I said. "Might there not be some way in which microfilms can be viewed more simply? Look, films are covered with microscopic print. That print has to be enlarged for us to see it. That means bending over an immobile screen or encasing the head in a viewer.

"But —" and I could hardly breathe with the excitement of it — "what if the material on the film were enlarged until it could be seen with the naked eye and then a photograph of the enlarged print were taken? You could carry the photograph with you, looking at it at your leisure whenever you chose. Why, Mike, if you were looking at such a photo and a girl passed by, it would be the work of a moment to lift your head. The photo would not take up your attention as a viewer would."

"Hmm," said Mike, thoughtfully. I could see his giant mind spinning over every ramification of the subject. "It really might not interfere with girl-watching; less important, it might prevent bloodshot eyes. Oh, but wait, all you would have would be about five or six hundred words and you would be bound to read that through before the day was over. Then what?"

It was amazing to watch him pick unerringly the flaw in the project.

For a moment, I was daunted. I hadn't thought of that. Then I said, "Perhaps you could make a large series of small photographs and paste them together in order. Of course, that might be more difficult to carry."

"Let's see — " Mike's mind continued to work. He leaned back in his chair, closed his eyes, straightened suddenly and looked piercingly about in every direction to make sure there were no girls in the vicinity, then closed them again.

He said, "There's no question but that magnification is possible; photography is possible. If all of a typical microfilm is expanded and photographed, however, so that it could be read with the unaided eye, the resultant series of photographs would cover an area of — " Here he whipped out his famous girlie slide-rule, designed by himself,, with the hairline neatly and stimulatingly bisecting a buxom blonde. He manipulated it caressingly. " — an area of 150 square feet in area at least. We would have to use a sheet of paper ten feet by fifteen feet and crawl around on it."

"That would be possible," I muttered.

"Too undignified for a scientist unless, of course, he were pointing out something to a girl student. And even then she might get interested in reading whatever it was he was pointing out and that would kill everything."

We were both down in the dumps at that. We recognized that we had Nobel material here. Films had

the virtue of being compact, but that was their only virtue.

Oh, if only you could fold a ten-foot-by-fifteen-foot piece of paper in your hand. You would require no electronic or photonic equipment to read it. You could read any part of it at will. You could go backword or forward without having to manipulate any controls. You would merely shift your eyes.

The whole thought was incredibly exciting. The technological advance involved in using eye muscles in place of expensive equipment was enormous. Mike pointed out at once that glancing back and forth over a large sheet of paper would exercise the eye muscles and equip a scientist better for the important task of not failing to observe the feminine parade.

It remained only to determine how best to make a large sheet of paper portable and manipulable.

I took a course in topology in order to learn folding techniques and many was the evening my girlfriend of the day and I would design some order of folding. Beginning at opposite ends of the sheet of paper, we would come closer and closer as we folded according to some intricate formula, until we were face to face, panting and flushed with the mental and physical exertion. The results were enormously exciting but the folding procedures were never any good.

How I wished I had studied more mathematics. I even approached Prunella Plug, our harsh-voiced laundress, who folded bedsheets with aplomb and dignity. She was not about to let me into the secret, however.

I might have explained what I wanted the folding for, but I wasn't going to let *her* in on it. I meant to share the Nobel Prize with as few people as possible. The famous phrase of the great scientist Lord Clinchmore — "I'm not in science for my health, you know" — rang through my mind.

One morning I thought I had it. Oh, the excitement of it! I had to find Mike, for only his keen analytical mind would tell me if there were flaws in the notion. I tracked him down to a hotel room at last but found him deeply involved with a young lady — or popsie, to use the scientific term.

I banged away at the locked door until he came out, rather in a bad humor for some reason. He said, "Darn it, Jack, you can't interrupt research like that." Mike was a dedicated scientist.

I said, "Listen. We've been thinking in terms of two dimensions. What about *one* dimension?"

"How do you mean, one dimension?"

"Take the photos," I said, "and make them follow one after the other in a single line!"

"It would be yards and yards

long." He worked out the figures with his finger on his colleague's abdomen, while I watch closely to make sure that he made no mistakes. He said, "It could easily be 200 feet long. That's ungainly."

"But you don't have to fold," I said. "You roll. You place one end on one plastic rod, and the other end on another. You roll them together!"

"Great Scott," said Mike, shocked into profanity by the thought. "Maybe you have it."

It was that very day, however, that the blow struck. A visiting professor from California had news. Paul Derrick, he said, was rumored to be working on the problem of a non-electronic film. He didn't seem to know what that meant, but we did and our hearts sank again.

I said, "He must have heard of what we're doing here. We've *got* to beat him."

And how we tried! We took the photographs ourselves, pasted them side by side, rolled them on rods. It was a job of unimaginable complexity and delicacy that might well have used skilled artisans, but we were intent on allowing no outsider to see what we were doing.

It worked, but Mike was uncertain. He said, "I don't think it's really practical. If you want to find a particular place in the film, you have to roll and roll and roll, one way or another. It is very hard on the wrists."

But it was all we had. I wanted to publish, but Mike held back. "Let's see what Derrick has worked out," he said.

"But if he has this, he will have anticipated us."

Mike shook his head, "If this is all he's got, it doesn't matter. This isn't going to win the Nobel Prize. It isn't good enough — I just feel it, here."

He placed his hand on the girlie stitched on his shirt pocket so sincerely that I did not argue. Mike was a great scientist and a great scientist just knows what will get a Nobel Prize and what will not. That's what makes a scientist great.

Derrick did announce his discovery — and it had a flaw in it that an average high-school student would have spotted at once.

His non-electronic film was simply our old two-dimensional sheets, but without even our efforts to fold them. It just hung down the side of a large wall. A movable ladder was supplied that was attached to a runner near the ceiling. One of Derrick's students climbed the ladder and read aloud into the microphones.

Everyone ooh-ed and ah-ed at the sight of someone reading with the unaided eye, but Mike, watching on television, slapped his thigh in amusement.

"The idiot," he said. "What about people with acrophobia?"

Of course! It leaped to the eye when Mike pointed it out. Anyone afraid of heights couldn't read under the Derrick system.

But I seized Mike's wrist and said, "Now wait a while, Mike. They're going to laugh at Derrick and that's dangerous. As soon as this point about acrophobia comes out, Derrick will feel humiliated and he will turn with every fiber of his magnificent brain to the project. He will then solve it in weeks. We've got to get there first."

Mike sobered up at once. "You are right, Jack," he said simply. "Let's go out on the town. A girl or two apiece will help us think."

It did, too, and then the next morning we thought about other things and got back to work.

I remember I was walking back and forth, muttering, "We've tried two dimensions; we've tried one dimension; what's left?" And then my eye fell upon Mike's girlie shirt with the nude on the breast pocket so cleverly hem-stitched that strategic areas were distinctly raised.

"Heavens," I said, "we haven't tried *three* dimensions."

I went screaming for Mike. This time I was sure I had it and I could hardly breathe waiting for his judgment. He looked at me, eyes luminous. "We have it," he said.

It's so simple, looking back on it. We simply piled the photographs in a heap.

The heaps could be kept in place in any number of ways. They could be stapled, for instance. Then Mike got the idea of placing them between stiff cardboard covers to protect individual photographs from damage.

Within a month, we had published. The world rang with the discovery and everyone knew that the next Nobel Prize in physics would be ours.

Derrick, to do him justice, congratulated us and said, "Now the world can read without electronics and by the use of the unaided eyes, thanks to the Holmes-Ginsbook device. I congratulate those two dirty rats on their discovery."

That handsome acknowledgment was Science at its best.

The Holmes-Ginsbook device is now a household item. The popularity of the device is such that its name has been shortened to the final syllable and increasing numbers of people are calling them simply "books."

This eliminates my name, but I have my Nobel Prize and a contract to write a book on the intimate details surrounding the discovery for a quarter-million-dollar advance. Surely that is enough. Scientists are simple souls and once they have fame, wealth and girls, that's all they ask. END

THE STARMAN OF PRITCHARD'S CREEK

by JULIAN F. GROW

Illustrated by WOOD

It was a mother's star-crossed love that kept Magdu's steam up and her flywheel ever turning!

I

"A mother," Young Widder Poplowski said, "has as many hooks to hang hearts on as a hat-rack." She sounded like warm apple pie.

But her kid Sid went by the window just then and I happened to spit through it and she tossed me out of the kitchen. She wasn't a flighty female generally, but a regular she-cougar when it came to that confounded sprat.

Going down off the back stoop, I spat again but the kid Sid, he dodged and flung a rock back at me. We just never have hit it off.

He's the horsefly in my particular ointment, if you don't mind a medical term from a bona fide mail-order M.D. and the best damn doctor this town's ever had — sole and only one too, of course.

Anyways, though, the kid Sid has been the bug in my broth ever since I moved into Young Widder Poplowski's Elysian Field Boarding House, which is also the best and only one in town. Purity Poplowski's her Sunday name, but Purity Osgood as was, before she married this Polish count or whatever down in Boston and come West, where he tipped into a well and drowned. Wet year that year. Any other time wouldn't have bothered him none.

Any rate, she's Boaz Osgood's second eldest girl, from Bethel 'Lympus, just down the North Branch and up a couple hills from East Randolph, Vermont, where I was whelped.

I'm Doctor Hiram Pertwee, by the way. I have got this notion that Young Widder Poplowski'd just as soon be Missus Doctor Pertwee, what with a professional man being the closest we come to royalty hereabouts, outside of the borax mine superintendent, and he's crosseyed. Purity Osgood Poplowski Pertwee? I dunno.

And then there's the kid Sid. A man shouldn't start his very first marriage by strangling his wife's nine-year-old son, but sure as shooting that'd be the way of it. And like I said, Young Widder is kind of touchy on the topic.

She is forever trying to get us together and friendly, her having more or less set her cap for me like I said. That was pretty much how come we had the adventure I'm going to tell you about, so I could learn to dote on what she called Sidney and he'd get to know me, on the order of paw and son. Jehoshaphat, I'd rather gargle hot lard. But you know women.

So this day we went on a picnic, her and me and the kid Sid.

We clopped off in the buggy behind Poor Harry the Morgan gelding that cost me $25. That was four years ago I bought him, and I figured he still owed me $24.50. Young Widder sat on the off side; natural enough, I sat on the nigh. The little scorpion sat in the middle and dug at my leg with a sharp stick.

We went about eight miles out of town, to Pritchard's Crick. There wasn't no water in it this time of year, of course, but it had sort of a tree and is a favorite picnic spot around here. I beat the twigs and small animals out of the buffalo robe and we set on it in the shade of the tree, swatting flies and eating chicken legs and watching Poor Harry chew at the dried old tree.

"A mother's love," commented Young Widder Poplowski, "is a soft pillow for souls to sleep on."

"Yes'm," I told her, watching the kid Sid hog his pockets full of English walnuts his maw got him all the way from Denver and then go haring off up a draw. I guess I haven't mentioned that Young Widder isn't rightly a bad-looking woman. Soft brown hair forever coming out of the bun, blue eyes pretty enough, except she don't see none too good, nice pleasant face, and probably limbs sufficient to get by. Only real trouble is, she has this tendency to be sort of single-minded.

"Motherhood is the unfolding of

nature's finest bloom," she observed, nodding to herself. "Once she has blossomed as a woman, her spirit is soft enough to cradle the tiny babe, yet strong enough to sustain her husband in even the most arduous calling — even a physician who charges all out of doors to take a dried pea out of an innocent child's nose. Where in tunket's that Sidney gone?"

"Yonder," I told her, and she settled back on the buffalo robe.

"Pray, what were we discussing?" she said, in her head flipping pages in Mrs. Leonora Pemberton Dodie's *Motherhood, the Sweetest of Life's Labours, and How to Treat Numerous Complaints of Childhood, Copiously Illustrated.* That

was her weekday Bible, but by gorry she'd never have got that dried pea out with it. She found her mental page. "Wise mothers . . . " she began.

"Widder," I said.

" . . . will always keep . . . " she said.

" . . . oil of the castor bean plenteously on hand." Damn if she hadn't got the wrong page.

"Widder," I said, "you downright got to face the fact that there ain't a doctor in six states and the Indian Territory that'd even talk to that cub of yours, much less get a pea out of his nose for a dollar. I wouldn't of tried it myself except for my veterinary experience."

"Sidney is a deeply sensitive child, a delicate nature housed in a none too robust physique," Young Widder Poplowski said. "He inherited the vigorous, inquiring mind of my father, who, as you may know, is the proprietor of a prosperous shuttle mill in Vermont." I did know it, what with her mentioning it several times a day, seems like. "Alas," she went on, "his frail constitution is the melancholy legacy of generations of Polish nobility. The result, I believe, of the use of heavy spices in their cooking. My late husband, the Count — "

It was going to be a long siege if she started in about her late husband, the Count. Lucky for me, the kid Sid came flying down out of the tree just then, lit spang on the hunting-case repeater watch in my vest pocket — I'm happy to say I'd laid the vest with my frock coat on a log — rolled over four times howling, and lit out like a turpentined tomcat.

Neither of us'd even heard the little imp of Satan shinny up the tree nor hide there listening, like a winter-gaunt puma at first thaw, but he made up for it now.

He cut out, like I said. He ducked between Poor Harry's legs and out the other side, tripped and rolled and shot up another draw, trailing noise behind him like a comet's tail. Poor Harry, he reared up out of his wits, pulling the buggy wheel he'd been tied to right off the hub: I never did find the damn hubnut. Naturally the buggy tipped over onto him, and just as natural, that hammerhead horse stomped the whole kit and caboodle into kindling.

After all that healthful exercise, Poor Harry snorted and just stood, his chest heaving. So did I, thinking about that eight miles home in the heat, and the $45 for the rig, and, more cheerful, about using the kid Sid to club Poor Harry insensible with. I was going to broach this proposition to Young Widder Poplowski, but it turned out she'd been sitting there on the buffalo robe, shrieking like a banshee ever

since her lamb come out of the tree.

Then she shut up and scrambled to her feet, displaying a turn of limb that in time could of softened my heart toward her son. She started off and I turned to see it was him, coming back down the draw slow, not looking like he was wounded, but a little like a normal scared tad.

Oh, she rushed up and carried on over him enough to sicken a pig. It was O My Poor Baby, and Tell Mother If You're Mortally Hurt, and If Your Neck Is Broke Don't Talk Just Point To Where You're Bleeding, and I don't know what all. After a while the kid Sid got mad and pushed his maw away. "I'm all right, goldang it!" he hollered. "And I seen something up there!"

Young Widder paid him no mind, of course, just kept caterwauling and carrying on. Finaliy I bellered, "Widder!" at her loud enough to hurt my neck and she gentled down some. "You young pipwit," I remarked to her lamb, "you got any idea how much a buggy costs? How we going to get home, your maw and me, with the buggy wrecked? Forty-five silver dollars, that's what a buggy costs. And what you mean, cussing at your maw? I got half a mind to — "

"'I don't care," the kid sid yelled. "'I seen something up there. I did, you ole gasbag sawbones. Something funny."

II

Luckily, I guess, Young Widder Poplowski come flying between us at that point and clutched at him, glaring at me and wailing O My Poor Baby, over and over. Finally he stamped his foot and screeched, "But I *seen* something!"

I commenced to think maybe he had. I pried his maw off his neck and held her squirming and asked, kindly as could be, "What'd you see, brat?"

"Well, goldang it, I'll show you," he yelped, and set off plodding up the draw. Young Widder wriggled loose and lit out after him. He broke into a trot and I went along after them, hauling Poor Harry by the bridle. When I caught up, they was standing quiet, staring into a pinon pine clump at what was an oddment, sure enough.

It was the best-organized trash heap I ever saw. To this day I couldn't tell you what-all was in it — sticks, rawhide, old bottles, a coal-oil can upside down, a rat's nest of copper wire in a Mason jar, a battered cavalry canteen, twists of rag and knotted rope, odds and ends, copper tubes and spools, a cracked telegrapher's galvanic cell patched with mud — oh, a genuine bona fide hodgepodge, sure enough.

The thing was, though, it did seem like it had a purpose. Like it was heaped that way deliberate. The three of us just looked at it —

four, counting Poor Harry, who had in mind eating it — and then at each other, and back at it. "I *tole* you I did," the kid Sid, blubbered, starting to cry now.

His maw was clucking at him when I heard something, and clapped a hand over both their mouths.

There was a far-off creaking. Then a hissing. Then a voice like a steamboat whistle, moaning: "Bad, bad, bad, bad. Mokwun ss-so bad, bad, bad." It was getting close. I dragged Young Widder Poplowski, her whelp, and Poor Harry into a jumble of rock back the way we came, and we watched.

After a tolerable wait, we saw it. First the cloud of steam, then it. It was a regular enough copper-walled, brass-riveted vertical steam-engine with a flywheel and all, puffing vapor out of the top of its head, rolling along the ground on four little red wheels, wringing its hands and moaning: "Bad, bad, bad, bad. Profess-ss-ssor ss-so mad, mad, mad." It tended to hiss on the esses.

Boys, even imps of perdition like the kid Sid, go for locomotives pretty hard, and he stared at it starry-eyed. Young Widder Poplowski, for her part, more or less fell to shuddering and trying to wring my arm off at the elbow, which she just might've done, being a passable powerful woman. As for me, I hadn't never seen the like, not even in White River Junction or Saint Joe.

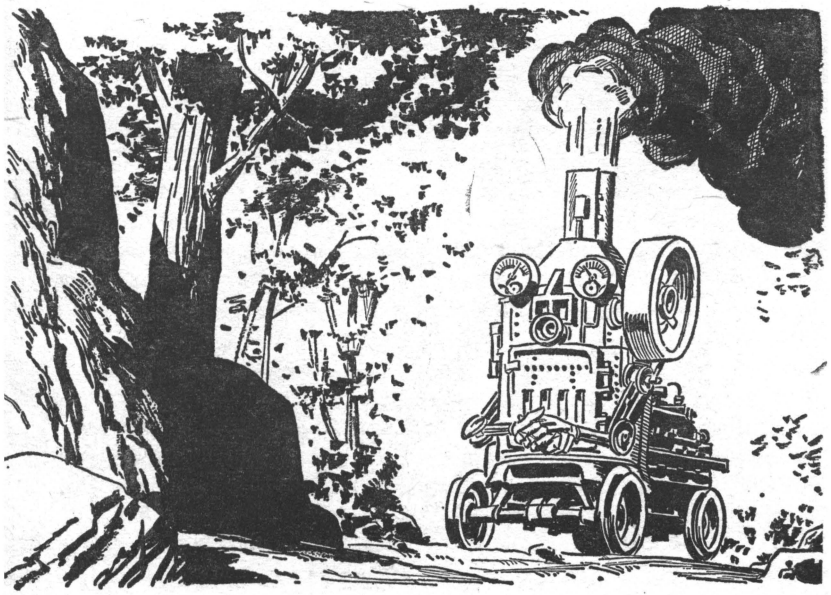
The thing trundled up to the trash heap, mourning, and stood for a time facing it — facing, that is, if you judge the flywheel to be on the back of its head. Way it looked to me, anyways.

Then, spurting vapors and hissing, it tapped the canteen in the trash heap with one of the two fingers on its right hand. The canteen tunked, like it was near full. Then the thing tapped the coal-oil can in the trash heap and the can tinked, empty. The thing nodded its flywheel and took off the top of its head, unscrewed a little cap, and poured from it into the coal-oil can.

It screwed the cap back on and replaced the top of its head, and reached down for a dead pinon pine branch on the ground. Then it opened the fire-door in its belly, stuck the stick in to set it ablaze, and with it lit a bunch of little gas jets, like, here and there in the trash heap.

It looked like the start of a first-class bonfire, but it wasn't. First thing you knew there was kind of a lazy stirring in the trash heap, and then damn if it didn't start to get up. Very slow, understand, and creaking to beat the band, with sparks playing in that Mason jar full of wire. We watched it.

Now, I got sharp eyes. And I could see that pairs of wires went into the trash heap from that jar, and that each wire ended in a little spool at the end of a tube. One set of tubes come from the canteen, and



the other, that come from the coal-oil can, led to those jets the steam engine had lit.

If you knew what to look for — if you was, say, a trained medical man — you might almost say it was a circulation system of some kind.

Damn if it wasn't. As the trash heap stirred and shook, it began to shape up sort of like a skeleton, made of wood. What happened is that sparks would dance around one of the spools and water would drip out of that tube onto a length of twisted rawhide tied to either end of a jointed rod. Soon as the rawhide got wet it'd stretch, of course, and the joint would open up just like an elbow.

Or the sparks'd fly around the other spool of the pair and the little coal-oil flame'd swing under the rawhide, drying it out and tightening it up again. That'd make the elbow bend. Well, this squirting and drying was going on all through the trash heap, and it was pulling itself together slow — about an inch an hour, seemed like. And the steam engine was rolling back and forth, wagging its flywheel and wringing its hands, and hooting mournful like a sidewheeler 'way downriver losing a race. But the trash heap was making it up.

At least I guess it was, for just then the kid Sid ducked out to watch from up closer; Young Widder Poplowski yipped and lit out after him, Poor Harry whinnied and reared up, kicking me in the head, and I went down like a pole-axed steer.

When I come to, there was nobody around but me.

Getting kicked by a horse is bad, but getting up after you got kicked by a horse is worse. I remember thinking, as I got up, that some picnics just don't work out as good as some others.

I staggered a ways down-trail, and there stood Poor Harry, trailing harness and gnawing on the oilcloth hood of the busted buggy. If I'd of had a gun I'd of shot him and if I'd of had a knife I'd of stabbed him, but it was eight miles into town and I had to ride him. So I was nice to him.

"Good old Poor Harry," I said, sweet as pie. He ran off.

Well, I ran after him. The benighted hammerhead didn't have the decency to stampede toward town, naturally — he charged off in six different directions, all the wrong ones. Finally his harness looped around a stump and he stopped long enough for me to come panting up and grab him.

After maybe three-quarters of an hour I'd convalesced sufficient to think about climbing up on his back. Now, this particular gelding, Poor Harry, didn't like much to be drove. But he purely hated to be rode. He must of bucked me off eighty-seven, eighty-eight times be-

tween there and town, him shooting me off his back every few yards or so and me crawling doggedly back on.

The eighty-ninth time was at the stage depot, next to my office. Into the water trough.

Kind of a crowd gathered when I climbed out dripping, and some of the comments were on the thoughtless side. But I wanted to address my noble animal. "Poor Harry," I said, "you have got me to town when I needed to get to town, to raise a posse to rescue Young Widder Poplowski and her infernal pup, and I am grateful. Truly I am.

"When they are safely back," I told Poor Harry, "I am going to send all the way to the silversmith in Denver. I don't care none about the cost. I am going to have him make you a solid silver-mounted bridle, with a solid silver bit. And I will have him make solid silver rosebuds for the tips of the buggy thills. There will be solid silver buckles on your harness and solid silver conchos on your reins, and I will have him engrave P and H, your initials, in solid silver on the blinders for your soft brown eyes. For I am grateful.

"But I will have him make a solid silver mallet too, Poor Harry," I told him, "and with it I will beat your head in, first sunny day!"

One or two of the drunks applauded. But that wasn't why I came.

III

Our day marshal enjoyed delicate health, so there wasn't no point in bothering him. I stomped to the Owl Hoot Saloon, squishing every step and being hoorahed most of the way, and pushed my way in the batwings to round up a rescue party willing to take on a small locomotive. There was about seven men in the Owl Hoot, and one more if you count the swamper, Jubal Bean, which I don't.

Four were playing Red-dog, and the wildest bet I saw made was three cents. Two men were egging the big-time gambler on.

The seventh was a fellow calling himself an *arteest* from Europe, name of Maestro Fuccelloni. He was on his way to San Francisco, as he told it, when his monkey jumped out of the window of the stage and clean disappeared, and that was the end of Maestro Fuccelloni's act.

He stopped the stage and scouted around for days searching for the monkey, and finally come staggering into town carrying his carpetbag and his crank-organ. He gave the organ to the church, never minding it was Protestant, and got drunk. Said he was destroyed as an arteest.

Maestro Fuccelloni'd been drunk ever since, and that was better than two years now. Sundays he used to come around the church and stand outside, listening to *Santa Lucia,* but he'd never once come in. He

wasn't no real use to me now.

Neither were the others, come to that. Leander Shaw had a bad back, Sam Griswold claimed his horse came up lame, Hubie Torrence was due back at the livery stable in half an hour to watch a shoeing. Deuce-High Magowan had a serious catarrhal condition and besides it was his deal. Asa Hinchley was, he said, unable to sit a saddle because the salve I gave him didn't work, and I wouldn't trust Walleye Waggoner to watch a stump.

That left Jubal Bean, which meant I went alone. I swear I don't know how them sheriffs in the Wild West penny-dreadfuls are always corraling a posse on short notice. My experience is that the only ones that are idle enough to be available are loafers and bums too pimple-witted to spit and hit dirt.

However.

I did tell Jubal Bean to unharness Poor Harry and slap a saddle on him, figuring he'd probably get bit in the process. Did, too, it turned out. Both of them. Poor Harry chewed Jubal on the arm, and Jubal bit him back on the fetlock.

Meanwhile, though, I run up to the Elysian Field and changed my wet duds. I fetched the late Count's fowling-piece down from over the fireplace, and grabbed up a .32 rimfire Slocum Frontloader I took in trade from a faro dealer with three busted fingers and no plans for the future — nor, it occurred to him, much need for self-protection any more.

Considering the nature of the enemy, I suppose a pipewrench and a crowbar would've been a better choice of weapons. Still, I figured the noise just might do some good — that locomotive hadn't seemed particularly brave. Jubal Bean and Poor Harry were glaring at each other when I got back, so I hoisted myself up without ado and cantered off to redeem Young Widder.

Mind you, I didn't have an idea how to go about it, never having taken on a steam engine and a trash heap simultaneously before. But you get to play a lot by ear in my trade, medicine, and so where there wasn't much profit in plotting strategy I concentrated on staying on Poor Harry. Did, too, mostly.

I tied him in the pinon grove and moved up the draw afoot. The amount of clatter a reasonable careful man can make sneaking around never ceases to amaze me. They say Indians move about quiet, but I dunno. I never saw them at it. Only Indians I ever saw being quiet were asleep, which is not to say drunk. Which is what they were. Both of them.

Anyhow, the crashing around did not appear to rouse nobody, Indians, locomotives or otherwise. So I thought. First thing I knew, skulking along, there was this hiss and

puff of steam from behind, my arms were pinned tight and I was being packed off by that infernal boiler with the flywheel on its head. Wasn't no use struggling, either. I decided to go where it took me.

Which was to a rock that looked like it was part of a cliff but wasn't. The locomotive toted me up around behind and into the mouth of a cave, hissing and billowing steam on the upgrade, and then rolling like the 3:45 down a long tunnel into a sizable cavern. There, right in the middle, stood the trash heap, looking in the gloom like a Christmas tree with all its little coal-oil flames going.

And there behind it was Young Widder Poplowski, pale, scared half out of her wits. I didn't see the kid Sid.

"Oh, Doctor Pertwee!" Young Widder yelped.

I tried to get down, but the locomotive hissed, "Pleass-ss be ss-still," in my ear and like to scalded it off. Young Widder made as if to come to me, but the trash pile moved at her — not fast, of course, but enough to make her scream a little and settle back. Then there was a bustling in an opening on the far end of the cave.

"Heighly, heighdy!" said the little feller that come out, followed by the kid Sid. His maw moaned and ran to her cub, trash heap or no — like I said, it wasn't too fast.

"I do hope," the little feller said, "that my machines haven't caused you any discomfort. Here, Magdu, put the good doctor — Pertwee, isn't it? — down immediately, and bring some tea for our guests."

Magdu dropped me, and steamed off. "Permit me to introduce myself," said the runt. "My name is Troy, Professor Mark Troy. The absent Magdu you already have met, though in circumstances of a lamentable informality. And Mokwun — " He nodded to the trash heap, which nodded back ponderous as elephant bones. " — you have also, I believe, seen during one of his infrequent lapses from discipline."

Damn if he didn't talk odd, this Professor Troy. He was short, like I told you, and bald as an egg, and had on little gold-rimmed eyeglasses. He wore a frock coat like me, but his shirt was ruffled and he had on a high stock and fancy cravat — somewheres between a yard-goods drummer and a temperance lecturer, or maybe an Episcopalian, I figured. But it turned out he was a mad scientist, an inventor.

Young Widder Poplowski, it goes without saying, couldn't have cared less. She was busy taking inventory of her whelp. He didn't seem to me to have anything missing. He was chattering away like a red squirrel, in fact.

Any case, we got interrupted around then by Magdu coming back, carrying a flat board like a tray. On it was a dented tin cup, a small skillet, the bottom half of a busted bitters bottle, and an old Army canteen without a cork. "Ah, tea," the Professor said. "Thank you kindly, Magdu." He turned to Young Widder Poplowski. "And now, madame," he said, "if I may impose — what exactly *is* tea, and how do I build it?"

Well, we goggled at him popeyed, for you'd have sure taken the Professor for a jasper schooled in the social graces. Just then, though, the kid Sid squirmed out of his maw's clutch and ran over to the Professor and kicked him hard in the ankle. "I want a walnut," the whelp said.

The Professor never even winced. "I do not believe, young person, that we have any of that in our larder," he said, pleasant as you please. But Young Widder Poplowski allowed as to how she still did, and dredged up a handful from her reticule. She gave them to her brat and he went off to squat against a wall, splitting the nuts with two flat rocks and watching us with squirrel-bright eyes.

It was a relief to be shut of him. The Professor, though, seemed kind of horrified.

I turned to Young Widder Poplowski. "You all right, Young Widder?" I asked her. Her color was high now, but beyond that she look-

ed fit enough, except her hair was a mess, as usual — I judged so far she wasn't no more than only scared half to death.

"I'm only scared half to death," she said. Score one for Dr. Gideon Faustus's Correspondence College of Internal, External & Lower Animal Medicine, Post Office Box 52, St. Louis, Mo., where I took my degree. "That there thing," she said, jerking her head at the trash heap, "never touched me, and that there other thing — " she nodded at Magdu " — carted me and Sidney just like she did you. Sidney," she said, proud, "fought against those arms of steel like a knight errant of old, but to no avail."

I was going to make some sort of humorous remark about night errands, kind of to enlighten the atmosphere which, to tell the truth was getting rather steamy, but didn't. The Professor spoke up.

"I assure you, madame," he said, "Magdu would not hurt a single hair of your head." He glanced at her mop like maybe he wished he'd put it some other way. "Magdu was built to be a servant, to faithfully carry out the wishes and commands of her master and — ahem! — his guests. Mokwun is, I fear, rather more primitive, in both its mechanical articulation and — ah — intellectual faculties. Mokwun's brain is only a receptor of my mental impulses — and, of course, Magdu's. But Mokwun, too, is a servitor, and is built to protect its master and, with equal ability, those whom its master wishes protected.

"Its master," the Professor said, bowing again right courtly, "wishes no harm to come to you."

I cut in. "Built, you say," I said. "You mean to tell us you strung together that infernal machine out of kindling your own self, as well as the other there — Magdu, or whatever? Well, I never."

"Indeed," the Professor answered. "I should think not. Mokwun is, as I said, quite crude, but Magdu, for all her multitude of faults, is a nearly perfect apparatus. I daresay none like her exists under this sun, considering the local dearth of raw materials and intelligence. Magdu is very close to being a perfect servant, albeit only a machine."

The subject of this was off a ways, watching the Professor with as close to adoration as a steam engine can get, I expect. Every time the Professor lifted a finger or twitched, Magdu'd churn her flywheel and hiss, eager to get into action serving, and then bleed steam kind of disappointed if there was nothing to do. When the Professor snapped his fingers at Magdu and asked us if we'd like to see her innards, Magdu highballed over, fit to pop a valve.

First the Professor opened the fire-door in Magdu's belly and showed us the coal-oil burner that kept the pressure up. Then he un-

latched Magdu's chest and swung that open.

IV

There was more machinery in there than you could shake a stick at. Over the firebox was a regular-enough little engine, with a belt up through Magdu's neck to the flywheel I told you about, and another belt down to the gear-box that ran Magdu's wheels. There were four of them — red, you remember I said.

Above all that was two dingusses the like of which I'd never seen before. Then it came to me, maybe I had. Before my Paw died, back in East Randolph, Vermont, he took me over the mountain once to Brandon for a laugh at Crazy Tom Davenport, that being a popular activity then thereabouts. Everybody'd stand around and giggle whilst old Crazy Tom fussed with his fool contraptions. He said they'd make the waterwheel obsolete.

Well, mebbe. We laughed at him anyways, of course, that being the popular thing to do. But the dingusses in Magdu's chest looked like some of old Crazy Tom's electrical foolery.

Meantime, of course, the Professor was explaining all about Magdu's giblets, but it might as well have been in chinee or Creek Indian, for all of me. Oh, he undid Magdu's right arm and showed us how steam pipes and copper wires came down and made things make her arm wiggle and her fingers wobble. But I didn't get hardly a word, and Young Widder Poplowski, she'd just give a little shriek and totter every time the Professor took Magdu apart some more.

I made like I was catching on to what he said, because looking smart and knowing is in my experience about two-thirds of being a doctor. And while the Professor was putting Magdu back together, an idea hit me. Now, I was a surgeon's helper in the late War of the Rebellion, and held down a sight of poor devils that were getting their arms and legs sawed off. They were pretty upset about it, most of them.

Well, I thought to myself there in the cave, why not hitch one of the machinery arms on some feller that had got his arm sawed off, or a tin leg to replace one that was missing? Of course, the poor devil'd be kind of fat with all that gear in his gut to make the leg or whatever to work, but wouldn't it beat a crutch?

I was minded to speak to the Professor about it. "Professor," I said, "I was a surgeon's helper in the late War of the Rebellion, and . . . "

The Professor was just putting Magdu's head back together. The coal-oil and water reservoirs fitted like doughnuts around Mag-

du's smokestack, over the part where her eyes — electrical cameras, the Professor said, and I nodded right profound — and her mouth hole were. Magdu's voice was some kind of calliope which the Professor explained all about, but I didn't get.

Incidentally, what passed for Magdu's brain and made all the stuff work and did the thinking was located in the lower rear portion of her body, just above her hind wheels. We all knew people situated like that. Anyways, though, I just began telling the Professor about how I was in the late War of the Rebellion and he cut in on me.

"The what?" he said.

Well, I never. A grown man that didn't know about the late War of the Rebellion? Then I thought what with how he was a mad scientist he might of been in a lunatic asylum during the hostilities, and the keepers might never have mentioned it.

"Oh, that was just a little old skirmish between the North and the South to see about sedition, secession and slavery," I told him.

"What is slavery?" the Professor asked.

"Oh, that's just one man telling another to do whatever, without the one that's supposed to do it having any say about whether he does it or not," I told him.

He appeared shocked. "Do such conditions really exist?" he asked. "Are there really situations in which someone given a command can question the rightful authority of his master?"

My, the Professor'd surely been out of touch. So I told him about the Declaration of Independence and the American Revolution and how Ethan Allen and General John Stark won it, and about how the War of 1812 was settled on Lake Champlain, and about poor Old Osawatomie John Brown just for the hell of it. And I told him about the heroic part played in the Rebellion by Colonel Redfield Proctor's Fifteenth Regiment of Vermont Valunteers, Army of the Potomac. Which is the outfit I happened to have been in.

Professor Troy, he soaked it up, especially about how fatal wars are to so many people, and about slavery. Seemed kind of distressed the Secesh lost, but I took that to be normal enough, him being demented and all. By the end of the recital, though, my neck felt like it was paved with corncobs and I was hungry to boot.

"It sure has been a pleasure telling you all these things any grown man in his right mind would know but to tell the truth I am bone dry and could eat a horse," I said.

"A horse," the Professor said, sort of dubious. "I will see what Magdu can do." He looked around. "Where *is* Magdu?"

Damn if Magdu wasn't with Young Widder Poplowski. They were both standing over the kid Sid, who was squatting on the floor playing with the stuff that Magdu'd brought for tea. The whelp already had busted the rest of the bitters bottle, but the two of them, Young Widder and the steam engine, were watching him fondly. "A mother's love," Young Widder was saying, "is rain upon the desert, sun upon the snow, sustenance for every growing thing. It makes the seedling grow straight and tall, and the mature tree bear bounteous fruit."

Magdu nodded, apparently unfamiliar with the nature of fertilizer, and I came to see that for all of her being an apparatus Magdu tended toward the maternal in her inclinations. Any case, the Professor hustled over past the hulking brush heap, Mokwun, and had low words with Magdu. She hung her flywheel, shamed, and rolled out.

The kid Sid ran along with her. Professor Mark Troy watched him go. "Very interesting articulation," he muttered to himself. "And the smaller pattern would be more efficient in terms of fuel weight and water supply, while still as capable of accomplishing the objectives as a larger model. Ideal.

"Madame," he said to Young Widder Poplowski, "if it is not presuming too much, could I have Sidney?"

Oh, I grant you it was kind of an irregular request, albeit I'd have shaken hands on it, done-and-done, in a minute. But there really wasn't hardly any need for Young Widder to carry on so. First she went pale, and then, when she understood he meant to keep the whelp permanent, she went red.

My, didn't the wind blow wintry chill. I never did hear the like, her such a genteel female, and a widder, and the daughter of the proprietor of a prosperous shuttle mill. Her tongue marched up the Professor and down the other side, stomping all the way; I never heard a tongue lash and snap so; she must of been breathing through her ears. The Professor, he just stood there looking patient.

Young Widder went some ways beyond the limits of human endurance and finally ran out of vocabulary. Just at that moment, Magdu come chuffing in, leading Poor Harry by the bridle, white-eyed but too stupid to buck. "I have the horss-ss," Magdu said. "Howss-shall I cook it?"

Well sir, yielding up the kid Sid was one thing, but my horse, even Poor Harry, was another. I squared off and was just about to follow the widder's footprints up and down the Professor and derail Magdu to boot, when the whelp showed up again, coming from a different direction. Young Widder

Poplowski fled to him shrieking, and clutched him hard enough to break his bones. It was O My Poor Baby all over again.

"Goldang it, I'm all right," the kid bellered. "Lemme go, goldang it, you'll bust my skull!"

Young Widder drew back at that, and the kid unlimbered his arm, and damn if he didn't have a skull and a bone in his grubby little fist. Young Widder let out a squawk and jumped back like her baby'd just gone lizard. I took the headbone out of his hand, having to squeeze his wrist only the least bit to get it away, and looked at it. There was something funny about it.

It wasn't the sort you find as a regular thing. No more than the size of a Yellow Delicious apple, it was too small by some to be a calf's, if there were any calves around, which there weren't, nor even a lamb's, if there were any of them around either. And it was too short in the muzzle to be a dog or coyote or cub wolf. And the teeth were wrong for a cat.

The other bone was plain enough — a human femur.

I held the skull in one hand, studying on it, and held the kid Sid off with the other. Good little kicker, I'll give him that. Then the Professor spoke up, like nothing had happened.

"I really must have Sidney," he told Young Widder Poplowski, earnest as all get out. "I have to insist. There is more involved here than whatever transient emotional attachment you may have for him. He is needed here."

Well, when it came right down to it, I guess maybe things had gone far enough. The widder, pale again, was pressing the writhing whelp to her bosom, so I stepped in front of them to reason with the Professor, just between us two men of science.

"Hold on, bub," I told him. "I ain't saying whatever you got in mind mightn't be a more useful purpose than that limb of Satan is likely to serve, everything considered. But the fact is, his maw wants to hang onto him a while, and so that's that. You, DeWitt Clinton," I said, to Magdu, "you turn loose of Poor Harry. He ain't to eat."

"I have got to have that specimen!" the Professor said, lunging at the kid Sid who was cowering in the widder's arms.

"Not likely," I hollered, pushing the Professor away and like to busting my wrist doing it. He was sure solid for such a runt.

"I *will* have that specimen," the Professor said, making another grab.

"No, you won't," I said, and pulled that .32 rimfire Slocum Front-Loader from my belt, where it had been all this time.

The Professor, he never even noticed. He came toward Young Widder Poplowski and her kid Sid, so I aimed dead center at the Pro-

fessor's chest and gave him all five chambers, two of which misfired. The Professor hissed and stopped short, looking sort of abstracted, his arms swinging back and forth; then he went over in a heap.

Magdu hooted like a mine whistle and highballed over to him, letting go of Poor Harry. I scooped up the bridle with one hand and collared Young Poplowski with the other, and hustled the three of them the hell out of there.

V

Trouble is, I picked the wrong tunnel. It didn't lead to the mouth of the cave, but deeper inside the mountain to what I took to be the Professor's workshop, full of foundry tools and junk. And there was no other way out. There wasn't any choice but to go back the way we came, taking our chances with Magdu — and Mokwun.

I had the widder and the kid Sid wait just around the bend before the main chamber. I looked around the corner real judicious, and saw Magdu cradling the Professor's body like a grieving mother. Only the Professor's head wasn't on his body. His head was lying on the floor, staring straight at me.

"Heighdy," the head said.

"Um," I said. "No hard feelings, then?"

"Certainly not," the Professor's head said. "You opposed the course of action proposed by me, and carried out that opposition by means at your disposal. I would have done the same, had our roles been reversed. Indeed, I shall."

"Yeah," I said to the Professor's head. "Well, it's been nice chatting with you, but we got to go now. Uh, don't get up — we'll find the way."

"That," the head said, "will not be possible. I must have Sidney. Magdu is foolishly concerned with my body and unfortunately is not subject to telepathic control, but will respond to my articulate command. Excuse me. Magdu — "

There wasn't time for small talk. I ran out and booted the Professor's head. It flew and bounced off the far wall; it fell to the floor and popped open, and a little brown thing that looked like a nut come out.

"That will do you no good," the Professor's smashed head said, kind of faint. "My vocalization apparatus is still operative. Magdu, immobilize Doctor Pertwee and seize the Sidney!"

Magdu, still holding that headless body, turned. "I am ss-sorry, I cannot," she said. "I cannot see harm come to another mother'ss creation."

The head sputtered, in faraway voice, "Another *mother?* You imbecile machine, I order you to — "

"Do not order," Magdu said. "It

was-ss bad to do what was done to the ss-small brown beas-sst, and to the little man. I ss-shall obey no more ss-such orders-ss. You are a bad ss-son."

The head said, faint but angry, "I have failed in you, Magdu. I would prefer not to do this, but it is imperative." The head shut up; but over on the other side of the cave Mokwun's little flames begun to get brighter and it began slowly to move. It was coming at me.

Magdu laid the body down. She huffed a minute, building up a head of steam, and tore across the floor right into Mokwun, knocking it into a million pieces. She stopped, her flywheel slowing, then spoke to the strewn kindling. "I am very ss-sorry, Mother," she said.

Things were happening a little fast. I was standing with my mouth open when Young Widder Poplowski came up soft and grabbed my right arm, and Poor Harry chawed me on the left elbow. The kid Sid kicked me in the back of the leg, so I knew everybody was O.K.

"Then I have failed," the Professor's head was saying, faraway and like it really didn't matter a whole lot. "This time I have failed. But I shall begin again, and in time I shall succeed, for much depends on my success. Doctor Pertwee, would you like to know what has been destroyed here?"

"Sure," I said.

"I was one of an advance party sent to your solar system from my home, far from this star," the Professor's head said. "Ours is a race of beings greatly unlike your own, elect beings who evolved over the aeons into almost quintessential intellect, housed in a brain small by your gross standards, protected from harm by a hard carapace.

"Possessed of no limbs with which to accomplish the works out intellects devised, we developed a symbiotic relationship with a breed of lesser brutes on our planet, which we telepathically induced to ingest us. Once swallowed and safely encysted in the brute's body, we could direct its every thought and move and, with its body, perform our will.

"Recently, however, our vehicle-hosts began to die of an unfathomable and incurable disease, threatening our useful existence. The scouting expedition of which I was part, in a ship piloted by a creature whom I piloted in turn, was sent out to find new planets, new vehicle-hosts.

"Mine, already ill, was killed in the landing near here. Whether any one of my fellow-scouts survived their landings I cannot know. We are almost indestructible within our carapaces, but the actual range of our telepathic communication is limited.

"Almost I despaired of finding

a new vehicle who would swallow me, establishing symbiosis so I could accomplish my mission. None of your local animals has, evidently, a throat of sufficient size to pass me whole, though I was gnawed by several of your gophers. Quite useless for my purpose.

"Finally a small, brown-furred primate happened along, and put me in his mouth. I was able to establish control before he enacted his intent of cracking my shell. Staying pouched in his cheek was hardly as secure as the customary internal cyst, but it served."

"Wait a minute, Professor," I said. "Would that have been a small Italian monkey, fairly musical?"

The Professor went on like I never spoke. "The small primate, under my control, built Mokwun from materials nearby and light enough to be managed by the inferior strength of its body. It took a great deal of experimentation with the inadequate materials available, and even more of an effort to keep the primate alive until that first primitive model of automaton was completed.

"I was, you understand, virtually helpless until that was done. I allowed the primate to die immediately afterward. Its skull is the one Sidney found.

"Mokwun was cumbersome and excruciatingly slow-moving, but its receiver under my control, managed to assemble a suitable collection of tools and, finally, the second model, the traitorous Magdu. I chose to make Magdu self-reasoning, using navigational computing elements from my wrecked star-ship. It was an error I now have cause to regret.

"And, with the techniques refined in making both prior models, and with Magdu's vastly improved speed and dexterity, I produced the Mark III model — the one it pleased me to call Mark Troy."

It wasn't until then, I guess, that I really came to see it wasn't the head talking. It was that little brown nut on the floor, making some kind of machinery in the head make sounds, from a distance. Well, I never.

"The pattern," it was saying, "for Mark Troy was a small fat man who wandered, lost, into this cave quite providentially — except for him, of course, if that is of any concern. Magdu, at my command, eventually disassembled him and duplicated his external appearance in Mark Troy, which still wears the little fat man's clothing. We had already studied his speech and habits, and later learned more from the books he carried. He was a temperance lecturer, he said."

Didn't I know it? And those books explained how come he'd known about serving tea but not how to make it. He'd got the words pretty good but he didn't have no way of knowing the tune.

"So now," the head went on, "You have disabled Mark Troy temporarily, and caused the destruction of Mokwun. Magdu, after this lapse of discipline, will repair Professor Mark Troy and we shall begin again. And we will win your world."

"No." That was Magdu. "I ss-shall not help you any more," she said. "I ss-shall take these people away and never come back here to you. Good-by ss-son." And she steamed right past him, grand as a duchess on her little red wheels. She guided the four of us, Young Widder Poplowski, the kid Sid, Poor Harry and me, right out of that cave without looking back.

Magdu's living at the Poplowski's now. Of course, she has to stay pretty much in the house, so's not to cause talk, but she seems happy enough. Fixes up like a stove during the day.

There's that whelp, the kid Sid, to play with, and her and the widder like to swap quotations about maternal love. Seems one of the books the late temperance lecturer had was that Motherhood one by Mrs. Leonora Pemberton Dodie.

Oh, one other thing. Once we got out of the cave and into the open again, the kid Sid turned up missing. I went cussing back to look for him and never laid eyes on him, but when I got to the main chamber where Professor Mark Troy was laying around, that little brown nut was gone from the floor.

I felt real fear then. Thought maybe Poor Harry had swallowed it whole. The notion of Poor Harry taking over the world would make jelly out of any man.

Then I remembered I'd held Poor Harry tight by the bridle all the way out, so he couldn't of done it. But when I got about halfway back down the tunnel, I saw what looked like two halves of a walnut shell by the wall, near a couple of flat rocks. Empty.

The kid Sid was looking smug alongside his maw when I came out, having somehow found another way. Young Widder's real pleased with the way we get along, because nowadays I treat him a mite more careful.

Whatever else you can say about him, he's got to be just about the smartest whelp, for his years, in our world. END

IF...and WHEN

by LESTER DEL REY

Catching up on the treadmill!

Ever so often I'm asked what science fiction can do, now that science has caught up with it. There seems to be a mental picture of a science-tortoise plodding along in a straight line to win the race. Nothing could be less true, however, even for such an ancient and exact science as astronomy.

Men had been studying the planets for centuries, and our modern writers simply took the old pictures that science offered. Venus was a hot, steaming world, filled with lush life; since the planet was twenty-five million miles nearer the Sun than Earth, it had to be hot; and the dense clouds that covered it clearly indicated steaming swamps and seas —the mother of life.

Then the spectroscope failed to show the lines that would indicate water vapor in those clouds. And later observations showed very slow rotation, if any. So Venus became a dust-bowl planet, baking on one side and frozen on the other, with poisonous gases that meant no life could exist there.

For the next decade, the theories went in all directions, however. Getting a reliable spectroscopic analysis through our dense atmosphere proved far more difficult than we'd first thought.

But then the Russians landed a probe on the planet. Now we had the facts. Venus' atmosphere was mostly carbon-dioxide, with only 1.5% oxygen and water vapor. The temperature was up to 536° F., and pressure was fifteen times ours at sea-level. No life possible!

Well, a little less than a year has gone by, and more careful analysis of the results has again changed the picture. Impossible or not, it seems some form of plant life *must* exist on Venus.

At a gravity slightly less than ours, fifteen times the pressure means more than fifteen times as much total gas. If only 1% of that is oxygen, the total is equivalent to 15% of all Earth's air — not too far from out actual 21% of oxygen. But at 536°, this gas is a highly active chemical; even on Earth, the free oxygen would all be used up by chemical reaction in four thousand years if there were no plants to replace it. So — there must be plants on Venus!

And since such plant life can't exist at very high temperatures, Dr. Willard F. Libby is suggesting that the poles of Venus must be cool enough to make living possible there.

By coming around to where it started, science has caught up with science fiction again. We can have men living on Venus and perhaps breathing the air without space suits. Shades of Arthur K. Barnes' 1937 story entitled "Hothouse Planet".

The existence of probable life on such diverse planets as Venus and Mars presents a challenge to the biologists, too. They have pretty well established a way in which life could come about on Earth; sunlight acting on nitrogen and carbon compounds that existed in our early atmosphere can create amino acids — the basic building-block chemicals of life. When these fall into the oceans, they have a tendency to clump together in more and more complex arrangements that eventually make living cells.

But nobody seriously thinks that there were ever real seas on Mars or that the atmosphere there was right for such a chain of events. And on Venus, the high level of solar energy should break down the early compounds, even though life might exist there if it could somehow get past this stage.

Apparently the tendency toward the formation of life is a lot greater than our theories can explain. There have even been serious reports of finding organic compounds and particles resembling fossil algae in certain carbon-bearing meteorites (known as carbonaceous chondrites) that fall from space, though there is still a good deal of argument about this.

Fortunately, we can find one good theory that gets around some

of the difficulties. According to this, all the life for which we find evidence may have originated on Earth.

When our planet was half a billion years younger, it was struck by a great many huge meteorites. Some of these must have hit at very high velocities, according to the evidence we can find. Like pebbles hitting water, some of their energy created a great splash that must have thrown bits of Earth's surface violently upwards — some at high enough a velocity to escape permanently from Earth. Maybe the chondrites are bits from those splashes, finally falling back. And maybe other bits hit Venus and Mars and found it possible to start life there with the living spores they contained.

In that case, Earth may have been seeding much of space with life, since the Sun circles the entire galaxy once every two hundred million years.

This would greatly increase our chances of finding life throughout the galaxy. We are pretty sure that planets exist around a large percentage of stars. And with life capable of existing under such wildly differing conditions as on Venus, Mars and Earth, it may be that at least a quarter of such solar systems have planets where life can and does exist.

Bram Hall's story in this issue, "The Canals of Santa Claus", suggests that men will find scarcely a star-system that does not have life of some kind. There's a good chance he's right.

In the early days, science fiction used Svante Arrhenius' theory of life spreading by spores throughout space — mostly because we *wanted* to find life everywhere. Now science is suggesting a sort of variation on the same universal spread of life. Again, science and science fiction are catching up with each other.

However, nobody seems to be catching up in at least one area of astronomical theory. When it comes to the question of the origin and nature of the universe, there are two completely different guesses, mutually contradictory and alternately seeming to make points.

For a time, when science fiction was doing its most sweeping conceptualizing, we had to fall back on the theory popularized by Dr. George Gamow. According to that, every bit of mass and energy was once concentrated into a great "super-atom", which exploded outwards some billions of years ago and has been expanding ever since. One school held that the expansion would go on forever, and the other main school felt gravity would eventually slow down the expansion and pull everything back into the same "super-atom" again, to start another explosion, and so on. In either

form, this was appropriately called the big-bang theory.

Then a man who doubles as top scientist and science fiction writer — Dr. Fred Hoyle — popularized another theory, called the steady-state theory. In this, the universe is being steadily created. Hydrogen atoms appear in space constantly, forcing the older matter outwards and causing the expansion. This can go on forever, and may already have gone on forever. It requires the constant creation of energy-matter, but that is no harder to explain than the initial creation in the big-bang theory.

For a time, things looked good for Hoyle's group. The age of the universe turned out to be greater than the big-bang advocates expected, which took some fancy juggling with the theory. And the creation of some of the very heavy elements couldn't have occurred in the brief explosion; they had to be the result of reactions taking place in older stars, as might be expected in a steady-state universe.

A year ago, however, the steady-state idea was dealt a body blow a few miles from my house by work at Bell Labs, where they detected what seemed to be evidence of the original radiation of the great initial explosion. Even Dr. Hoyle conceded that the steady-state theory might be dead.

He was a bit premature, it seems. One of the best tests for the theories is the distribution of matter in the universe — uniform for a steady-state universe, but not for the big-bang one. Early surveys by radio astronomy indicated a lack of uniformity. But now Dr. John Bolton, of Sydney, Australia, has completed new surveys, using what he feels are more appropriate radio frequencies. The new evidence is so strongly in favor of the constant-creation idea that the two theories are again fighting it out neck and neck. Tune in again next week for another thrilling climax on how our universe really began — maybe!

And finally, there's a wild new angle on the theory that there may be particles which exceed the speed of light. As I covered earlier, the suggestion has been made that particles may exist which act opposite to what we know; they *must* have velocities greater than c (the symbol for constant, used to designate light speed), and they gain mass as they *slow down* toward c.

Since then, I've talked to Dr. Gerald Feinberg of Columbia University, who was most widely quoted in the press. And Richard Wilson has sent more details from Syracuse University, where the idea was first suggested by Dr. E. C. G. Sudarshan. Quite a few serious particle physicists are interested and are making efforts to

find such particles, which have been named *tachyons.*

Obviously, if we can learn to create and modulate — or impress messages upon — these particles, it would make a tremendous difference in our ability to signal across vast distances of space. It may turn out that so far every effort to detect messages from other stars has been futile because advanced races naturally send such messages by tachyon beam, obviating the years of waiting before they can be answered.

But now there's evidence that these tachyons not only exceed light speed but also travel backwards in time!

That might complicate things. If a space ship arriving on Centaurus III sends back a message, it would be awkward to answer, because the answer would come before the original message had been sent — before the ship could get there to receive it, in fact.

We can imagine a postal system in the future where Special Delivery is used to insure ultra-slow delivery. Messages will be marked for holding months or years before delivery, according to the distance of their origin. A birth announcement to grandma from the edge of the galaxy gets put in the hundred-year-hold box to make sure that grandma has a chance to get born before she receives it!

I'm going to try to arrange to have my future issues of *If* relayed to Deneb and back by tachyon beam, if I can find the application blank. That way I should get next century's magazines and find for sure whether science has finally caught up with science fiction — or with itself. END

THE CANALS OF SANTA CLAUS

by BRAM HALL

Their landing on that planet imposed a sentence of death.

Mal found the first of the canals on the third day after they landed. Tangled ghosts of mist broke lazily from its sluggish surface, and it should not really have been there at all, although Mal was the only one to attach any importance to the fact.

The first two days had been spent on the ship. The *Hannah P* was an old second-hand freighter, and although the warp drive was new, the rest of the ship was not. There were sprung hull-plates to be welded, burnt-out valves to be spotted and replaced and the number three tube-lining had to be removed and entirely resurfaced. Mal, Mulligan and Miller worked feverishly for almost forty-eight hours, for one never knew, on a strange planet on this distant rim of the galaxy, when a quick lift-off might mean the difference between life and an exotic death at the hands of some new and therefore unenlightened life form. The memory of their narrow escape from the pink savages of Susskind B IV was still fresh in their minds.

Their anxiety to have the ramshackle ship in constant readiness was heightened by the knowledge that the nearest help in an emergency was several light-years nearer the hub of the galaxy, and only just within reach of their out-of-date subetheric radio. They had intended

to install a new unit with the proceeds of their last trip, but a sudden drop in the price of fissionable materials had cut their profits to the point where they could only just cover their expenses. Despite the glamorous image presented by the video shows at home, life for such small, freelance prospecting outfits was a hand-to-mouth affair. Their only advantage over the big mineral combines was their willingness to accept the risk of ranging far from the space-lanes in their decrepit little ships, landing on and exploiting any unexploited planet which offered the prospect of a strike. There was no shortage of recruits; there were plenty of star-struck young men, like Mal himself, only too willing to exchange the ease and monotony of life on the civilized worlds for the risks and hardships of small-time prospecting; which was just as well, for while the rewards for a successful trip were high, the mortality rate was high also.

The *Hannah P* had dropped into normal space quite close to this star system — as yet unmapped and therefore without a name — and Mulligan in his role of navigator (he was pilot and cook as well) had elected to land, although with its four tiny planets the prospect of a strike seemed small. The choice of planet had been taken out of their hands by a smoking valve in the control panel, which had threatened to blow and take the rest of the panel with it. The panel, maintained by Miller with small blobs of solder and a large amount of taciturn faith, was hardly designed for such alarms, and the *Hannah P* hastily settled on the nearest of the four planets, the only one which boasted an atmosphere, though even that was less than four miles deep. As the three prospectors hurriedly strapped themselves to their shock couches, the silver planet rushed up at them. The servos cut in the main rockets at the last minute and the ship was swallowed up.

An IF First

Each month, *If* brings you a new writer, never before published. This month's is Bram Hall, a 26-year-old Londoner who composes and teaches music, in which he received his Bachelor of Arts degree. So far, he's also a bachelor in life as well as in education. His chief interests are sailing small boats and driving sports cars. He considers Tolkien's *Lord of the Rings* one of the greatest books ever written and prefers honest escape literature. We hope to see more such escapes from him!

Mal, still young and capable of wonder at the sight of a virgin planet, had been first to the viewport.

"Fog!" he said disgustedly, "That silver we saw was just fog! What's the atmosphere?"

Miller, geologist and engineer, unfolded his long shanks from the

couch and ambled to the instrument panel.

"Thin," he grunted, and scratched his carrotty head. A shower of dandruff fluttered like doves to roost on the shoulders of his filthy tunic.

"Mainly inert gases, but some oxygen. And lots of water vapor. That's your fog."

Mal had already gone in search of the light suits, but Mulligan gruffly called him back.

"Hold it, hophead! Ship first."

And ship first it was: the *Hannah P* was a venerable old lady and demanded constant attention.

At last the ship was ready, and their attention could be turned to less pressing matters. Miller, whose lean frame had proved itself, on this as on many other occasions, admirably adapted to crawling in and through and around the complex guts of the spaceship, scraped at least half-an-inch of grease and grime from his sour features, and grudgingly pronounced himself satisfied.

It was decided that while the engineer remained aboard to do a final check on the delicate servomechanisms, Mulligan and Mal would make the first foray and maybe do a couple of preliminary sample drillings by themselves. It was with ill-concealed excitement that Mal made preparation for the trip; all the repairs and maintenance had been carried out from within the hull, for spacemen habitually expose themselves to the unknown as little as possible, and soon they would be seeing a new planet for the first time. Mal had joined the team as deckhand and general dogsbody only four months previously, and was now a veteran of two trips and nine planetary landings. Soon enough, he knew, the wonder of new places would leave him and he would become hardened and cynical like Mulligan and Miiller; for the time being he coaxed and nurtured his excitement carefully, maintaining his feeling for the romance of space as long as possible.

Nevertheless, his first sight of the new planet was disappointing.

Thick white mist obscured everything and from the airlock, fifty feet up, even the ground was invisible. The two men pushed their feather-light gravsleds out of the hatch, stepped aboard and began to sink slowly down. The journey took only twenty seconds, but seemed endless to Mal, poised beside the silver hull, sight and sound deadened by the fog. When they touched down, Mal stepped off and looked around.

"Christmas trees!" he grunted. "Rows and rows of flaming black Christmas trees!"

The black, conical bushes stretched in all directions into the mist, which seemed thicker at ground

level. The hard soil, save where it had been scorched by their rocket blast, was dull and sandy.

"What shall we call this place?" Mulligan asked.

"Yule," suggested Mal.

"No, that's been used before. How about Santa Claus?"

"Suits me. I don't see us having a very merry time here, though. Let's pick a nice *hot* planet next time. Shall we stay together or split up?"

Mulligan looked round.

"Seems fairly harmless," he said. "We'll split up. You go south, I'll go north. Keep in touch."

As the pair split up and moved off, Mal glanced back nervously, only to find that already the mist had swallowed up all trace of the ship and the circle of blackened, rocket-blasted rubble on which it stood. Used as he was to solitude and confinement, a feeling of claustrophobic loneliness swept over him. He guided the sled two feet above the flat, sandy ground between the "Christmas trees." Tree after tree, all six feet or thereabouts in height, swam into view on either side, slid past, and vanished in the mist. They all seemed to grow the same distance apart, in fairly straight lines. "Like an orchard," he thought, and wondered, with a start, if he would meet the gardener. That life should be found in such a thin atmosphere — so thin and cold that heated pressure suits were necessary — amazed him not at all. Life, in this galaxy at least, was persistent, and space travelers soon grew blasé about its hardihood and diversity. The arguments and speculation of the twentieth century on the likelihood of finding life on other planets had been confounded when, with the invention of the space-warp in 2157, man had exploded through the center of the galaxy and found that there was scarcely a star-system that did not have life of some kind, and that intelligent life was by no means scarce, although so far no life form had appeared to challenge man's supremacy in the space-lanes.

A shrill buzzing in the earpiece of his helmet told Mal that Mulligan was on the blower. He nudged the intercom switch with his chin and immediately felt less alone as Mulligan spoke, although the skipper was probably two or three miles away by now.

"Mal, have your young eyes spotted anything strange about these trees?"

"Well, they're black, for a start. But that only means they don't photosynthesize, which isn't unusual. There's a planet somewhere in this quadrant where the plants break down their food by a kind of electrolysis. Not much direct sunlight can filter through this mist anyway. Perhaps they absorb other radiation?"

"The black color would make them absorbent, I suppose." There was a short silence, broken only by the sound of Mulligan's breathing in the mouthpiece. "Their conical shape gives them plenty of surface area. You could be right. Mal, get off your sled and have a closer look at them! I've just thought of something else."

Mal stopped the sled and lowered it gingerly to the ground. Stepping off, he walked to the nearest tree. The foliage was rubbery to the touch and pushed aside easily. In such light gravity and thin atmosphere little strength was needed.

"All I can see is smooth branches and flat leaves. What am I supposed to be looking for?" Mal asked.

"No buds or flowers?" Mulligan's voice in his ear was casual. "How do they reproduce?"

"Perhaps this is the wrong season," Mal replied.

"Atmosphere's too thin, orbit's too regular. No seasons."

"Could they be immortal?"

Mulligan laughed. "You've been reading too many fantasies. Unique if they are. Perhaps we'd better try and take one home — the boffins might be interested. I'm going on. See you."

There was a click as Mulligan flicked off his intercom, and Mal glanced over his shoulder at the sudden silence. An uneasy feeling had been growing on him ever since leaving the ship. Not being able to see more than twenty feet in front of him did not help. He felt that if anything that wasn't a Christmas tree suddenly loomed out of the mist he would scream.

Regaining the sled, he felt easier, and moved off again. The journey took on a dreamlike quality as the constant succession of black rubber trees slipped out of the mist, solidified, and dissolved again behind him. He found himself looking once more over his shoulder, and shook himself angrily. A good spaceman doesn't get the jitters this easily, he told himself, and speeded the sled up a little. The sandy ground sped under the blunt nose of the sled, which was little more than a ten-foot tray with a seat and controls at the front. He had set the controls at an altitude of two feet above the ground, and had glanced at the dial several times before he realized that there was no need to do so. The terrain was as flat as a billiard table, and as smooth and unbroken. The sled left no trace of its passing, and Mal would need the direction finder to make his way back to the *Hannah P.* At the thought of being lost in this misty maze, his nervousness increased, but his next thought made him jab at the intercom switch with such haste that he hit the wrong button and received an unwanted mouthful of vitamin and glucose

concentrate. The ideal spaceman needed a prehensile chin to operate all the controls in a Mark IX helmet.

When Mulligan finally answered, Mal had to make a conscious effort to remain calm and not to allow his tongue to trip him up in his haste.

"Mulligan, we've been going about half an hour, so we've each covered about ten miles, right?"

"Right."

"So far, has there been any variation in the landscape — any hills or valleys?"

"Nope. Flat as a pancake. I'm going to turn back soon."

"Then how come, with an atmosphere this shallow, there are no meteor craters?" Mal finished with an air of triumph.

"Well, heck! You know there aren't usually many meteors this far out. Perhaps there just haven't been any recently." Mulligan was a practical man, and had little time for unproductive speculation.

"Oh, come on! There must have been a few at least. And yet the ground isn't even pockmarked. This atmosphere is no protection at all, and yet there are no plants broken down and no holes in the ground or anything."

"Well, what's your explanation?"

"I haven't one. But I'll tell you something else."

"Must you?" The older man mocked, but Mal was stubborn.

"Yes."

"Then I suppose I'll have to listen. What is it, O imaginative one? Blue spiders fifty feet high?"

"No, it's the mist." Mal ignored the pleasantry with an ease born of a thousand ribbings. "To produce mist, there must be a temperature differential, mustn't there? There must be warm air and cold air, or warm water and cold air, or something like that. Yet everything's freezing here."

"Perhaps the fog is the noxious breath of those blue spiders, spawned by the venomous drool from their fangs!" suggested Mulligan drily.

Mal snapped, "The only blue spiders we're likely to see will be coming out of those bottles you've got hidden under the chart table!" He flicked off the blower before Mulligan could retort.

This exchange did not answer the question, however, and Mel was so absorbed in the puzzle that when he did find the answer he very nearly fell in it. Awakening with a start, he slammed the sled to a halt and looked around. He had come to rest on the very brink of a canal. The sides were almost sheer, and very regular, and the channel stretched as straight as a die into the mist to right and left of him. Twenty or thirty feet away on the far bank, scarcely seen through the mist, the black forest resumed its march to the invisible horizon. Seven or eight feet below him the

oily, dark water slid slowly past, and skeins of white mist rose lazily from it.

Mal snapped off a black leaf from the nearest tree and, clumsily because of the heavy gauntlets of his suit, tossed it down. Before it sank, it had traveled almost out of sight. He turned towards the sled, preoccupied. One puzzle was solved, only to give rise to another much more mystifying. The fog obviously came from the canal, whose temperature must be many degrees higher than that of the surrounding air. Volcanic action could explain that — hot springs were found on many planets, including Terra itself. But how does a river flow in an apparently featureless plain? Rivers flow from a high place to a low place, yet they had seen no evidence of any hills or mountains as they had landed, and not even a molehill had disturbed the flight of the sled in the last ten miles. The canal could not be natural, for the laws of nature are universal. If it was not natural, it must be artificial. So who built it?

Mal suddenly whirled round, almost losing his footing, but the shadow at the corner of his vision was only another dark tree, standing motionless. The helmet of his suit restricted vision, and it was easy to imagine that something might be lurking just behind him, beyond the field of his vision.

Before he reached the sled, the intercom buzzed angrily. It was Miller back on the ship, apparently stirred by some anxiety to heights of verbosity entirely out of character.

"Mal, where are you? Mulligan's nearly here — get back as quick as you can!"

"Miller, wait! I've found a river, and . . ."

"You've no time for swimming now! Get back, we're lifting off!"

Exhausted by this unparalleled feat of oratory, Miller sharply cut off. Mal, disturbed, ran to the sled and took off. He set the altitude at twenty feet, well above the trees, and switched the automatic homing device onto the ship; then, as the sled rushed through the mist and the trees darted underneath for all the world like the sleepers of an old-fashioned railway, he glanced nervously about. He had a strange sensation, as though someone, or something, might be keeping pace with him in the mist on either side, watching.

The sled beeped to warn him of the approach to the ship, and automatically slowed. The *Hannah P* loomed gigantic out of the mist, and Mal's heart sank. The slim nose of the ship, 150 feet above him, was canted alarmingly to one side. Below, the area of ground where the fiery maelstrom of the landing jets had charred the rubbery plants and fused the sand into blackened

glass, was now a glittering, wet bog. One slender landing-leg was engulfed for half its length, while the other two seemed for the moment to stand on firmer ground. Even there, however, the water glistened; as Mal watched, a bubble broke to the surface and the ship settled a sickening six inches.

Mulligan waited at the airlock as Mal shot in and stepped off the sled.

"Quick, get upstairs and into your couch. We're moving ship. Just our goddam luck to land on some goddam bog!"

Mal clattered up the steel ladder to the control room with Mulligan pressing on his heels. As they climbed, Mal tried to explain about the river and the mist, but Mulligan was concerned only with the safety of the ship and would not listen.

Miller was already on his couch, and snapped, "Orbit?"

"No," grunted Mulligan as he stumped stickily to the control position. "We haven't done any drilling yet, and we're not going to let any blasted bog stop us; we came to prospect, so we'll prospect! I'll set her down a couple of miles away." His cropped head bristled with indignation as he slammed one podgy fist on the firing button.

The ship paused for a moment, straining, and then the legs broke free suddenly. Mal was thrown against his straps as the *Hannah P* lurched into the air.

Stars glittered momentarily through the black viewport at the corner of Mal's vision, only to be eclipsed by brighter stars within the cabin as three overloaded control valves blew at once. The cabin slewed to one side, then steadied as Mulligan's chunky hands danced on the controls that were left, maintaining thrust here, cutting to compensate there, firing the steering tubes to eliminate side movement, cutting and thrusting like a fencer as the stars twisted and lurched outside and the silver mist rushed up to engulf the stricken ship, Mulligan's hands danced up and down the rows of buttons, thrusting and parrying each new component of movement, each twist and fall as the tortured hullplates squealed and the main beams groaned and flexed. Then the ship hit, bounced twice on her hydraulic legs, miraculously stayed upright, and Mulligan cut the engines and slumped wetly in his couch. Silence flooded the cabin; the lights suddenly seemed dull and yellow and they lay sweating to the tick and twang of cooling metal below.

Mal stared up at the ceiling.

"Mulligan, I'll never make another crack about those bottles under the chart table," he said.

"I bet they're all broken anyway," replied Mulligan flatly.

Miller sat up and shook his head, scattering a new snowcap on his shoulders.

"Do you know where we are?" he asked.

"I know where we *were*," grunted Mulligan, "but the instruments are knocked haywire."

"Does it matter?" asked Mal. "One part of this planet seems much the same as any other part to me."

"It matters a little. We need to know where we are, to calculate a good trajectory for take-off, if we're not to waste fuel buzzing around before we warp into hyper-space."

"Well, astro-navigation will . . ."

"How in hell's name do you astro-navigate through this fog?" asked Miller rudely. "So far as I can see, the best thing would be to find our old place in the swamp and calculate our present position from that."

Mulligan agreed. "One of us can spiral out from the ship and search while the others do a couple of quick drillings. I doubt if we'll find anything worth claiming, but we can try."

Mal, as the least skilled and most curious of the three, elected to search for their old position. From there, he could line up the direction finder on the sled and calculate their present position on the planet. On a planet the size of Earth's moon, the search could be quite protracted, but the sleds were fast and economical. Stifling an ever-increasing feeling of being watched, Mal helped the others unload the portable drilling rig and the Geiger counters, then took a sled and began his search. Instantly the clinging fog closed behind him and swallowed up the familiar shape of the *Hannah P* and his space-suited companions. He was alone once more with the unending columns of black, still trees and the silent mist which opened before him and closed behind him, muffling sight and sound and offering concealment to he knew not what.

A Marshall gravsled Mk. IIA — price 999 credits Terran, guaranteed for five years against faulty materials and workmanship — consumes one power cell per one hundred hours use and can lift loads of up to one ton to heights of approximately fifty feet at speeds of up to two hundred miles per hour. It is a fast and efficient means of transport and Mal had nothing to do but sit, watch the ground, and worry. When he returned to the *Hannah P* twelve hours later, he had travelled 2,400 miles, had covered the ground quite systematically over a circle approximately one hundred miles in circumference, had found nothing and was very worried indeed.

Pilot, navigator, cook, engineer and geologist greeted him with long faces; the two men had drilled sixteen very deep holes and also found nothing.

"I just don't understand this

place at all," gloomed Mulligan. "There's nothing under here except a large amount of mineral salts and other rubbish that's no use to us. Not a single mineral concentration worthy of the name. We've analyzed the film the auto-recorder took as we came down, and there isn't a geological formation in the place; it's flat and featureless as a baby's bottom."

"No meteor craters, then?"

"The hell with your meteor craters! If you spent a little less time dreaming about meteor craters that don't exist but should, and rivers which shouldn't exist but do, instead of keeping your eyes open, at least we'd know roughly where we are on this God-forsaken bristly billiard ball! As it is, we'll probably take off on a bad trajectory and have to waste half our rocket-fuel getting far enough out to warp."

Mal, nettled, said sharply, "I'm not dreaming! If you thought a little more about the things around you, instead of getting your ideas out of a bottle, you'd realize that there are a lot of things wrong with this place. Plants that can't reproduce, craters which *should* be there and you can't deny it, apparently solid ground which suddenly goes soggy for no obvious reason and then vanishes without trace, a planet with no mineral deposits at all, and last of all, the *rivers!*"

"Rivers! How many are there for God's sake?" Mulligan sat up, and alarm creased his stolid features. "Have you found more?"

"Yes, lots of 'em. They're all the same, quite straight, at about thirty mile intervals, all warm and all flowing in the same direction. I took a sample from one of them — it's in the analyzer now. On present form, it'll probably turn out to be pure Scotch whisky, which'll please someone I could mention. It wouldn't surprise me if those drillings you made didn't vanish during the night, either."

"They already have!" Miller, unnoticed, had drifted into the control room and draped himself over the console. "I've just been out there to bury the garbage. That ground's as hard as flint, by the way. So I decided to shove the waste down one of the drillings instead of digging a hole. Only — there aren't any drillings — they've gone."

Mulligan snorted uncertainly, "Are you sure?"

"Sure I'm sure. *I* know where we drilled."

Encouraged, Mal broke in. "Do you get the feeling we're being watched?"

Before Mulligan could utter a rebuff, Miller answered, "Yes." He said it flatly and ambled out. Mal, fearing Mulligan's caustic tongue, followed him out, and caught him up at the bottom of the ladder.

"Miller, did you mean that?"

"I said it, didn't I? This place spooks me; mist and trees, trees and mist, row upon row."

"Come and see what the analyzer makes of that water."

Miller groaned but followed, trailing clouds of white glory behind him. The prolonged weightlessness of space does unpredictable things to a man's metabolism, and dandruff was the cross Miller had to bear. Mulligan had once confided to Mal that he believed that in trying to get rid of the dandruff, Miller had shampooed his brains away. Mal wondered if Mulligan's own weakness for whisky was attributable to weightlessness as well.

The analysis room was tiny, and the automatic analyzer, or Annie, took up so much room that the two men had virtually to stand in the companion-way and poke their heads through the door. As the results reeled across the scanner, Mal whistled.

"Soup!" he said. "It's a soup — you could can that and sell it!"

The scanner told the tale of a multitude of small organisms, ranging from the microscopic to those visible with the naked eye. All, however, were simple in construction and all were very alien indeed. Apart from that, the water was a strong, warm solution of mineral salts. Mal felt an idea tickling the back of his mind but could not grasp it.

Later that evening, lying on his back in the tiny cubicle he called a cabin, he pondered the problem. Although man had visited thousands of planets and had found life in incredible profusion and variety, the same general rules applied wherever you were. On no planet visited in recorded history had the rules of logic been broken. A thin atmosphere provides little protection from meteors and other debris of space. Therefore, there should be craters.

On Aldebaran XII, on an airless world so far out that its parent sun looked no bigger than a pinhead in the inky sky, lived a race of crystalline beings who took centuries to grow a single thought and with whom it would be as impossible to communicate as it would for a mayfly to hold a conversation with a human being.

Yet even on Aldebaran XII, liquid oxygen flowed from up to down and would remain still on an infinite flat surface.

On Susskind B IV, their last port of call, the crew of the *Hannah P* had seen a self-propelled Geiger counter come to a particularly nasty end at the hands — and teeth — of a race of pink hominids who could not suffer anything to live that was not pink also — indeed, the three men had barely escaped the same fate themselves.

Yet even on Susskind B IV when a hole was dug, it *stayed* dug.

Somewhere in the Hammond system, there was a planet the dominant species of which spent their entire lives fluttering in the air, descending to the ground only to breed, which they did with astonishing rapidity and, it seemed to the human observers, without gaining very much satisfaction therefrom.

Yet even there, bogs did not suddenly appear where there had previously been arid desert, nor did they accurately position themselves directly under a very heavy, very vulnerable spaceship.

Mal, suddenly alarmed, sped up the companion-way to the airlock. Fumbling with the fasteners in his anxiety, he pulled on a suit and exhausted the airlock. What he saw when he opened the outer door and looked down confirmed his worst suspicions; the blackened ground beneath the ship glistened and moved slightly, as the *Hannah P* settled imperceptibly deeper into the mud. The landing legs were already hidden as far as the hydraulic struts and had only to sink another three feet before the main jets were clogged and silenced for ever.

Slamming the airlock, Mal raced for the control room, ripping off his helmet as he ran. He threw himself into the pilot's couch and began flicking switches, meanwhile yelling for Mulligan and Miller. The two men, one stomping noisily and swearing under his breath, the other ambling with deceptive speed and leaving a trail of white flecks to mark his passage, threw themselves onto the spare couches as Mal's hand hit the firing button. For a long moment, the ship hesitated; then, with a tremendous sucking implosion which echoed throughout her length, she shook herself free and shot skywards.

In a safe parking orbit seventy miles up, the three men recovered their three wits and showed three different reactions to their narrow escape. Miller, as usual, was taciturn; Mullligan, as usual, was scornful; Mal was triumphant — he had achieved every space cadet's dream of saving the ship and solving a dilemma which had puzzled older and wiser heads than his.

"It's simple really," he crowed, lolling in the pilot's seat and waving an airy hand. "We were being eaten! That's why there were no meteor-holes — the meteors are absorbed and the craters heal over! And that's what happened to your drillings, too; they just healed, like a cut or a burn."

Mulligan stomped to the chart table, opened the locker underneath and began counting his bottles.

"Are you sure you haven't been at these? You'll be telling us next that the whole damned planet was one big beastie, and that those heated rivers of yours were its blood!"

"Exactly! If you lived in a completely sterile atmosphere *you* could wear your bloodvessels on the outside too!"

"And the trees?" Miller asked. "What about the trees? Parasites, I suppose."

"No," said Mal, "they absorb radiation — how do you think . . ."

Mulligan moved to the control console and began punching co-ordinates. He turned, grinning, to Miller and said in a hushed voice, "Well, weightlessness affects us all in different ways, I suppose. But so young, and so promising!"

Shaking his head and switching in the autopilot, he went to the chart table and pulled out a bottle. Miller eased himself off the couch and went off to the bathroom to shampoo his hair.

High in the firmament, invisible from the mist of the planet's surface, a single fitful star moved slowly off, winked once, and then vanished as the *Hannah P* slipped into hyper-drive.

Midway between two of the black Christmas trees, where Miller had finally hacked out a small hole in the hard, sandy surface and buried the garbage, the ground glistened like an open wound, and bubbled slightly. Minute organisms, specially adapted for the purpose, began to eat through the polythene wrapping and its contents. Old tin cans, plastic containers, a half eaten steak and several empty bottles, among many other things, dissolved and were carried away by tiny absorbent corpuscles. With them went an old toothbrush of Mulligan's, several pairs of disgusting socks which had once adorned the thin legs of Miller, and a few of the paper handkerchiefs Mal had used when he'd had a slight headcold the week before. All carried a profusion of micro-organisms totally alien to their new host.

Slowly, the canals grew sluggish. A thin skin formed on their black surface, their edges crinkled slightly and eventually they stopped flowing and began to freeze over. The black trees, rank upon rank, grew brittle, drooped and broke. The flat, even surface heaved itself into furrows and ridges, for all the world like the wrinkles on the face of an old woman close to death. Soon even these corrugations cracked, split and crumbled to dust.

As the warm pulsations of its interior cooled and stopped, the mist thinned and turned to a rime of frost. Alone, as it had lived, save for the brief visit of its unconscious executioners, slowly the planet sickened, saw the stars, and died.

END

The Comsat Angels

by J. G. BALLARD

Unto us a child is born —
and another and another . . .

Now I know who sits on the left of Kosygin and Johnson, who sets the courses above Cape Kennedy and waits in the Vatican behind the Papal throne. I know, too, what they are waiting for . . .

When I first heard about the assignment I did my best to turn it down. Charles Whitehead, producer of BBC-TV's London-based science program, *Horizon,* asked me to fly over to France with him and record a press conference being held by a 14-year-old child prodigy, Georges Duval, who was attracting attention in the Paris newspapers. The film would form part of *Horizon's* new series that I was scripting, "The Expanding Mind", about the role of communications satellites and data-processing devices in the so-called information explosion. What annoyed me was this insertion of irrelevant and sensational material into an otherwise serious program.

"Charles, you'll destroy the whole thing," I protested across his desk that morning. "These child prodigies are all the same. Either they simply have some freak talent or they're being manipulated by ambitious parents. Do you honestly believe this boy is a genius?"

"He *might* be, James. Who can

say?" Charles waved a plump hand at the contact prints of orbiting satellites pinned to the walls. "We're doing a program about advanced communications systems — if they have any justification at all, it's that they bring rare talents like this one to light."

"Rubbish — these prodigies have been exposed time and again. They bear the same relation to true genius that a cross-channel swimmer does to a lunar astronaut."

In the end, despite my protests, Charles won me over with his bland producer's charm, but I was still skeptical when we flew to Orly Airport the next morning. Every two or three years there were reports of some newly discovered child genius. The pattern was always the same: the prodigy had mastered chess at the age of three, Sanskrit and calculus at six, Einstein's General Theory of Relativity at twelve. The universities and conservatories of America and Europe opened their doors.

For some reason, though, nothing ever came of these precocious talents. Once the parents, or an unscrupulous commercial sponsor, had squeezed the last drop of publicity out of the child, his so-called genius seemed to evaporate and he vanished into oblivion.

"Do you remember Minou Drouet?" I asked Charles as we drove from Orly. "A child prodigy of a few years back. Cocteau read her poems and said, 'Every child is a genius *except* Minou Drouet.' "

"James, relax . . . Like all scientists, you can't bear anything that challenges your own prejudices. Let's wait until we see him. He might surprise us."

He certainly did, though not as we expected.

Georges Duval lived with his widowed mother in the small town of Montereau on the Seine thirty miles south of Paris. As we drove across the cobbled square past the faded police prefecture, it seemed an unlikely birthplace for another Darwin, Freud or Curie. However, the Duvals' house was an expensively built, white-walled villa overlooking a placid arm of the river. A well-tended lawn ran down to a vista of swans and water-meadows.

Parked in the drive was the location truck of the film unit we had hired, and next to it a radio van from Radio-Television Francaise and a Mercedes with a *Paris-Match* sticker across the rear window. Sound cables ran across the gravel into a kitchen window. A sharp-faced maid led us without ado towards "le press-conference." In the lounge, four rows of gilt chairs brought in from the Hotel de Ville faced a mahogany table by the windows. Here a dozen cameramen were photographing Madame Duval, a handsome woman

of 35 with calm gray eyes, arms circumspectly folded below two strands of pearls. A trio of solemn-faced men in formal suits protected her from the technicians setting up microphones and trailing their cables under the table.

Already, fifteen minutes before Georges Duval appeared, I felt there was something bogus about the atmosphere. The three dark-suited men — the Director of Studies at the Sorbonne, a senior bureaucrat from the French Ministry of Education, and a representative of the Institute Pascal, a center of advanced study — gave the conference an overstuffed air only slightly eased by the presence of the local mayor, a homely figure in a greasy suit, and the boy's schoolmaster, a lantern-jawed man hunched around his pipe.

Needless to say, when Georges Duval arrived, he was a total disappointment. Accompanied by a young priest, the family counsellor, he took his seat behind the table, bowing to the three officials and giving his mother a dutiful buss on the cheek. As the lights came on and the cameras began to turn, his eyes stared down at us without embarrassment.

Georges Duval was then 14, a slim-shouldered boy small for his age, self-composed in a gray flannel suit. His face was pale and anaemic, hair plastered down to hide his huge bony forehead. He kept his hands in his pockets, concealing his overlarge wrists. What struck me immediately was the lack of any emotion or expression on his face, as if he had left his mind in the next room, hard at work on some intricate problem.

Professor Leroux of the Sorbonne opened the press conference. Georges had first come to light when he had taken his mathematics degree at 13, the youngest since Descartes. Leroux described Georges's career: reading at the age of two, by nine he had passed his full matriculation exam — usually taken at 15 or 16. As a vacation hobby he had mastered English and German, by 11 had passed the diploma of the Paris Conservatoire in music theory, by 12 was working for his degree. He had shown a precocious interest in molecular biology, and already corresponded with biochemists at Harvard and Cambridge.

While this familiar catalog was being unfolded, Georges' eyes, below that large carapace of a skull, showed not a glimmer of emotion. Now and then he glanced at a balding young man in a soft gray suit sitting by himself in the front row. At the time I thought he was Georges's older brother — he had the same high bony temples and closed face. Later, however, I discovered he had a very different role.

Questions were invited for Georges. These followed the usual pattern — what did he think of Viet Nam, the space-race, the psychedelic scene, miniskirts, girls, Brigit Bardot, Ronald Reagan? In short, not a question of a serious nature. Georges answered in good humor, stating that ouside his studies he had no worthwhile opinions. His voice was firm and reasonably modest, but he looked more and more bored by the conference, and as soon as it broke up, he joined the young man in the front row. Together they left the room, the same abstracted look on their faces that one sees in the insane, as if crossing our own universe at a slight angle.

While we made our way out, I talked to the other journalists. Georges's father had been an assembly worker at the Renault plant in Paris; neither he nor Madame Duval were in the least educated, and the house, which the widow and son had moved into only two months earlier, was paid for by a large research foundation. Evidently there were unseen powers standing guard over Georges Duval. He apparently never played with the boys from he town.

As we drove away, Charles Whitehead said slyly: "I notice you didn't ask any questions yourself."

"The whole thing was a complete set-up. We might as well have been interviewing De Gaulle."

"Perhaps we were."

"You think the General may be behind all this? As publicity for La Belle France?"

"It's possible. Let's face it, if the boy *is* outstanding, it makes it more difficult for him to go off and work for Du Pont or IBM."

"But is he? He was intelligent, of course, but all the same, I'll bet you that three years from now no-one will even remember him."

After we returned to London my curiosity came back a little. In the Air France bus to the TV Center at White City I scanned the children on the sidewalk. Without a doubt none of them had the maturity and intelligence of Georges Duval. Two mornings later, when I found myself still thinking about Georges, I went up to the research library.

As I turned through the clippings, going back 20 years, I made an interesting discovery. Starting at 1948, I found that a major news story about a child prodigy came up once every two years. The last celebrity had been Bobby Silverberg, a 15-year-old from Tampa, Florida. The photographs in the *Look, Paris-Match* and *Oggi* profiles might have been taken of Georges Duval. Apart from the American setting, every ingredient was the same: the press conference, TV cameras, presiding officials, the high school principal, doting mother

— and the young genius himself, this time with a crew-cut and nothing to hide that high bony skull. There were two college degrees already passed, post-graduate fellowships offered by MIT, Princeton and CalTech.

And then what?

"That was nearly three years ago," I said to Judy Walsh, my secretary. "What's he doing now?"

She flicked through the index cards, then shook her head. "Nothing. I suppose he's taking another degree at a university somewhere."

"He's already got two degrees. By now he should have come up with a faster-than-light drive or a method of synthesizing life."

Judy gazed at me with her licorice eyes, bangs flaring outrageously. "He's only 17. Wait until he's a little older."

"Older? You've given me an idea. Let's go back to the beginning — 1948."

Judy handed me the bundle of clippings. *Life* magazine had picked up the story of Gunther Bergman, the first post-war prodigy, a 17-year-old Swedish youth whose pale, over-large eyes stared out from the photographs. An unusual feature was the presence at the graduation ceremony at Uppsala University of three representatives from the Nobel Foundation. Perhaps because he was older than Silverberg and Georges Duval, his intellectual achievements seemed prodigious. The degree he was collecting was his third; already he had done original research in radio-astronomy, helping to identify the unusual radio-sources that a decade later were termed "quasars."

"A spectacular career in astronomy seems guaranteed. It should be easy to track him down. He'll be what? 37 now, professor at least, well on his way to a Nobel Prize."

We searched through the professional directories, telephoned Greenwich Observatory and the London Secretariat of the World Astronomical Federation.

No one had heard of Gunther Bergman.

"Right, where is he?" I asked Judy when we had exhausted all lines of inquiry. "For heaven's sake, it's twenty years; he should be world-famous by now."

"Perhaps he's dead?"

"That's possible." I gazed down pensively at Judy's quizzical face. "Put in a call to the Nobel Foundation. In fact, clear your desk and get all the international directories we can up here. We're going to make the Comsats sing."

Three weeks later, when I carried my bulky briefcase into Charles Whitehead's office, there was an electric spring in my step.

Charles eyed me warily over his glasses. "James, I hear you've been hard on the trail of our missing geniuses. What have you got?"

"A new program."

"New? We've already got Georges Duval listed in the *Radio Times*."

"For how long?" I pulled a chair up to his desk and opened my briefcase, then spread the dozen files in front of him. "Let me put you in the picture. Judy and I have been back to 1948. In those twenty years there have been eleven cases of so-called child geniuses. Georges Duval is the twelfth."

I placed the list in front of him.

1948 Gunther Bergman (Uppsala, Sweden)
1950 Jaako Litmanen (Vaasa, Finland)
1952 John Warrender (Kansas City, U.S.A.)
1953 Arturo Bandini (Bologna, Italy)
1955 Gesai Ray (Calcutta, India)
1957 Guiliano Caldare (Palermo, Sicily)
1958 Wolfgang Herter (Cologne, Germany)
1960 Martin Sherrington (Canterbury, England)
1962 Josef Oblensky (Leningrad, U.S.S.R.)
1964 Yen Hsi Shan (Wuhan, China)
1965 Robert Silverberg (Tampa, U.S.A.)
1968 Georges Duval (Montereau, France)

Charles studied the list, now and then patting his forehead with a floral handkerchief. "Frankly, apart from Georges Duval, the names mean absolutely nothing."

"Isn't that strange? There's enough talent there to win all the Nobel Prizes three times over."

"Have you tried to trace them?"

I let out a cry of pain. Even the placid Judy gave a despairing shudder. "Have we tried —? My God, we've done nothing else. Charles, apart from checking a hundred directories and registers, we've contacted the original magazines and news agencies, checked with the universities that originally offered them scholarships, talked on the overseas lines to the BBC reporters in New York, Delhi and Moscow."

"And? What do they know about them?"

"Nothing. A complete blank."

Charles shook his head doggedly. "They must be somewhere. What about the universities they were supposed to go to?"

"Nothing there, either. It's a curious thing, but not one of them actually went on to a university. We've contacted the senates of nearly fifty universities. Not a mention of them. They took external degrees while still at school, but after that they severed all connections with the academic world."

Charles sat forward over the list, holding it like a portion of some treasure map. "James, it looks as if you're going to win your bet. Somehow they all petered out in late adolescence. A sudden flaring of intelligence backed by prodigious memory, not matched by any real creative spark . . . that's it, I suppose — none of them was a genius."

"As a matter of fact, I think they all were." Before he could stop me I went on. "Forget that for the moment. Whether or not they had genius is irrelevant. Certainly they

had intellects vastly beyond the average, IQ's of 200, enormous scholastic talents in a wide range of subjects. They had a sudden burst of fame and exposure and —"

"They vanished into thin air. What are you suggesting — some kind of conspiracy?"

"In a sense, yes."

Charles handed me the list. "Come off it. Do you really mean that a sinister government bureau has smuggled them off, they're slaving away now on some super-weapon?"

"It's possible, but I doubt it." I took a packet of photographs from the second folder. "Have a look at them."

Charles picked up the first. "Ah, there's Georges. He looks older here, those TV cameras are certainly aging."

"It's not Georges Duval. It's Oblensky, the Russian boy, taken six years ago. Quite a resemblance, though." I spread the twelve photographs on the table top. Charles moved along the half-circle, comparing the over-large eyes and bony foreheads, the same steady gaze.

"Wait a minute! Are you sure this isn't Duval?" Charles picked up Oblensky's photograph and pointed to the figure of a young man in a light gray suit standing behind some mayoral official in a Leningrad parlor. "*He* was at Duval's press conference, sitting right in front of us."

I nodded to Judy. "You're right, Charles. And he's not only in that photo." I pulled together the photographs of Bobby Silverberg, Herter and Martin Sherrington. In each one the same balding figure in the dove-gray suit was somewhere in the background, his over-sharp eyes avoiding the camera lens. "No university admits to knowing him, nor do Shell, Philips, General Motors or a dozen other big international companies. Of course, there are other organizations he might be a talent scout for . . ."

Charles had stood up, and was slowly walking around his desk. "Such as the C.I.A. — you think he may be recruiting talent for some top-secret Government think-tank? It's unlikely, but —"

"What about the Russians?" I cut in. "Or the Chinese? Let's face it, eleven young men have vanished into thin air. What happened to them?"

Charles stared down at the photographs. "The strange thing is that I vaguely recognize all these faces. Those bony skulls, and those eyes . . . somewhere. Look, James, we may have the makings of a new program here. This English prodigy, Martin Sherrington, he should be easy to track down. Then the German, Herter. Find them and we may be onto something."

We set off for Canterbury the next morning. The address,

which I had been given by a friend who was science editor of the *Daily Express,* was on a housing estate behind the big General Electric radio and television plant on the edge of the cathedral city. We drove past the lines of gray-brick houses until we found the Sherringtons' at the end of a row. Rising out of the remains of a greenhouse was a huge ham operator's radio mast, its stay-wires snapped and rusting. In the eight years since his tremendous mind had revealed itself to the local grammar-school master, Martin Sherrington might have gone off to the ends of the world, to Cape Kennedy, the Urals or Peking.

In fact, not only were neither Martin nor his parents there, but it took us all of two days to find anyone who even remembered them at all. The present tenants of the house, a frayed-looking couple, had been there two years; and before that was a large family of criminal inclinations who had been forced out by bailiffs and police. The headmaster of the grammar-school had retired to Scotland. Fortunately the school matron remembered Martin — "a brilliantly clever boy, we were all very proud of him. To tell the truth, though, I can't say we felt much affection for him; he didn't invite it." She knew nothing of Mrs. Sherrington, and as for the boy's father, they assumed he had died in the war.

Finally, thanks to a cashier at the accounts office of the local electric company, we found where Mrs. Sherrington had moved.

As soon as I saw that pleasant, white-walled villa in its prosperous suburb on the other side of Canterbury, I felt that the trail was warming. Something about the crisp gravel and large, well-trimmed garden reminded me of another house — Georges Duval's near Paris.

From the roof of my car parked next to the hedge we watched a handsome, strong-shouldered woman strolling in the rose garden.

"She's come up in the world," I commented. "Who pays for this pad?"

The meeting was curious. This rather homely, quietly dressed woman in her late thirties gazed at us across the silver tea-set like a tamed Mona Lisa. She told us that we had absolutely no chance of interviewing Martin on television.

"So much interest in your son was roused at the time, Mrs. Sherrington. Can you tell us about his subsequent academic career? Which university did he go to?"

"His education was completed privately." As for his present whereabouts, she believed he was now abroad, working for a large international organization whose name she was not at liberty to divulge.

"Not a government department, Mrs. Sherrington?"

She hesitated, but only briefly.

"I am told the organization is intimately connected with various governments, but I have no real knowledge."

Her voice was over-precise, as if she were hiding her real accent. As we left, I realized how lonely her life was; but as Judy remarked, she had probably been lonely ever since Martin Sherrington had first learned to speak.

Our trip to Germany was equally futile. All traces of Wolfgang Herter had vanished from the map. A few people in the small village near the Frankfurt autobahn remembered him, and the village postman said that Frau Herter had moved to Switzerland, to a lakeside villa near Lucerne. A woman of modest means and education, but the son had no doubt done very well.

I asked one or two questions.

Wolfgang's father? Frau Herter had arrived with the child just after the war; the husband had probably perished in one of the nameless prison-camps or battlegrounds of World War II.

The balding man in the light gray suit? Yes, he had definitely come to the village, helping Frau Herter arrange her departure.

"Back to London," I said to Judy. "This needs bigger resources than you and I have."

As we flew back Judy said: "One thing I don't understand. Why have the fathers always disappeared?"

"A good question. Putting it crudely, love, a unique genetic coupling produced these twelve boys. It almost looks as if someone has torn the treasure map in two and kept one half. Think of the stock bank they're building up, enough sperm on ice in a eugenic cocktail to repopulate the entire planet."

This nightmare prospect was on my mind when I walked into Charles Whitehead's office the next morning. Charles was in his shirt sleeves for the first time I had seen him. To my surprise, he brushed aside my apologies, then beckoned me to the huge spread of photographs pinned to the plaster wall behind his desk. The office was a clutter of newspaper cuttings and blown-up newsreel stills. Charles was holding a magnifying glass over a photograph of President Johnson and McNamara at a White House reception.

"While you were gone we've been carrying out our own search," he said. "If it's any consolation, we couldn't trace any of them at first."

"Then you have found them? Where?"

"Here." She gestured at the dozens of photographs. "Right in front of our noses. We're looking at them every day."

He pointed to a news agency photograph of a Kremlin reception for Premier Ulbricht of East Ger-

many. Kosygin and Breshnev were there, Soviet President Podgorny talking to the Finnish Ambassador, and a crowd of twenty party functionaries.

"Recognize anyone? Apart from Kosygin and company."

"The usual bunch of hatchet-faced waiters these people like to surround themselves with. Wait a minute, though."

Charles's finger had paused over a quiet-faced young man with a high dolichocephalic head, standing at Kosygin's elbow. Curiously, the Soviet Premier's face was turned towards him rather than to Breshnev.

"Oblensky — the Russian prodigy. What's he doing with Kosygin? He looks like an interpreter."

"Between Kosygin and Breshnev? Hardly. I've checked with the BBC and Reuter correspondents in Moscow. They've seen him around quite a bit. He never says anything in public, but the important men always talk to *him*."

I put down the photograph. "Charles, get on to the Foreign Office and the U.S. Embassy. It makes sense — all eleven of them are probably there, in the Soviet Union."

"Relax. That's what we thought. But have a look at these."

The next picture had been taken at a White House meeting between Johnson, McNamara and General Westmoreland discussing U.S. policy in Viet Nam. There were the usual aides, secretaries and Secret Service men out on the lawn. One face had been ringed, that of a man in his early thirties standing unobtrusively behind Johnson and Westmoreland.

"Warrender — the 1952 genius! *He's* working for the U.S. Government."

"More surprises." Charles guided me around the rest of the photographs. "You might be interested in these."

The next showed Pope Paul on the balcony of St. Peter's, making his annual "Urbis et Orbis" — city and the world — benediction to the huge crowd in the square. Standing beside him were Cardinal Mancini, chief of the Papal Secretariat, and members of his household staff. Obliquely behind the Pope was a man of about thirty wearing what I guessed to be a Jesuit's soutane, large eyes watching Paul with a steady gaze.

"Bandini, Arturo Bandini," I commented, recognizing the face. "*Oggi* did a series of features on him. He's moved high in the papal hierarchy."

"There are few closer to Il Papa, or better loved."

After that came a photograph of U Thant, taken at a U.N. Security Council meeting during the Cuban missile crisis. Sitting behind the Secretary General was a pale-

skinned young Brahmin with a fine mouth and eyes — Gesai Ray, the high-caste Indian who was the only well-born prodigy I had come across.

"Ray is now even higher up on U Thant's staff," Charles added. "There's one interesting photograph of him and Warrender together during the Cuban crisis. Warrender was then on J.F.K.'s staff." He went on casually: "The year after Oblensky reached the Kremlin, Khrushchev was sacked."

"So they're in contact? I'm beginning to realize what the Moscow-Washington hot line is really for."

Charles handed me another still. "Here's an old friend of yours — our own Martin Sherrington. He's on Professor Lovell's staff at the Jodrell Bank Radio-Observatory. One of the very few not to go into government or big business."

"Big science, though." I stared at the quiet, intense face of the elusive Sherrington, aware that someone at Jodrell Bank had deliberately put me off.

"Like Gunther Bergman — he moved to the United States 15 years ago from Sweden, is now very high up in the NASA command chain. Yen Hsi Shan is the youngest, barely 17, but have a look at this."

The photograph showed Mao Tse Tung and Chou En Lai on the reviewing platform in Peking during the cultural revolution, an immense concourse of teen-agers passing below, all holding copies of Mao's *Thoughts* and chanting out slogans. Standing between Mao and Chou was a boy with a fist in the air who was the chief Red Guard.

"Yen Hsi Shan. He's started early," Charles said. "One or two of the others we haven't been able to trace as yet, though we hear Herter is with the giant Zurich-Hamburg banking trust. Jaako Litmanen, the Finnish prodigy, is rumoured to be working for the Soviet space program."

"Well, one has to admit it," I commented, "they've certainly all made good."

"Not all." Charles showed me the last picture, of the Sicilian genius Guiliano Caldare. "One of them made bad. Caldare emigrated to the United States in 1960, is now in the inner circle of the Cosa Nostra, a coming talent from all one hears."

I sat down at Charles's desk. "Right, but what does this prove? It may look like a conspiracy, but given their talents one would expect them to rise in the world."

"That's putting it mildly. Good God, this bunch only has to take one step forward and they'll be running the entire show."

"A valid point." I opened Charles's note-pad. "We'll revise the program — agreed? We start off with the Georges Duval conference, fol-

low up with our own discoveries of where the others are, splice in old newsreel material, interviews with the mothers — it'll make quite a program."

Or so we hoped.

Needless to say, the program was never started. Two days later, when I was still organizing the newsreel material, word came down from the head of features that the project was to be shelved. We tried to argue, but the decision was absolute.

Shortly after, my contract with *Horizon* was ended, and I was given the job of doing a new children's series about great inventors. Charles was shunted to "International Golf." Of course, it was obvious to both of us that we had come too close for someone's comfort, but there was little we could do about it. Three months later, I made a trip to Jodrell Bank radio-observatory with a party of scientific journalists and had a glimpse of Martin Sherrington, a tall, finely featured man watching with his hard gaze as Professor Lovell held his press conference.

During the next months I carefully followed the newspapers and TV newscasts. If there was a conspiracy of some kind, what were they planning? Here they were, sitting behind the world's great men, hands ready to take the levers of power. But a global dictatorship sounded unlikely. Two of them at least seemed opposed to established authority. Apart from Caldare in the Cosa Nostra, Georges Duval put his musical talents to spectacular use, becoming within less than a year the greatest of the French "Ye-Ye" singers, eclipsing the Beatles as a leader of the psychedelic youth generation. In the forefront of the world protest movement, he was hated by the police of a dozen countries but idolized by teen-agers from Bangkok to Mexico City. The uniquely tough and uncompromising gaze stares at us all now from record labels.

Any collaboration between Georges and Bandini at the Vatican seems improbable. Besides, nothing that happened in the world at large suggested that members of the group were acting in anything but a benign role: the nuclear confrontation averted during the Cuban missile crisis, the fall of Khrushchev and the Russo-American detente, peace moves in Viet Nam, the Vatican's liberalized policy towards birth-control and divorce. Even the Red Guard movement and the chaos it brought could be seen as a subtle means of deflecting Chinese militancy at a time when she might have intervened in Viet Nam.

Then, three months later, Charles Whitehead telephoned me. "There's a report in *Der Spiegel*,"

he told me with studied casualness. "I thought you might be interested. Another young genius has been discovered."

"Great," I said. "We'll do a program about it. The usual story, I take it?"

"Absolutely. That same forehead and eyes, the mother who lost her husband years ago, our friend in the villa business. This boy looks really bright, though. An IQ estimated at 300. What a mind."

"I read the script. The only trouble is, I never got to see the movie. Where is this, by the way?"

"Hebron."

"Where's that?"

"Near Jerusalem. In Israel."

"Israel?"

I put the phone down. Somewhere in my mind a tumbler had clicked. Israel! Of course, at last everything made sense. The twelve young men, now occupying positions of power, controlling everything from the U.S., Russian and Chinese governments to satellite policy, international finance, the UN, big science, the youth and protest movement. There was even a Judas, Guiliano Caldare of the Cosa Nostra. It was obvious now. I had always assumed that the twelve were working for some mysterious organization, but in fact *they* were the organization. They were waiting for the moment of arrival. When the child came, he would be prepared for in the right way, watched over by the Comsat relays, hot lines open, the armies of the world immobilized. This time there would be no mistakes.

After an hour, I rang Charles back.

"Charles," I began, "I know what's happening. Israel . . ."

"What are you talking about?"

"Israel. Don't you see, Hebron is near Bethlehem."

There was an exasperated silence. "James, for heaven's sake . . . You're not suggesting that — "

"Of course. The twelve young men, what else could they be preparing for? And why did the Arab-Israeli war end in only two days? How old is this boy?"

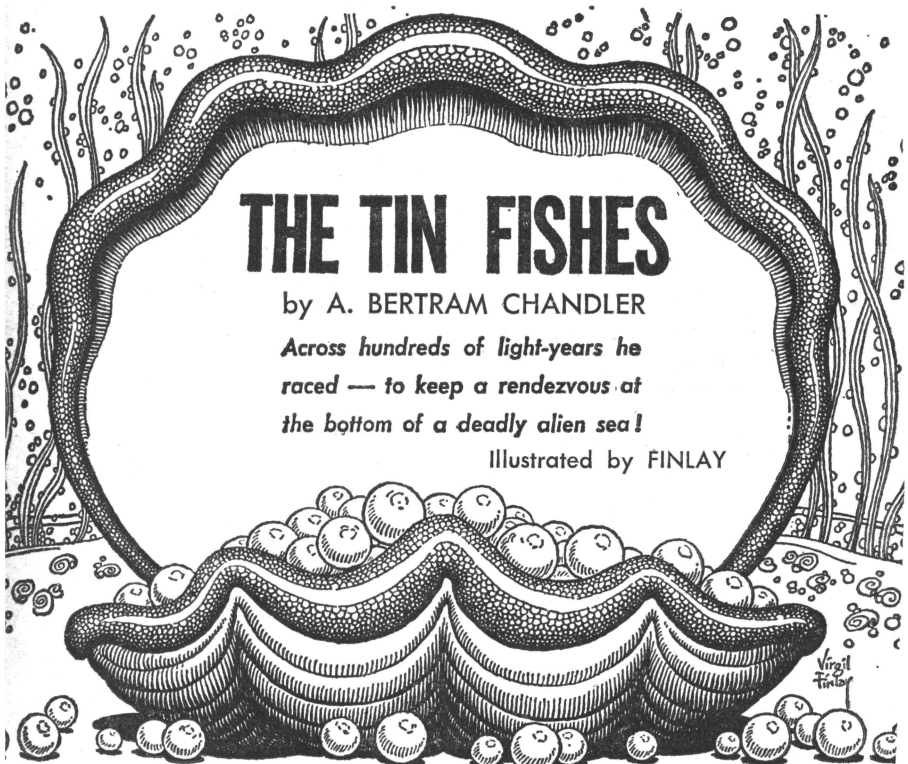
"Thirteen."

"Let's say another seven years. Good, I had a feeling he would come."

When Charles protested I handed the receiver to Judy.

As a matter of fact, I am quite certain that I am right. I have seen the photographs of Joshua Herzl taken at his press conference, a slightly difficult lad who rubbed quite a few of the reporters the wrong way. He vanished off the scene shortly afterwards, though no doubt his mother now has a pleasant white-walled villa outside Haifa or Tel Aviv.

And Jodrell Bank is building an enormous new radio-telescope. One day soon we shall be seeing signs in the skies. END



THE TIN FISHES

by A. BERTRAM CHANDLER

Across hundreds of light-years he raced — to keep a rendezvous at the bottom of a deadly alien sea!

Illustrated by FINLAY

I

Commodore John Grimes was proceeding homewards from Tharn the long way around — by way of Grollor, Stree and Mellise, by the route that he, in the old *Faraway Quest,* had opened and charted so many years ago. Now the Rim Runners' ships ran the Eastern Circuit in both directions, and Grimes could have been home weeks sooner by waiting only a few extra days on Tharn — but Port Forlorn, on Lorn, lived up to its name as long as Sonya wasn't there. She was still away from the Rim Worlds, still absent on her Galactic cruise.

Grimes was off the leash in more ways than one. In his capacity as astronautical superintendent he had

been sent to Tharn to cope with a situation, a near mutiny, that had delayed the departure of a Rim Runners' vessel from that planet. He had coped, both with the original crew trouble and the ensuing complications. After this, an exchange of Carlottigrams with Head Office had established the fact that things were running themselves quite nicely during his absence. Grimes then thought of a number of reasons why he should revisit the other planets of the Eastern Circuit, upon which he had been the first human being ever to set foot and upon which, with the exception of Stree, he had never set foot again. After a further exchange of Deep Space messages the management had approved his itinerary.

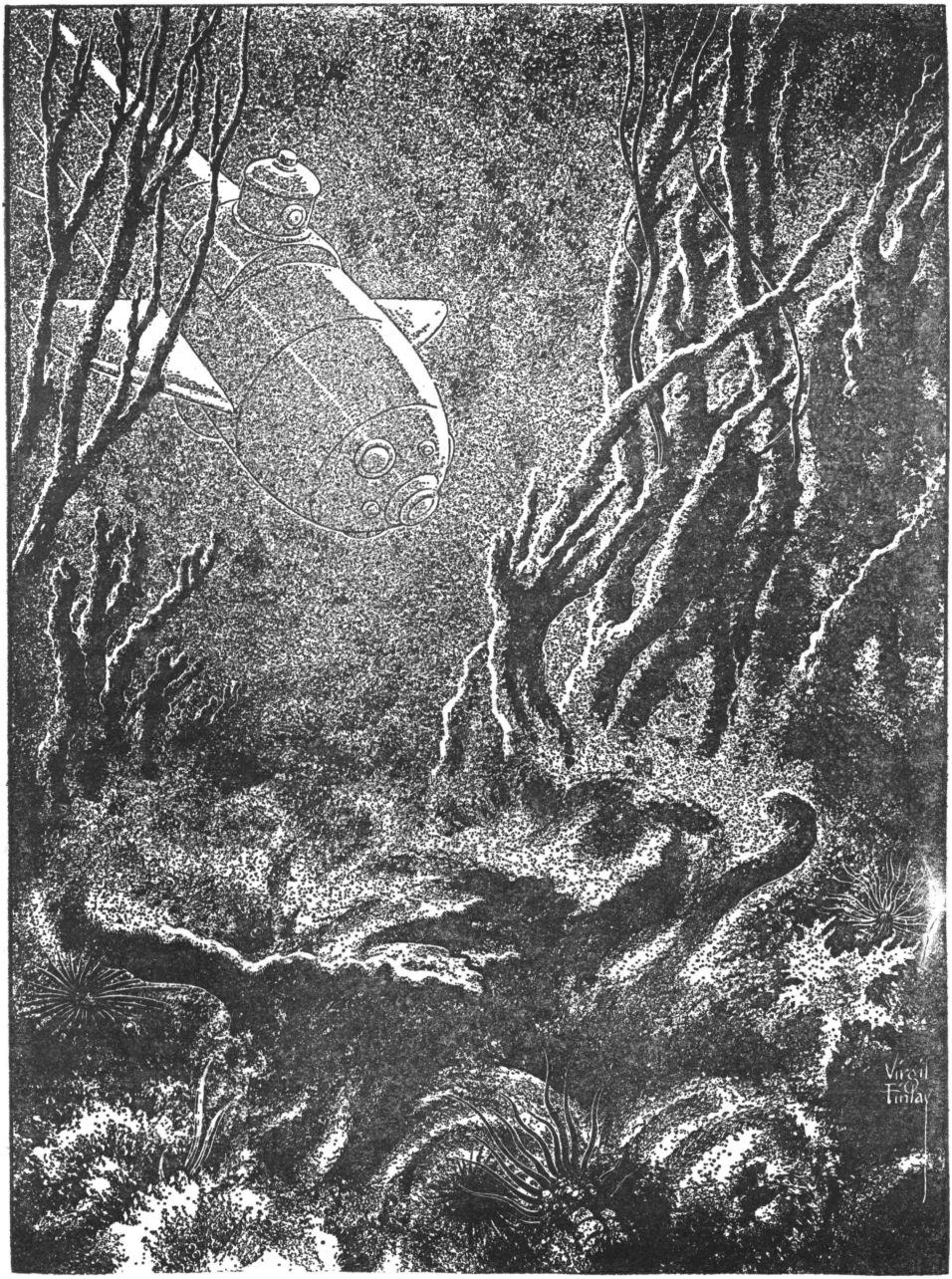
On all the worlds he was still remembered. On Tharn the spaceport was named after him. In Braardon, the planetary capital of Grollor, a huge statue of him stood in Council Square.

Grimes stared up at the heroic monument with some distaste. Surely his ears didn't stand out that much, and surely his habitual expression was not quite so froglike. He made allowances for the fact that the Grollans, although humanoid, are a batrachian people. But on his return to the ship in which he was a passenger, he inspected himself for a long time in a full-length mirror.

And then *Rim Kestrel,* in which Grimes had taken passage from Tharn, came to Mellise.

Mellise is a watery world, fully four-fifths of its surface being covered by the warm, mainly shallow seas. The nearest approach to a continent is a long, staggering chain of islands almost coincident with the Equator. On one of the larger ones is the spaceport. There is no city, only a village in which live the human spaceport personnel and the Rim Confederacy's ambassador and his staff.

The Mellisans themselves are an amphibious race. Like the Earthly *Cetacea* they, after having reached quite a high stage of evolution ashore, returned to the sea. If they are obliged to, they can live and work on dry land. But they prefer the water. They dwell in submarine villages where they are safe from the violent revolving storms that at times ravage the surface. They tend their underwater farms. In some of these they rear giant molluscs, great bivalves that yield the lustrous pearls which are their main item of export. Their imports are the manufactured goods needed by an aquatic culture — nets, cordage, harpoon guns and the like. They could make these for themselves but, with the establishment of regular trade between themselves and the Confederacy, they have preferred not to. Why should an essentially water-dwelling being work with fire and metals when pearl


Virgil
Finlay

farming is so much more comfortable and pleasant?

Grimes rode down to the surface in *Rim Kestrel's* control room. Captain Paulus, the ship's master, was nervous. Obviously he did not like having his superior there to watch his ship-handling. But he was competent enough, although painfully cautious. Not for him the almost meteoric descent favored by other masters. His Inertial Drive delivered a thrust that nearly countered the planet's gravitational pull. The *Kestrel* drifted surfacewards like a huge balloon with barely negative buoyancy. But Paulus reacted fast enough when a jet stream took hold of the ship; he canceled its effect by just the right application of lateral drive, reacted fast again when the vessel was shaken by clear air turbulence, pulling her out of the danger area with no delay.

Nonetheless, Grimes was making mental notes. The efficiency of the spaceport's meteorological observatory left much to be desired. Paulus should have been warned by radio of the disturbances through which he had passed. (But he, Grimes, had made his first landing here before there was a spaceport, let alone spaceport facilities. In fact, he had brought the *Quest* down blind, through the beginnings of a hurricane.)

The commodore looked at the vision screen that showed, highly magnified, what lay aft and below. There were the islands, each one raggedly circular, each one ringed by a golden beach that was ringed, in its turn, by white surf. There was the cloudy green of shallow water, the clear blue of the deeper seas. Inland was the predominant purple of the vegetation.

Yes, it was a pleasant world, Mellise. Even here, out on the Rim, it could have been developed to a holiday planet, rivalling if not surpassing Caribbea. If the Mellisans had been obliged to deal with the Interstellar Federation rather than with the Rim Worlds Confederacy, this probably would have been the case. Grimes, whose first years in space had been as an officer in the Federation's Survey Service, knew all too well that the major Terran Galactic power was far more concerned with the rights of other intelligent races in theory than in practice — unless there were some political advantage to be gained by posing as liberator, conservator or whatever.

He could see the white spaceport buildings now, gleaming in the light of the afternoon sun, startlingly distinct against their backdrop of purple foliage. He could see the pearly gray of the apron, and on it the black, geometrical shadows cast by cranes and conveyor belts and gantries. He could even see the tiny, blinking, scarlet stars that

were the three beacons, the markers of the triangle in the center of which *Rim Kestrel* was to land. He wished that Paulus would get on with it. At this rate it would be after sunset by the time the ship was down.

After sunset it was, and the night had fallen with the dramatic suddenness to be expected in the low latitudes of any planet. Overhead the sky was clear. Save for the opalescent arc that was the upper limb of the Galactic Lens, low on the western horizon, the sky was almost empty. Paulus had ordered all ports throughout the ship opened. Through them flowed the warm breeze, with scents of growing and flowering things that would have been cloyingly sweet had it not been for the harsh tang of salt water. There was the distant murmur of surf, and, even more distant, a grumble of thunder.

"Thank you, Captain Paulus," said Grimes formally. "A very nice set-down."

And so it had been. Merchant captains, after all, are not paid to put their ships in hazard.

Port formalities were few. The Mellisans cared little about such matters as health, customs and immigration regulations.

The port captain, a Rim Worlder, took care of all such details for them. Insofar as vessels owned by the Confederacy were concerned there was not even the imposition of port dues. After all, the levying of such charges would have been merely robbing Peter to pay Paul. The rare outside ships — the occasional Interstellar Transport Commission *Epsilon* Class tramp, the infrequent Empire of Waverly freighter, the once-in-a-blue-moon Shakespearean Sector trader — were presumably another matter.

Grimes sat with Captain Paulus and Stacey, the port captain, in Paulus's day cabin. Cold drinks were on the table before them. The commodore was smoking his foul pipe, Paulus was nervously lighting one cigarette after another and Captain Stacey had between his fleshy lips a peculiarly gnarled cigar of local manufacture. It looked as though it had been rolled from dry seaweed. And it smelt like it. ("An acquired taste," Stacey had told them. "Like to try one?" They had refused.)

"Only a small shipment of pearls this time," the port captain said. "The pearl farmers are having their troubles."

"Disease again?" asked Paulus.

"No. Not this time. Seems to be a sort of predatory starfish. Could be a mutation. Whether it is or not, it's a vicious bastardy."

"I thought, Captain Stacey," said Grimes, "that the people here were quite capable of dealing with any of the dangerous life forms in their seas."

"Not this new starfish," Stacey told him. "It's a killer." He sipped his drink. "The natives knew that you were coming here almost as soon as I did, Commodore. Telepathy? Could be. But, sir, you are almost a local deity. Old Wunnaara — he's the boss cocky in these parts — said to me only this morning, 'Grimes Wannarbo' — and a Wannarbo is roughly halfway between a high chief and the Almighty — 'will us help.' Really touched by his faith, I was."

"I'm not a marine biologist," said Grimes. "But couldn't you, with your local knowledge, do something, Captain Stacey?"

"I'm not a marine biologist either, Commodore. It takes me all my time to run the port."

And I recommended you for this appointment, thought Grimes, looking at the fat man. *I thought that this would be an ideal job for anybody as notoriously lazy as yourself. I thought that you could not do any harm here, and that you'd get on well with the Mellisans. But you can't do either.*

Paulus said, "They must produce pearls if they're to pay for their imports. They've nothing else we want."

Nothing else that we want, thought Grimes. *But the Rim Confederacy is not alone in the Galaxy.* He said, "Surely, Captain Stacey, you've found out what sort of weapons would be most effective against these things. They could be manufactured back on Lorn or Faraway, and shipped out here. And what about protective netting for the oyster beds?"

"Useless, Commodore," Stacey told him. "The starfish just tear even the heaviest wire-rope nets. As for weapons — poison has always been effective in the past, but not any longer."

"We have to do something to help these people," Grimes said definitely. "And, frankly, not altogether from altruistic motives. As you should know, both Waverly and the Shakespearean Sector are anxious to expand their economic spheres of influence. If they can help Mellise and we can't . . . "

The unspoken words, you'll be out of a soft job, hung in the air between them.

"They seem to rely upon *you* to help them, sir," Stacey grumbled.

"And perhaps I can," Grimes told him.

Perhaps he could. But, as he had said, he was not a marine biologist. Even so, he knew of the parallel evolution of life forms on all Earth-type planets. In the course of his career he had tangled with unfriendly and hungry beasts on more than a century of worlds. He was still around. The hostile animals were not. Variations on familiar patterns or utterly

alien, all had fallen victim to human cunning and human weaponry — and human savagery. Man, after all, was still the most dangerous animal.

He said good night to Stacey and Paulus, told them that he was going outside the ship to stretch his legs. He made his way down to the after airlock, then down the ramp to the smooth, clean concrete of the apron. He walked away from the direction of the administration buildings and the human village, found a path that must lead down to the sea. On either side of it the feathery fronds of the trees rustled in the warm breeze. Overhead, Mellise's single moon, a ruddy globe with an almost unmarked surface, rode high in the sky.

Grimes came to the beach, to the pale, gently shelving stretch of coarse sand beyond which the surf was greenly luminescent. He kicked off his sandals and, carrying them, walked slowly down to the edge of the water. He missed Sonya.

He saw that a black humanoid shape, outlined by the phosphorescence, was waddling ashore, splashing through the shallows. From its dark head two eyes that reflected the ruddy light of the moon stared at Grimes. The teeth glinted whitely in the long muzzle as it spoke. "Meelongee, Grimes Wannarbo." Its voice was like that of a Siamese cat.

"Meelongee," replied Grimes. He remembered that this was the word of greeting.

"You have come back." The English was oddly accented but perfectly understandable.

"Yes. I have come back."

"You . . . help?"

"I shall try."

The native was close to Grimes now, and the commodore could smell the not unpleasant fishy odor of him. He could see, too, that he was old; in the moonlight the white hairs about the muzzle and the white patches of fur on the chest were plainly visible.

"You me remember?" There was a short, barking laugh. "No? I was cub when first you come to Mellise, Grimes Wannarbo. Now I am chief. My name Wunnaara. And you too are chief, not of the one skyship but of many. I am chief but know little. You are chief but know much."

"The *Rim Kestrel* lifts tomorrow," said Grimes.

"But you will stay, Wannarbo? You will stay?"

Grimes made his decision. If there was anything that he could do he would be furthering the interests of the Confederacy as well as helping the natives of Mellise. Stacey, it was obvious, would not lift one fat finger. The ambassador, like the port captain, was a no-hoper who had been sent to a planet upon which no emergencies

were ever likely to arise. Grimes had not yet met him, but he knew him by repute.

"I will stay," he told the chief.

"Then I tell my people. There is much to make ready." Wunnaara slipped back into the water, far more silently than he had emerged from it, and was gone.

The commodore resumed his walk along the beach.

II

He came to a shallow bay, a crescent-like indentation in the shoreline. There was somebody out there in the water swimming—and by the flash of long, pale arms Grimes knew that it was not a native. Too, there was a pile of clothing on the sand.

Quickly Grimes stripped. It was a long time since he had enjoyed a swim in the sea. He divested himself of his clothing without embarrassment. Even though he was no longer a young man his body was still compact, well-muscled, had not begun to run to belly. He waded out into the warm salt water.

Suddenly he was confronted by the other swimmer. Only her head and her smooth, bare shoulders were visible above the surface. Her eyes and her wide mouth were very dark against the creamy pallor of her face.

"Can't you read," she was asking indignantly. "Didn't you see the notices? This beach is reserved for ladies only."

Her accent was not a Rim Worlds one; it was more Pan-Terran than anything. That would account for her indignation; only on parts of the Home Planet did the absurd nudity taboo still persist. But this was not the Home Planet.

Grimes said mildly, "I'm sorry. I didn't know." He turned to leave the water.

She said, "Don't run away. At this depth, we can talk modestly enough."

"I suppose we can."

"You're from the ship, aren't you? But of course you must be. . . . Let me see, now. I've a good ear for accents, and you haven't quite lost the good old Terran twang. . . . Commodore Grimes, would it be?"

"Guilty," admitted Grimes. He was amused to note either that the tide was going out fast or that his companion had moved closer inshore. Her full breasts were fully exposed now, and there was more than a hint of the pale glimmer of the rest of her below the surface.

She said, "It's rather a pity that you're leaving tomorrow."

"I'm not leaving."

"You're not?" she asked sharply.

"No. I promised Wunnaara, the chief, that I'd stay to look into this plague of starfish."

"You promised Wunnaara." Her

voice was scornful. "But he's only a native. He has to be kept in his place. That's why I insisted on having this beach made private. I hated to think that those . . . *things* were spying on me, leering at me while I was swimming."

"And what about me, leering and spying?" Grimes asked sarcastically.

"But you're a Terran."

"Ex-Terran, young lady. Very ex."

" . . . and we Terrans should stick together," she completed with a dazzling smile.

"I'm a Rim Worlder," Grimes told her severely. "And so must you be, if you're employed at the spaceport, no matter where you were born." He asked abruptly, "And what do you do, by the way?"

"I'm in the Met Office," she said.

"Then I shall see you tomorrow," stated Grimes.

"Good!" Her smile flashed on again.

"I shall be calling in to register a strong complaint," the commodore went on.

He attempted to step past the girl, intending to swim out to the first line of breakers. Somehow she got in his way, and somehow both of them lost their balance and went down, floundering and splashing. Grimes got to his feet first, pulled the young woman to hers. He was suddenly conscious, as she fell against him, of the firmness and the softness of the body against his own. It was all very nice — and all a little too obvious. But he was tempted, and tempted strongly. Then, but with seeming reluctance, she broke away from him and splashed shorewards, her slim, rounded figure luminous in the moonlight.

Her voice floated back to him, "I still hope that it's a pleasant meeting tomorrow, Commodore!"

It was not as unpleasant as it could have been. The girl, Lynn Davis, was second in charge of the spaceport's meteorological office. By daylight, and clothed, she was still attractive. Her hair was a dark, dull-gleaming blonde and her eyes were so deep a blue as to be almost black. Her face was thin and intelligent, with both mouth and nose a little too pronounced for conventional prettiness.

There was a resemblance to Sonya, his wife, that strongly attracted Grimes, and it was more than a physical one. It was a matter of essential quality. This at once put Grimes on his guard. Sonya had held the rank of commander in the Federation's Survey Service, and in the Intelligence Branch at that. But now Federation and Rim Worlds Confederacy worked together, shared all information, kept no secrets from each other.

Even so. . . .

Lynn Davis had all the answers ready. *Rim Kestrel* had been given no information on jet streams and clear-air turbulence because there had been a breakdown of radar and other instruments. This, Grimes was made to feel, was *his* fault. The Rim Runners' Stores Department should have been more prompt in dealing with requisitions for spare parts. "And after all, Commodore," she told him sweetly, "*you* made the first landing here without any aid at all from the surface, didn't you?"

Grimes asked to see the instruments room. He thought that this request disconcerted her — but this was understandable enough. Any officer, in any service, likes to do things his own way and is apt to resent a superior's intrusion into his own little kingdom, especially when the superior is in a fault-finding mood. But she got up from behind her very tidy desk, led the commodore out of the office and up a short flight of stairs.

At first glance the compartment looked normal enough; its counterpart could have been found at almost any human-operated spaceport throughout the Galaxy. The deviations from the norm were also normal. On many worlds with a lack of recreational facilities the instruments room, with its laboratory and workshop equipment to one side of it, is an ideal place for hobbyists to work. The practice is officially frowned upon. But it persists.

There was a tank there, a small aquarium, brilliantly lit. Grimes walked over to it. The only animal denizens were a dozen or so small starfish, brightly colored, spiny little beasts, unusually active. These, unlike their kind on the majority of worlds, seemed to prefer swimming to crawling as a means of locomotion, although they possessed, on the undersides of their limbs, the standard equipment of myriads of suckers.

"And who belongs to these?" asked Grimes.

"Me," she replied.

"Is marine biology your hobby?"

"I'm afraid not, Commodore. I just keep these because they're ornamental. They add something to the decor."

"Yes," he agreed. "Starfish." He walked to a bench where there was an intricacy of gleaming wire. "And what the hell's *this?*"

"A mobile," she told him. "Jeff Petersen, the Met Officer, has artistic ambitions."

"And where is Mr. Petersen?"

"He's away. The crowd who're setting up the weather control station on Mount Llayilla asked Captain Stacey for the loan of him."

"H'm. Well, I can't help feeling, Miss Davis, that if you and Mr. Petersen devoted more time to your work and less time to your hobbies

you'd give incoming ships far better service."

She flared, "We never play around with our hobbies in our employers' time. And there's so little social life here that we must have something to occupy us when we're off duty."

"I'm not denying that, Miss Davis."

She switched on that smile again. "Why don't you call me Lynn, Commodore? Everybody else does."

He found himself smiling in reply. "Why not, Lynn?"

"Isn't that better? And, talking of social life, I'd like it very much if you came to my place some evening for dinner." She grinned rather than smiled this time. "I'm a much better cook than Mrs. Stacey."

That wouldn't be hard, thought Grimes. The port captain's wife, as he had learned that morning at breakfast, couldn't even fry an egg properly.

"Try to keep an evening open for me," she said.

"I'll try," he promised. He looked at his watch. "But I must go. I have an appointment with the ambassador."

III

The Confederacy's ambassador was a thin, languid and foppish man. In spite of the disparity in physical appearance he was cut from the same cloth as Captain Stacey. He was one of the barely competent — not quite bad enough to be fired but too lazy and too uninterested to be trusted with any major appointment.

He drawled, "I can't order you not to stay, old man, any more than than I can order you to stay. Let's face it. You pile on a few more G's (as you spacefaring types put it) than I do. But I still think that you're wasting your time. The natives'll have to pull their socks up, that's all. And tighten their belts for the time being — not that they have any belts to tighten. Ha, ha! You may have been first on this world, Commodore, but you haven't lived with these people as I have. They're a lazy shiftless bunch. They won't stir a finger to help themselves as long as the Confederacy's handy to do it for them."

"And if the Confederacy won't," said Grimes flatly, "there's the Empire of Waverly. Or the Shakespeareans. Or the Federation. Even the Shaara might find this planet interesting."

"Those communistic bumblebees? It might do the Mellisans a world of good if they did take over." He raised a slim, graceful wrist and looked at his watch. "Old Wunnaara's due about now. I don't encourage him — it takes *days* to get the fishy stink out of the embassy — but he insisted."

"You could," pointed out Grimes, "have a room specially fitted for the reception of local dignitaries, something that duplicates, as far as possible, the conditions that they're used to."

"You don't understand old man. It's taken me years, literally, to get this shack fitted and decorated the way that it should be. The *battles* I've had to fight with appropriations! It's all a matter of keeping up a front, old man, showing the flag and all that — "

A smartly uniformed Marine entered the elegant, the too elegant, *salon.*

"The Chief Wunnaara, Your Excellency."

"Show him in, Sergeant. Show him in. And attend to the air conditioning, will you?"

Wunnaara was dressed for the occasion. His ungainly (on dry land) body was clad in a suit of what looked like coarse sacking. Riding high on a complicated, harness-like framework was a tank, the contents of which sloshed as he walked. From this tank depended narrow tubes, connected to his clothing at various points. They dripped, both upon the cloth and upon the Ambassador's carpet. A goggled mask, water-filled, covered his eyes and the upper part of his face. The smell of fish was very evident.

"Your Excellency," he mewed. "Meelongee. Grimes Wannarbo. Meelongee."

"Greetings," replied the ambassador, and, "Meelongee," replied Grimes.

"Your Excellency, Grimes Wannarbo has agreed us to help. He come with me now, I show him trouble."

"Do you want to go through with this, old man?" the ambassador asked Grimes.

"Of course. Would you know of any scuba outfits on this island? Captain Stacey tells me that the only ones here are privately owned."

"That is correct, Commodore. I could ask the Sergeant to lend you his."

"Not necessary, Grimes Wannarbo," interjected the chief. "Already waiting on beach we have ship, what you call submarine."

"Good," said Grimes.

"You'd trust yourself to *that* contraption?" demanded the ambassador in a horror-stricken voice. "It'll be one of the things that they use to take stores and equipment down to their farms."

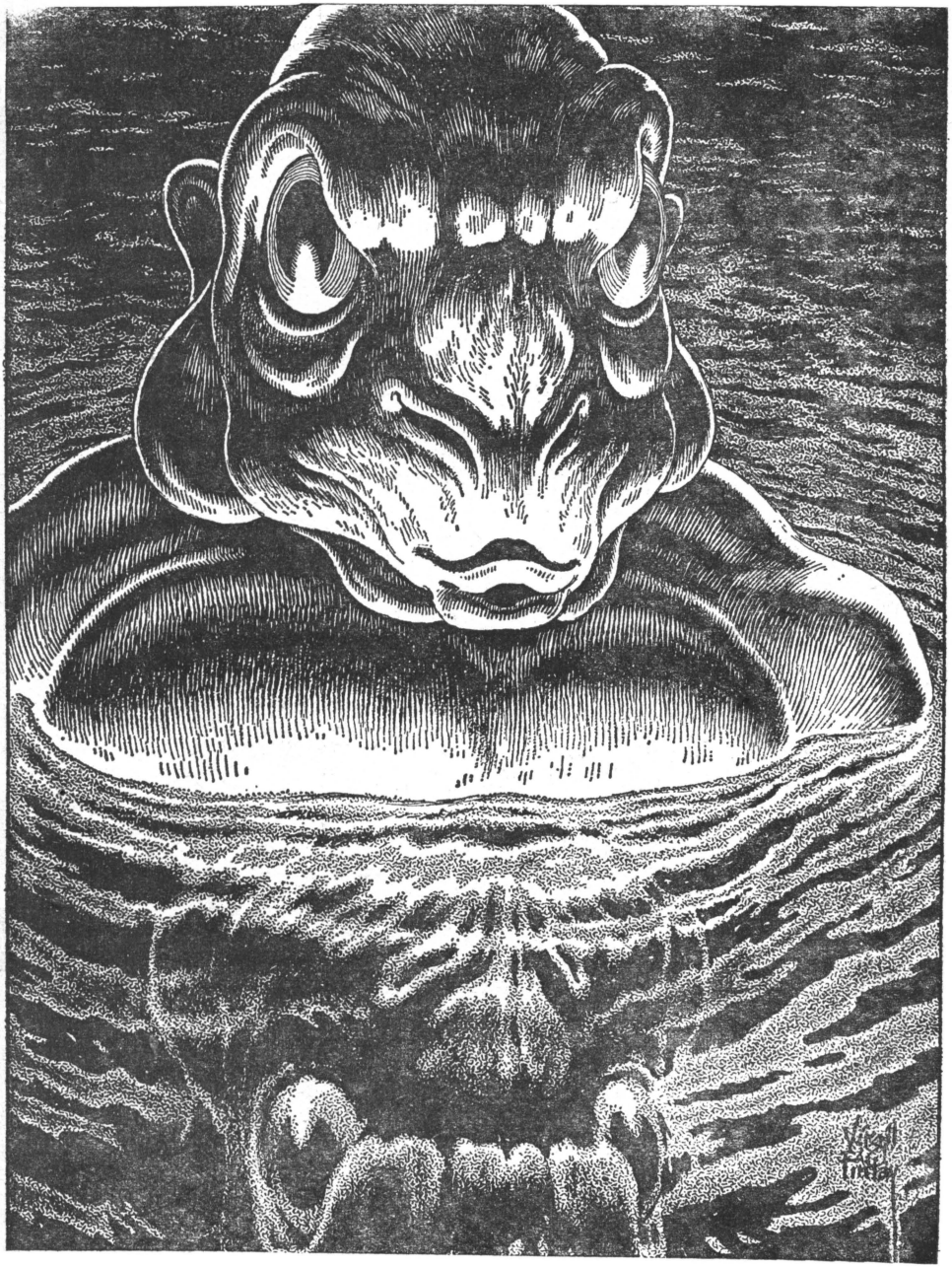
"They work, don't they?"

"Yes, old man. But — "

"But I'd have thought, on a world like this, that the ambassador would have his own, private submarine."

"I'm a diplomat, old man, not a sailor."

Grimes shrugged. He said for-



mally, "With your permission, Your Excellency, I shall accompany Chief Wunnaara."

"Permission granted, old man. Don't get your feet wet."

The submarine had been pulled up on the beach, on to a ramp that had been constructed there for that purpose, that ran from the water to a low warehouse. Apart from its wheeled undercarriage it was a conventional enough looking craft, torpedo shaped, with a conning tower amidships and rudder and screw propeller aft, with hydroplanes forward and amidships. A wooden ladder had been placed on the ramp to give access to the conning tower. Wunnaara gestured to Grimes to board first.

The commodore clambered up the ladder with a certain lack of agility; the spacing of the rungs was adapted to the Mellisan, not the human frame. He had the same trouble with the metal steps leading into the submarine's interior.

When he was down in what was obviously the craft's control room he looked about him curiously. It was easy enough to get a general idea of what did what to which. The Mellisans, with no written language of their own, had adapted Terran English to their requirements. There were depth gauges, steering, hydroplane and engine controls, a magnetic compass. Inside an aluminum rather than a steel hull it should, thought Grimes, function quite satisfactorily. What had him puzzled was a bundle of taut bladders, evidently taken from some sea plant. Beside them, in a rack on the bulkhead, was a sharp knife. And he did not quite approve of the flowerpot that was hanging to one side of the steering gear, in which was growing a vividly blue, fernlike plant. He recalled the conversation that he had had with Lynn Davis on the subject of hobbies.

Apart from these rather peculiar fittings the little ship was almost as she had been when built, to Mellisan specifications, at the Seacraft Yard on Thule — the original electric motors, a big bank of heavy-duty power cells, a capacious cargo hold (now empty) and no accommodation whatsoever. He had noticed, on his way down through the conning tower, that the compartment, with its big lookout ports, could still be used as an airlock.

Wunnaara joined him, accompanied by another native dressed as he was. The younger Mellisan went straight to the wheel, from which all the other controls were easily accessible. The old chief asked Grimes to return with him to the conning tower. The upper hatch was shut now, but there was an unrestricted view all around from the big ports. And although the lower hatch remained open there

was ample room, on the annular platform, to walk around it.

Wunnaara yelped some order down through the opening. Slowly at first, then faster, the submarine started to move, sliding astern down the ramp on her wheels. She slipped into the water with hardly any disturbance, and when she was afloat at least half of her hull was above the surface. Electric motors hummed and she backed away from the beach, her head swinging to starboard as she did so. She came round well and easily, and when she was broadside on to the short, starting to roll uncomfortably in the swell ,the coxswain put the engines ahead and the wheel hard over to complete the swing. Then, after surprisingly little fuss and bother, she was headed seaward, pitching easily, her straight wake pearly white on the blue water under the noonday sun.

A red marker buoy indicated the location of the pearl beds. Quietly, without any fuss, the ship submerged, dropping down below the surface as her ballast tanks were filled.

Grimes went back to the control room. Always keenly interested in ships — the ships of the sea as well as the ships of space — he wanted to see how this submersible was handled. He was alarmed when, as he completed his cautious descent from the ladder, the coxswain snatched that nasty looking nife from the rack on the bulkhead. But the Mellisan ignored him, slashed swiftly and expertly at one of the seaweed bladders. It deflated with a loud hiss. Behind Grimes. Wunnaara hooted with laughter. When he had the commodore's attention he pointed to the absurd pot plant hanging almost over the compass. Its fronds had turned scarlet, but were already slowly changing back to blue.

Grimes chuckled as he realized what was being done. This was air regeneration at its most primitive — but still effective. These submarines, when built, had been fitted with excellent air regeneration plants but, no doubt, the Mellisans preferred their own. The oxygen released from the bladder brought with it a strong smell of wet seaweed which, to them, would be preferable to the odorless gas produced by the oroginal apparatus.

Grimes watched the coxswain until Wunnaara called him back to the conning tower. He was impressed by the Mellisan's competence. He was doing things that in a human-operated submarine would have required at least four men. Could it be, he wondered, that a real sea man must, of necessity, be also a first class seaman? He toyed, half humorously, with the idea of recruiting a force of Mellisan mer-

cenaries, to be hired out to those nations — on those few worlds where there was still a multiplicity of nations — which still relied upon sea power fo rthe maintenance of their sovereignty.

Back in the conning tower he forgot his not-quite-serious money-making schemes. The submarine — as he already knew from his inspection of the depth gauges — was not running deep. But neither was she far from the sandy bottom, which she was barely skimming. Ahead, astern and on either side were the pearl beds, in orderly rows of giant bivalves. Among them worked Mellisans — who, like similar beings on other planets, including Earth, were able to stay under water for a very long time on one lungful of air. Some of them, explained Wunnaara, were planting the irritant in the mantle of the shellfish. Others were harvesting the pearls from molluscs that had been treated months previously. These were taken to the underwater depot for cleaning and sorting and eventually would be loaded into the submarine for carriage to the spaceport. But, said the chief, this would be a poor harvest.

From his vantage point he conned the ship, yelping orders down to the coxswain. Finally they were drifting over a long row of the bivalves, the way almost off the ship. All of them had been opened, and considerable force had been employed in this opening. (The Mellisans could do it, and could extract the pearl, without inflicting permanent injury upon the creature inside the paired shells.) In many cases the upper valve had been completely shattered. In all cases no more than a few shreds of tattered flesh remained. And in all cases what had been a pearl was now only a scattering of opalescent dust.

Now the submarine was approaching the high, wire net fence that had been erected to protect the pearl farm. It looked stout enough to stop a ship of this class. But *something* had come through it. *Something* had uprooted metal posts embedded in concrete; *something* had snapped wire rope like so much sewing thread. It was not something that Grimes was at all keen to meet, not even in the comparative safety of this well-designed and built submersible.

"You see?" mewed the chief. "You see, Grimes Wannarbo?"

"Yes. I see."

"Then what do, Grimes Wannarbo? What do?" Under stress, the old Mellisan's English tended to deteriorate.

"I . . . I don't know. I shall have to see some of the starfish. Have you any in captivity, or any dead ones?"

"No. No can catch. No can kill."

There was a steady thumping sound, transmitted through the

water, amplified by the hull plating.

"Alarm!" Wunnaara cried. "Alarm! Alarm!" He shouted something in his own language to the coxswain. The submarine changed course, her motors screamed shrilly as speed was increased to full — or a little over. She skimmed over the flat, sandy bottom, raising a great coud of disturbed particles astern of her.

Ahead there was a commotion of some kind — a flurry of dark, almost human figures, an occasional explosion of silvery air bubbles, a flashing of metallic-seeming tentacles, a spreading stain in the water that looked like blood. Just clear of the fight the submarine reared like a frightened horse as she came astern — and then she hung there, almost motionless, on the outskirts.

There were half a dozen of the . . . *things*, the starfish, and a dozen Mellisans. Through the now murky water could be seen the wreckage of practically an entire row of bivalves — shattered shells, crushed pearls, torn, darkly oozing flesh, The odd things about it all was the gentleness of the marauders. They seemed to be trying to escape — and they were succeeding — but, at the same time, were avoiding the infliction of serious injury upon the guardians of the beds.

And they were such flimsy things. Or they looked flimsy, as though they had been woven from fragile metallic lace. They looked flimsy, but they were not. One of them was trapped in a net of heavy wire handed by three Mellisans. Momentarily it was bunched up, and then it . . . expanded. The wires snapped in a dozen places. One of them received a direct hit from a harpoon — and the weapon, its point blunted and broken, fell harmlessly to the bottom.

They were free and clear now, all of them ,looking more like gigantic silvery snowflakes then living beings. They were free and clear, swimming towards the breached barrier, their quintuple, feathery arms flailing the water. They were free and clear, and although the Mellisans gave chase there was nothing that anybody could do about them.

"You see?" said the chief.

"I see," said Grimes.

He saw, too, what he would have to do. He would make his own report, of course, to Rim Runners' head office, recommending that something be done on a governmental level to maintain the flow of cemmerce between Mellise and the Confederacy. And he would have to try to persuade that pitiful nong of an ambassador to recommend to *his* masters that a team qualified to handle the problem — say marine biologists and professional fishermen from Thule — be

sent at once to Mellise. But it would not be at once, of course. Nobody knew better than Grimes how slowly the tide runs through officials channels.

But. . . .

What could be, Grimes, do? Personally? With his own two hands, with his own brain?

There had been something oddly familiar about the appearance of those giant Asteroidea, about their actions There had been something that evoked memories of the distant past, and something that had brought to the surface of his mind the memory of something much more recent. What was it? Lynn Davis's gaudy pets in that brightly lit aquarium? They swam, of course, and these giant mutants (if mutants they were) were swimmers, but there the similarity seased.

"What do, Grimes Wannarbo?" Wunnaara was insistent. "What do?"

"I don't know," replied the commodore. "But I'll do something."

But what?

IV

That night, back in his room in the port captain's residence, he did his homework. He had managed to persuade Captain Stacey to let him have the files on all Rim Runners personnel employed on Mellise, and also had borrowed from the ambassador's library all six volumes of Trantor's very comprehensive *Mellisan Marine Life.* (Trantor should have been here now, but Trantor was dead, drowned two years ago in a quite stupid and unnecessary accident in the Ultimate Sea, on Ultimo, a body of water little larger than a lake.) He skimmed through Trantor's work first, paying particular attention to the excellent illustrations. Nothing, nothing at all, resembled the creatures that he had seen, although most of the smaller starfish, like the ones he had seen in Lynn Davis's tank, subsisted by making forcible entry into the homes of unfortunate bivalves.

Then he turned to the files.

About half the spaceport employees were true Rim Worlders born out on the Rim. The other half — like Grimes himself — were not, although all of them were naturalized citizens. Judging from the educational qualifications and service records of all of them, none of them would be capable of inducing a mutation. Grimes had hoped to turn up a biological engineer, but he was disappointed. And biological engineering is not the sort of thing that anybody takes up as a hobby. In addition to the years of study and training there is the quite expensive License to Practice to obtain, and the qualifications for that are moral rather than academic

or practical. Mary Shelley's Frankenstein is a permanent fixture in Man's mythology.

Feeling like a Peeping Tom — another permanent fixture — he leafed through Lynn Davis's service record. She was Terran-born, of course. Her real education had been at M.I.T., where she had graduated as a Bachelor of General Physics. After that she seemed to have specialized in meteorology. There had been a spell with weather control, North American Continent, and another spell with weather prediction, satellite-based. After that she had entered the service of Trans-Galactic Clippers as a spaceport meteorological officer. She had seen duty on Austral, Caribbea and Waverly, all of them planets upon which T-G maintained its own spaceports. From Waverly she had gone to Caribbea — and on Caribbea she had blotted her copy book.

So, thought Grimes, *she's a compulsive gambler. She doesn't look like one. But they never do.* It was on Caribbea that she had become a regular habitué of the New Port of Spain Casino.

She had, of course, worked out a system to beat the wheel. But the system hadn't worked out for her. There had been the unhappy business of the cracking of the T-G Cashier's safe — allegedly thief-proof, but (luckily) very few thieves hold a degree in physics. There had been the new banknotes, the serial numbers of which were on record, that had turned up in the safe of the casino's cashier. . . .

After that — the Rim Worlds.

A pity, said Grimes to himself. *A pity. But it could have been worse. If she'd gone to Elsinore, in the Shakespearean Sector, where they're notorious for their gambling, she'd really be in a mess by now.*

He turned up the file on Petersen. The absentee Met Officer was another ex-Terran, and also had been employed with Trans-Galactic Clippers. Grimes noted with interest that Petersen had spent a few weeks on El Dorado, popularly known as "the planet of the filthy rich." (Grimes had been there himself as a young man, as a junior officer in the Federation's Survey Service.) It seemed that a T-G ship had called there on a millionaires' cruise, and T-G had insisted on sending its own spaceport personnel there in advance.

Women, not money, had been Petersen's trouble. Twice he had been named as co-respondent in an unsavory divorce case. If the ladies had not been the wives of prominent T-G executives it would not have mattered so much. But they were.

There could be a connection, thought Grimes. There could be. *Both of them from Earth, both of them ex T-G.* . . . He shrugged

away the idea. After all, it has been said that if one throws a half brick at random aboard any Rim Runners ship, the odds are that you will hit an ex-officer of the Interstellar Transport Federation's vessels.

So it went on — case histories, one after the other, that made depressing reading and, insofar as the quite serious crisis on Mellise was concerned, a shortage of both motive and opportunity. But money could be a motive. Suppose, tomorrow, a foreign ship dropped in, and suppose that somebody aboard her said to old Wunnaara, "We'll fix your starfish for you — in return for full trading rights. . . . "

And whatever else I am, thought Grimes tiredly, *I'm not a starfish fixer.*

He poured himself a stiff drink — Stacey, with all his faults, was a considerate host — and went to bed.

She said, "I hear that you've been looking through the personnel files, John. That wasn't very gentlemanly of you."

"How did you hear?" asked Grimes. "My doing so was supposed to be as secret as the files themselves."

"There aren't any secrets on this bloody planet." Her face, as she stared at him over her candlelit dining table, was hard and hostile, cancelling out the effects of an excellent meal. "And did you find what you were looking for?"

"No."

"What were you looking for?"

"Somebody who's capable of doing a spot of biological engineering."

"Did you find anybody?"

"No, Lynn."

"What about the spaceport quack?"

"Frankly," said Grimes, "I wouldn't go to him with a slight head cold."

"Frankly, my dear, neither would I." She laughed, and her manner softened. "So you're still no closer to solving the Mystery of the Mutated Starfish."

"No."

"Then I'll solve it for you. There was a bad solar flare about a year ago, and our atmospheric radiation count went up no end in consequence. There's the answer. But I'm glad that you stayed on Mellise, John. You've no idea how hungry a girl gets for intelligent company."

"I'm glad that I stayed, Lynn. For personal reasons. But I really wish I could help Wunnaara."

She said, "I don't like His Too Precious Excellency any more than you do, John, but I often feel that he's on the right track as far as the natives are concerned. Let them help themselves."

He said, "I discovered this world. I feel, somehow, that it's my direct responsibility."

She replied, a little bitterly, "I wish that you'd start shedding some of your feelings of responsibility, *Commodore.* Don't worry so much. Start having a good time, while you can."

And I could, too, he thought. *With a quite beautiful, available woman. But . . . .*

She said, "It's a wild night. Hurricane Lynn — I named it after me. You aren't walking back to old Stacey's place in this, surely?"

He said, "It's time I was going."

"You'll get drenched," she told him.

"It won't be for the first time," he grinned.

"All right. Then go. You can let yourself out."

For a tall girl she flounced well on her way from the little dining room to her bedroom.

Grimes sighed, cursing his retentive memory, his detailed recollection of the reports from all planets to which Rim Runners traded. But he had to be sure, and he did not wish to make any inquiries regarding this matter on Mellise. He let himself out of the little, dome-shaped cottage, and was at once furiously assailed by the wind.

Hurricane Lynn had not yet built up to its full intensity, but it was bad enough. There were great sheets of driving rain, and with them an explosion of spray whipped from the surface of the sea. It was on a night such as this that old Captain Engels, in *Lorn Lady,* had almost lost his disabled ship on Mellise. But there hadn't been a proper spaceport then, and the facilities, such as they were, had been on a much lower-lying island.

Luckily the spaceport was downwind from the village. Grimes ran most of the way. He didn't want to, but it was easier to scud before the gale than to attempt to maintain a sedate pace. He let himself into the port captain's large house. The Staceys were abed — he had told them that he would be late — but Captain Stacey called out from his bedroom, "Is that you, Commodore?"

"Who else, Captain? I shall be going out again shortly."

"What the hell for?" testily.

"I have to send a message. An important one."

"Telephone it through to the Carlotti Communications Office from here."

"I want to make sure it goes."

Grimes faintly overheard something about distrustful old bastards as he went to his own room, but ignored it.

There was a very cunning secret compartment built into his suitcase. The commodore opened it, took from it a slim book. Then, with scratch pad and stylus, he worked rapidly and efficiently, finishing up with eleven gibberish

groups. He put the book back in its hiding place, pocketed the pad. Then he had to face the stormy night again.

The duty operator in the Carlotti Office was awake, but only just. Had it not been for the growing uproar of the hurricane, penetrating even the insulated walls, he would not have been. He reluctantly put down his luridly covered book and, recognizing Grimes, said, "Sir?"

"I want this to go at once. To my office at Port Forlorn. Urgent." He managed a grin. "That's the worst of space travel. It's so hard to keep track of dates. But my secretary will be able to lay on flowers for the occasion."

The operator grinned back. Judging by the way he was making a play for that snooty Lynn Davis the commodore must be a gay old dog. He said, a little enviously, "Your message will be winging its way over the light-years in a jiffy, sir." He handed the commodore a signals pad.

Grimes put down the address, transcribed the groups from his own pad, filled in his name and the other details in the spaces provided. He said, "Let me know how much it is. It's private."

The young man winked. "Rim Runners'll never know, sir."

"Still, I prefer to pay," said Grimes.

He watched the miniature Carlotti Beacon — like a Mobius strip it was, distorted to a long oval — turn on its mounting in the big star tank until it was pointing directly at the spark that represented the Lorn sun. He hoped that the big beacon on the roof of the building was turning, too. But it had to be. If it stopped, jammed, the little indicator would seize up in sympathy. In any case, it was shielded from the weather by its own dome.

The operator's key rattled rapidly in staccato Morse, still the best method of transmitting messages over vast distances. From the wall speaker blurted the dots and dashes of acknowledgement. Then the message itself was sent, and acknowedged.

"Thank you," said Grimes. "If there's a reply phone it through to me, please. I shall be at the port captain's house."

"Very good, sir."

Grimes was relaxing under a hot shower when he heard the telephone buzz. Wrapping a towel around himself, he hurried out of the bathroom, colliding with Captain Stacey.

"It's probably for me," he said.

"It would be," growled Stacey.

It was. It was a reply to Grimes's signal, which when decoded, had read, "Urgently require information on solar flares Mellise sun last year local."

It said, after Grimes had used his


Virgil
Finlay

little book, "No repeat no solar flares Mellise sun past 10 years."

Somebody's lying, thought Grimes, *and I don't think it's my secretary.*

V

Hurricane Lynn, while it lasted, put a stop to any further investigations by Grimes. Apart from anything else, the sea people were keeping to their underwater houses, each of which was well stocked with air bladders and the carbon-dioxide absorbing plants. He managed, however, to get back on friendly terms with Lynn Davis — or she with him, he was never quite sure which was the case. He found her increasingly attractive; she possessed a maturity that was lacking in all the other young women in the tiny human community. He liked her, but he suspected her — but of what? It was rather more than a hunch; there had been, for example, that deliberate lie about the solar flare. Grimes, who was an omnivorous reader, was well aware that fictional detectives frequently solve their cases by sleeping with the suspects. He wasn't quite ready for that. Such a *modus operandi* he considered ungentlemanly.

Then Hurricane Lynn blew itself out and normally fine weather returned to the equatorial belt. Flying was once again possible, and Petersen came back to the spaceport from Mount Llayilla.

Grimes didn't like him. He was a tall, athletic young man, deeply tanned, with sun-bleached hair and startlingly pale blue eyes. His features were too regular, and his mouth too sensual. The filed stories of his past amatory indiscretions made sense. And he was jealously possessive insofar as Lynn Davis was concerned. *She's mine, Commodore,* was the unspoken message that Grimes received, loud and clear. *She's mine. Keep your dirty paws off her.*

Grimes didn't like it, and neither did the girl. But he, now that the storm was over, was busy again. At least once daily he argued with the ambassador, trying to persuade that gentleman to request the services of a team of marine biologists and professional fishermen. He composed and sent his own report to Rim Runners' head office. And, whenever conditions were suitable, he was out to the pearl beds with Wunnaara, at first in the little submarine and then in a skin-diving outfit that the spaceport's repair staff had improvised for him.

It was a bastard sort of a rig, to quote the chief mechanic, but it worked. There was a spacesuit helmet with compressed-air tanks, suitably modified. There was a pair of flippers cut from a sheet of thick, tough plastic. There was a spear gun and a supply of specially made harpoons, each of which had an

explosive warhead, fused for impact. As long as these were not used at too close a range the person firing them should be reasonably safe.

Lynn Davis came into the maintenance workshop while Grimes was examining one of the projectiles.

"What's that, John?" she asked.

"Just a new kind of spear," he replied shortly.

"New — an' nasty," volunteered the chief mechanic, ignoring Grimes's glare. "Pack too much of a wallop for my taste. If you're too close to the target when one o' these goes off, you've had it."

"Explosive?" she asked.

"Too right."

She turned back to Grimes. "Are these safe, John?"

"Safe enough — as long as they are used carefully."

"But against starfish. Like using an elephant gun against a gnat!"

"There are starfish *and* starfish," he told her. "As everybody on this planet should know by this time."

"You think this will kill them?"

"It's worth giving it a go."

"Yes," she admitted. "I suppose so." Then, more briskly, "And when are you giving your secret weapon a trial?"

"There are a few modifications to be made," Grimes told her.

"They'll all be ready for you tomorrow morning," said the chief mechanic. "As promised."

She turned on her dazzling smile. "Then you'd better dine with me tonight, John. If you will insist on playing with these dangerous toys there mightn't be another time." She laughed, but that odd, underlying note of seriousness persisted. She went on, "And Jeff will be out of our hair, I promise you that. There's a party on in the Carlotti Operators' Mess, and those he *never* misses."

"I've a pile of paper work, Lynn," Grimes told her.

"That can wait."

He made his decision. "All right, then. What time?"

"Whatever time suits you. 1800 hours, shall we say? For a few drinks first. . . . "

"Good. I shall be there."

He dressed carefully for the dinner party, paying even more attention to the contents of his pockets than the clothes themselves. He had one of his hunches, and he knew that he would need the things that he was taking from the secret compartment of his suitcase.

There was the Minetti automatic, with a spare clip, neither of which made more than a very slight bulge in the inside breast pocket of his jacket. There was the pack of cigarillos — and two of the slim, brown cylinders possessed very spe-

cial properties, and were marked in such a way that only Grimes would be able to identify them. Marriage to an Intelligence Officer, he thought, has its points. Something is bound to rub off. There was the button on his suit that was a camera, and the other button that was a miniaturized recorder.

On the way from his room to the front door he passed through the lounge where Captain and Mrs. Stacey were watching a rather witless variety program on the screen of their playmaster. The port captain looked up and around, his fat, heavy face serious. He said, "I know that it's none of my business, Commodore, and that you're technically my superior, but we — Lucy and myself — think that you should be warned. Miss Davis is a dangerous woman."

"Indeed, Captain?"

"Yes, indeed. She leads men on, and then that Jeff Petersen is apt to turn nasty."

"Oh?"

An ugly flush suffused Stacey's face. "Frankly, sir, I don't give a damn if you are beaten up for playing around with a girl young enough to be your granddaughter. But because you're Astronautical Superintendent of Rim Runners there'd be a scandal, a nasty scandal. And I don't want one in *my* spaceport."

"Very concisely put, Captain. But I can look after myself."

"I hope that you can, Commodore. Good night to you."

"Good night, Captain Stacey."

Grimes let himself out. The pieces of the jigsaw puzzle were beginning to fall into place. His suspicions were about to be confirmed. He smiled grimly as he walked along the narrow street towards the row of neat little bungalows, in one of which Lynn Davis lived. Night was falling fast. Already lights were coming on in the houses. From open windows drifted the sound of music. The scene was being set for a romantic — romantic? — assignation.

Lynn Davis met him at her door. She was dressed in something loose and, Grimes noted as she stood with the lamp behind her, almost transparent. She took his hand, led him into her living room, gently pushed him down into a deep chair. Close by it was a tray of drinks, and a dish upon which exotic delicacies were displayed. Real Terran olives! A score of those would make a nasty hole in the weekly pay of an assistant met officer. Sea dragon caviar from Atlantia. Pickled rock frogs from Dunartil.

The playmaster was on, its volume turned well down. A woman was singing. It was an old song, dating back to the Twentieth Century, its lyrics modernized, its melody still sweet with lost, archaic lilt.

Spaceman, the stars are calling,
Spaceman, you have to roam . . .
Spaceman, through light years
falling,
Turn back at last to home . . .

"Sherry, John?" asked Lynn Davis. She was sitting on the arm of his chair. He could see the gleam of her smooth flesh through the sheer robe. "Amontillado?"

He said, "You're doing me proud."

She said, "It's not often I entertain such an important guest as you."

He sipped the wine from the fragile glass she had filled for him. She had measured her own drink from the same decanter. He did not think that there was anything wrong with it — any connoisseur would have told him, indignantly, that there was *nothing* wrong with it — but at the first hint of muzziness he would smoke a cigarillo. . . .

She was leaning closer to him, almost against him. Her robe was falling open in front. She was wearing nothing underneath it. She said, "Aren't you hot? Why not take your jacket off?"

"Later, perhaps." He managed a quite creditable leer. "After all, we've all night."

"Why waste time?"

Her mouth was slightly parted in frank admiration. *What the hell?* thought Grimes — and accepted it. Her body was pliant in his arms, her lips on his warm and moist. But his mind, his cold, calculating mind, was still in full command of the situation. He heard the door open softly, heard feet sliding over the thick carpet. He pushed the girl away from him, from the corner of his eye saw her fall to the floor, a delectable sprawl of exposed, gleaming body and limbs.

"So!" snarled Jeff Petersen. "So. This is what you get up to, Mr. Commodore Dirty Old Man Grimes! What did you promise her, you swine? Promotion, and a transfer to a better station?"

But Petersen, Grimes noted, was not a slave to his instincts any more than he, Grimes had been. Superficially his voice was that of the wronged, jealous lover. But there was an artificial quality in his rage.

Grimes said equably, "I can explain — "

"Yes." Petersen was advancing slowly. "You can explain after I've torn off your right arm and beaten out your brains with it."

Suddenly the tiny pistol was in Grimes's right hand. It cracked once, and once only, a sound disproportionate to its dimensions.

Petersen halted, staggered, staring stupidly. He swayed on his feet for long seconds and then crashed to the floor, oversetting the low ta-

ble, spilling wine over the sprawling body of the girl. She exploded up from the carpet like a tigress, all teeth and claws. Grimes was hampered by the chair in which he was confined but fought her off somehow. He did not want to use the gun again.

"You bastard!" she was sobbing. "You ruthless bastard! You killed him! And we were careful not to kill — not even the natives!"

"I didn't kill him," Grimes managed to say at last, after he had imprisoned her hands behind her back, after he had clamped her legs between his own. *"I didn't kill him.* This pistol is loaded with anesthetic needles. He'll be out for twelve hours — no more, no less."

"He's not . . . dead?"

"Do dead men snore?" asked Grimes practically.

"I . . . I suppose not." Her manner changed abruptly. "Well, he asked for it, John, and this time he got it. Poor Jeff." There was little sympathy in her voice. "So. . . . "

"So what?"

"You *did* say he'd be out of things for twelve hours, didn't you?"

He said admiringly, "You're a cold-blooded bitch."

"Just realistic." She lunged forward with her head, but it was not to bite. After the kiss Grimes released her. She pulled slowly away from him, walked undulatingly to the door of the bedroom, shedding the torn remnants of her robe as she went.

Grimes sighed, then got up and followed.

VI

She said, "That was good. . . . "

"It was."

"Stay there, darling. I'll make us some coffee. We don't want to waste time sleeping."

A sleep, thought Grimes, *is just what I should like. The sleep of the just. . . . Of the just after. . . .*

He sprawled at ease on the wide couch, watched her appreciatively as she left him, as she walked gracefully to the door. In the subdued light she was all rosy bronze. In any sort of light she was, as he knew, beautiful. He heard a slight clattering from the kitchenette, imposed upon the still stertorous snores of the hapless Jeff. After a while he heard the hissing of the espresso machine. She came back with a tray on which were a pot and two cups. She poured. "Sugar, darling? Cream?" The steam from the coffee was delicately fragrant. He reached out for his cup, accidentally(?) put his fingers on the handle of hers. She gently pushed his hand away. "Mine has no sugar," she told him.

"You're sweet enough as you are," he said, asking himself, *How corny can you get?*

So he took three sips of the cof-

fee that was intended for him, and at once felt the onset of heavy drowsiness, even though there was no warning flavor. He mumbled, "Like a smoke. . . . Would you mind, Lynn? In my pocket. . ."

She reached out to his clothing, produced the packet of cigarillos and his lighter. She, he already knew, did not smoke herself, which was just as well. She handed him the packet. In his condition, in the dim lighting, he could hardly make out the distinguishing mark. He hoped that he had the right one. Here and now, the special effects of the other one would be more spectacular than usual.

She lit the cigarillo for him, smiling condescendingly down at him. He inhaled the smoke, retained it for long seconds before blowing it out. He took one more sip of coffee, then let a dribble of the hot fluid fall onto his naked chest. He was careful not to wince. He mumbled indistinctly, then fell back against the pillows. His right hand, with the little, smouldering cylinder between his fingers, fell limply on to his belly. He could smell the acridity of burning hair, felt the sharp beginnings of pain. With a great effort of will he remained in his relaxed posture.

He heard her mutter, "I should let the old bastard burn, but — " Her cool, slim fingers removed the miniature cigar from his hand. He felt very grateful to her.

He heard her dressing. He heard her walk rapidly from the bedroom. He heard, eventually, the front door open and shut. He gave her time to get clear of the house.

When he got down from the bed he expected to feel sick and dizzy, with drug and antidote still at war within his system. But he did not, although he was conscious of the minor burns. He dressed rapidly, checked his possessions.

He was pleased to find that the Minetti was still in his pocket. Probably whatever it was in the coffee was supposed to put him under for a longer period than the anesthetic needle-bullet that he had used on Jeff Petersen.

The street outside the house was deserted. Everybody was indoors, and everybody seemed to be having a party. He grinned. He had had one too, and some of it had been fun. He walked briskly away from the spaceport, in the direction of the beach where he had first met Lynn Davis. The signs that had been affixed to the trunks of trees were a help. By what moonlight there was he could read, PRIVATE.

And how would she have managed, he wondered, if the other human ladies on Mellise had shared her views on public, outdoor nudity?

The beach was deserted. Backing the narrow strip of sand were the trees, and between their boles

was undergrowth, affording effective cover. Grimes settled down to wait. He slipped out the magazine from his automatic and exchanged it for the other one. The needle-bullets in it were no more lethal than those of the first had been. But they differed from them in one or two respects. He took the remaining cigarillo from his packet, put it carefully into his breast pocket. This one had a friction fuse.

At last she came, walking barefooted over the sand, her shoes in her left hand, a heavy case in the other. She dropped the shoes, put the case down carefully. She opened it, then pulled out a silvery telescopic antenna to its full extent. She squatted down, making even this normally ungainly posture graceful, appeared to be adjusting controls of some sort. There was a high, barely audible whine.

Something was coming in from the sea.

It was not a native. It came scuttling ashore like a huge crab — like a huge, five-legged crab. Then there was another, and another, and another — until two dozen of the beasts stood there waiting. For orders — or programming?

Grimes walked slowly and deliberately out from the shadows, his Minetti in his right hand. He said quietly, "I'm sorry, Lynn."

She whirled grotesquely, like a Russian dancer.

"You!" she snarled, making it seem like a curse.

"Yes. Me. If you come quietly and make a full confession I'll see to it that things go easy for you."

"Like hell I will!"

She turned swiftly back to the transmitter, kicking up a flurry of sand. The whining note abruptly changed to an irregular beat. And then the starfish were coming for him, slowly at first, but faster and faster. He swatted out instinctively at the leading one, felt the skin of his hand tear on metal spines. In his other hand was the gun. He fired — almost a full burst. The minute projectiles tore through the transmitter. Some of them, a few of them, were bound to sever connections, to shatter transistors. They did. There was a sputtering shower of blue sparks. The metal monsters froze into immobility.

But she did not. She had her own gun out, a heavier weapon than Grimes's. He felt the wind of her first bullet. And then, with one of the few remaining rounds in his magazine, he shot her.

He stood there looking down at her. She was paralyzed, but her eyes could still move, and her lips, and her tongue. She was paralyzed — and when the drug took hold properly she would feel the compulsion to talk.

She asked bitterly, "How long will this last?"

"Days, unless I let you have the antidote."

She demanded, "How did you *know?*"

"I didn't *know*. And I added two and two to make a quite convincing and logical four. Suppose I tell you —then you can fill in the details."

"That'll be the sunny Friday!"

"Will it?" Grimes squatted down beside her. "You had things easy here, didn't you? You and Jeff Petersen. Such a prize bunch of nongs and no-hopers, from the ambassador and the port captain on down. I shouldn't have said that; I forgot that this is being recorded. . . .

"Well, one thing that started to make me suspicious of you, especially, was that lie you told me about the solar flare. I checked up. There are very complete records of all phenomena in this sector of Space in my office at Port Forlorn. Then there was the shortage of spares for your equipment — I remembered that the requisitions for electronic bits and pieces have been abnormally heavy since you and Mr. Petersen were appointed here. There was that ornamental tank of little starfish — and that so-called mobile almost alongside it. Petersen's hobby. The construction that, I realized later, looked very like the tin starfish I saw raiding the pearl beds. There was the behavior of these same tin starfish —the way in which they attacked the bivalves with absolute viciousness, the way in which they seemed very careful not to hurt the Mellisans.

"That tied in with the few weeks that Petersen spent on El Dorado.

"They have watchbirds there, Lynn, and similar semi-robots that function either on the ground or in the water. Animal brains in metal bodies. Absolute faithfulness and obedience to their human masters. As a skilled technician, Petersen would have been able to mingle, to a certain extent, with the gifted amateurs who play around with that sort of thing on El Dorado. He must have picked up some of their techniques, and passed them on to you. The pair of you modified them, probably improved upon them. A starfish hasn't any brain to speak of so probably you have the entire animal incorporated into your destructive servants. Probably, too, there's an electronic brain built in somewhere, that gets its orders by radio and that can be programmed.

"You were going to recall the local — flock, pack, school? what does it matter? — tonight, weren't you? For reprogramming. Some pre-set course of action that would enable them to deal with the threat of spears with explosive warheads. It wouldn't do to have tin tentacles littering the ocean floor, would it? When the Mellisans brought in the evidence even the

ambassador would have to do something about it.

"And for whom were you working?" he asked sharply and suddenly.

"T-G." The answer had slipped out before she could stop it.

"Trans-Galactic Clippers. . . . . Why do they want Mellise?"

"A tourist resort." She was speaking rapidly now, in obvious catharsis. "We were to destroy the economy, the trade with the Confederacy. And then T-G would step in, and pay handsomely for rights and leases."

"And you and Mr. Petersen would be suitably rewarded."

He paused, "Tell me Lynn. Did you enjoy tonight? Between the disposal of Jeff and the disposal of myself, I mean?"

"Yes," she told him.

"I'm glad that you said that. It makes what I am going to do a lot easier. I was going to do it in any case."

As he spoke, he pulled the cigarillo from his breast pocket, scratched the friction fuse with his thumbnail. The thing ignited at once, fizzed, ejected a bright, blue pyrotechnic star. It was his signal to Wunnaara.

"I'm letting you go free," Grimes went on. "Both of you. You will have to resign, of course, from Rim Runner's service, but as T-G are your real employers that shouldn't mean any hardship."

"Haven't much option, have I?" she asked.

"No."

"There's just one thing I'd like to say. That question you asked me, about my enjoying myself . . . I'm bloody sorry that this damned truth drug of yours made me give the right answer!"

"I'm not," said Grimes.

END

THE PAWOB DIVISION

by HARLAN ELLISON

It's the oldest saying in the Galaxy: Give a human an inch and he'll take your photosensor and your tentacles!

Mourg radiated with annoyance. The work was piling up, and the division was understaffed, and he knew — as certainly as there was vapor for all — that before his next shedding, they would ship in more of *those.*

He radiated, he revolved, and he thrommed. But the aperture glowed, even as he knew it would. And then one of *them* stood **there . . .** blinking, waving *its* appendages, and mouthing (he had learned the word from an earlier one of *them*) meaningless sounds. Ah, oh, there was a sound he'd heard before: he recognized the way the face aperture formed it, and the vibrations *it* made in the vapor. He felt the sound with his da-linquers, yes it was the same sound.

"Help!"

Mourg ignored *it.* He was vaporizing his lower right quadrant, and an attempt at handling this one would only dissipate him further. He floated into a pocket and sucked deeply of vapor, till his lower right quadrant throbbed and he felt a tremor of guilt at his own gluttony. (How odd, Mourg jelled, that we use the term vapor for so many

things: for life-essence, for the vanishment of the life-essence, for the newborn if columned, for brakinge, and for Thom . . . but he's a pain in the g. But it was an old jell, one Mourg had jelled many times before, and the relavator marked it in his log, penalizing Mourg for repetition. Mourg grew even more annoyed.)

"Unclean," Mourg insulted the relavator, sending the impression through three warps and a pinking so it would not be logged against him.

Furiously annoyed now — both for the logging and for the necessity of guile — Mourg settled back inside the great blue egg with *that*. The *it* that was *that* was now all crumbled up with *its* appendages wrapped around itself, twitching in a most unsightly manner. Mourg felt his gorge become buoyant. Fives, but *they* were uggle uggle ugly.

Girding himself, Mourg pflenged and became solid. The *it* gave a high-pitched sound and scuttled backward to the very wall of the egg, its round things in the top of its front bulging. As head of the division, Mourg was expected to deal with this sort of reaction. He had yearned all the best texts on the subject — Zitmowse on *Instability in Solid and Gaseous Life Forms*, T-Shremp on *Pflenging with Care*, that exomorph, what was his name, from 884 on *Dealing with Others* — and he considered himself rather an adept at getting the job done.

He assumed something like the shape of *it*.

It blubbered: apparently the shape was not close enough.

Mourg tried talking to *it* in *its* sounds. Ik thik cleen beebay maykyoo uhlilmohr thik ik. It didn't work. *It* blubbered worse, a pink thing falling out of its sound-aperture and vibrating madly.

It's unhinged, apparently, Mourg jelled. (He was not logged; the jell applied to repetitive work — all in the line of duty.)

Mourg removed the hair and the wheels, and *it* seemed to like the appearance better. Mourg riffled *its* memory-tracks and found the proper sound-patterns.

"Hey, guy, take easy. Nobody's going to hurt you."

That settled down, stopped twitching, ceased whimpering, vibrated a good deal less. Colors came and went on *its* face, and Mourg, responding to the stimulus, flashed a few itself. *It* vomited.

Apparently *it* didn't mind red or green or gold, but crem and bidny made *it* ill. Mourg ceased flashing. "Now don't get all nervous again, guy. Everything's fine."

"Where am I?" *it* asked, softly.

"The egg," Mourg said.

It drained a saline solution from *its* round things.

Mourg ascertained — through six affirming techniques — that *it* was unhappy at *its* environment. Mourg tried to make *it* a little more at ease. Mourg pflenged the egg, himself and *that*.

Now it was a tall green jungle of stalks that rose up into the bright yellow sunlight. The balloon thing drifted down toward them. Mourg was squatter and naked. *It* was changed, too.

And *it* yelled and cried and flung *it*self about in a manner that made Mourg crosshatched and tepid. "Oh come *on* now," Mourg said with annoyance, "now you're just being cranky, dammit!"

He dimmed it all, re-pflenged and decided — as *that* would sound — to hell with it. Mourg pflenged the egg back.

It was going the way it always went with *these*. The division was littered with them, cluttered with them, festooned with them.

"Okay, okay," Mourg sounded. He had dealt with *these* long enough to know *they* were only testy little babies. Give *them* what *they* needed, and *they* kept quiet, and went back and told all the others *they'd* done this or done that, had had such and such an experience.

Mourg had given *them* a lot of things.

Noses. Women. Fire. God. Thought. Reproductive organs. An apple. Wheels, Olih (though they still hadn't figured out how to use it). Dogs. Numbers, Dreams. Fat. Safety pins. And now he gave *this* what *it* needed, and sent *it* back. With relief.

Then Mourg pflenged, vastened, thrillip'd, exhaled, carbed, moved, de-ligged, orkorlened, adumbrated, extruded, drank deeply of vapor and slid off through his own cryogenic metabolism (very nearly like estivation) for a little sleep.

He was roused from his slumbers less than a nanosecond later by his superior, fraught with a polymorphic fixation, Sid, who screamed silently, invoking the wrath of Five, and other dires, demanding to know what Mourg had done with *that*.

I gave *it* what *it* needed, Mourg went blue and in.

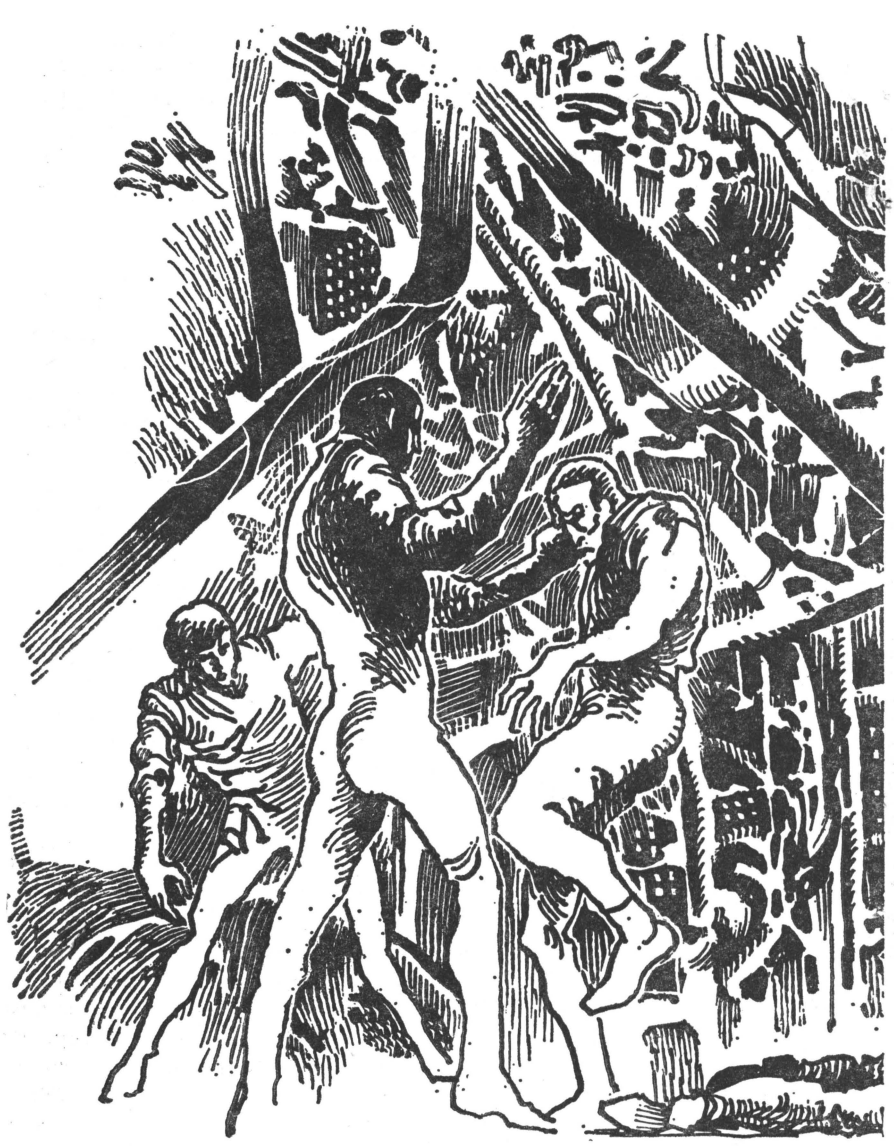
And what was that, this time, Sid in'd.

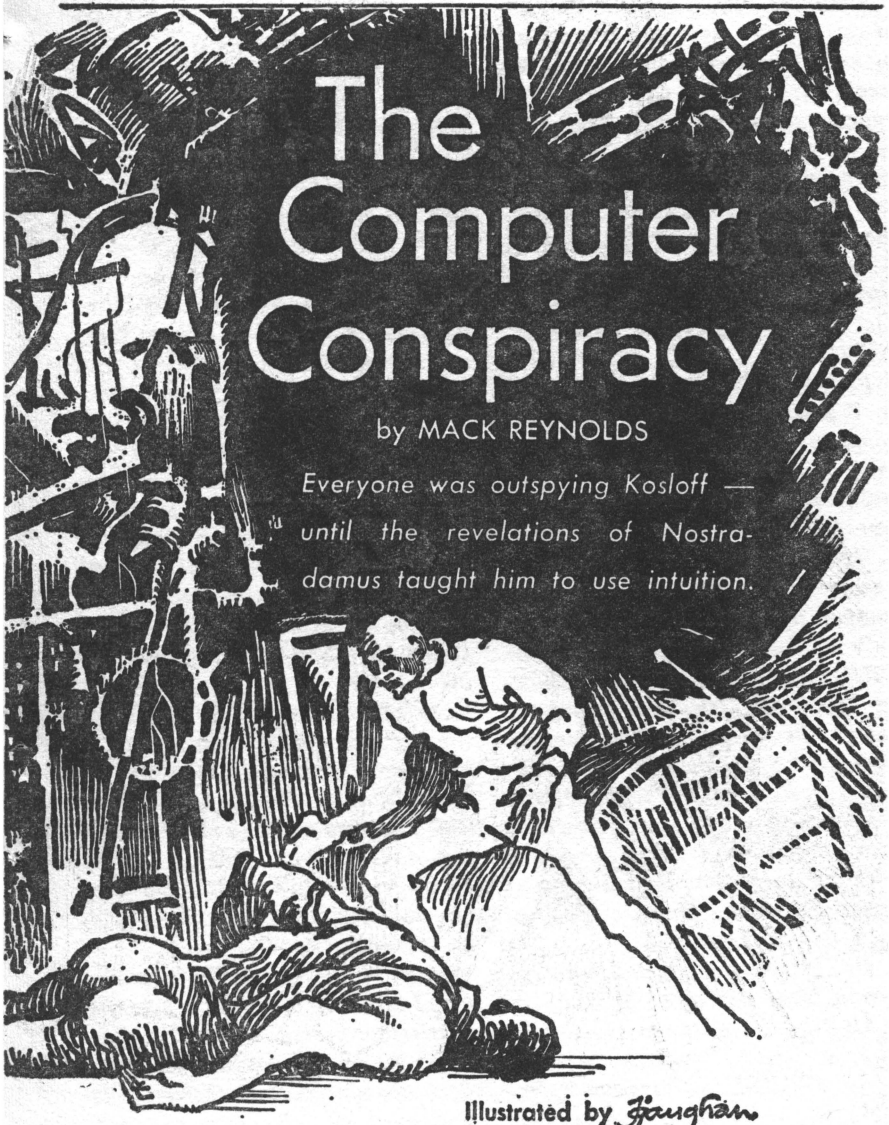
It wanted the universe.

Sid did a thing that was like a shrug, and pflenged, leaving behind the comment, One of these days *they* are going to want something worthwhile.

Mourg tried to get back to sleep, but it was difficult. He kept wheeling back to Sid's comment, and decided finally that *they* could have the universe, silly thing really *wasn't* worth much. But what if *they* ever *did* wise up?

END





The Computer Conspiracy

by MACK REYNOLDS

Everyone was outspying Kosloff — until the revelations of Nostradamus taught him to use intuition.

Illustrated by Vaughan

WHAT HAS GONE BEFORE

Professor PAUL KOSLOFF, son of a famed espionage-counter-espionage agent, is giving one of his weekly lectures on the Slavic languages over Tri-Vision. Although on the stodgy side, his hobbies include mountain climbing, hunting and fishing in remote spots such as the Yukon, pistol and rifle shooting — and karate. On a mountain climbing jaunt he once saved the life of his Tri-Vision technician, JERRY.

Following the broadcast in Greater Washington, he returns to his home in the pseudo-city of Princeton, dimly becoming aware of a stranger in the same vacuum-tube transport vehicle in which he rides.

Upon entering the block of mini-apartments where he resides, he is jumped by two assailants who are only driven off after ZACK CASTRIOTA, the stranger who followed him from Greater Washington, enters the fray. Castriota accompanies Paul to his mini-apartment and reveals that the two footpads were trying to kill him. Castriota also reveals that he is connected with the Inter-American Bureau of Investigation and pressures Paul into a trip to Denver.

In Denver, Paul is taken to the swank inner offices of DEMPSEY HARRISON, after meeting that high official's beautiful secretary LISA STEBBINS. Harrison is possibly the most important man in the United States of Americas, being chief of the National Computer Data Banks.

He explains to Paul that the nation has become completely dependent upon the system of computers, data banks, and the teevee phones which every citizen must wear. And also reveals that mysterious efforts are being made by unknowns both to tap the American data banks for their information, and possibly to wipe them clean. Such an eventuality would mean complete collapse of the American culture.

Paul, who has relatives in Common Eur-Asia and also speaks all the Balkan languages, has been selected by the computers as the most suitable man to enter Eastern Europe as an agent to find whether or not the Common Eur-Asians are behind the efforts to sabotage American data banks. He refuses on the grounds that despite his father's prominence in the field, he knows nothing about such matters.

He returns to his home and several days later is approached again by Castriota who reveals that during the scuffling with the two would-be assassins of Paul a bug was planted in the pocket of one and the IABI has a fix on where the mysterious saboteurs are hiding. They are on Manhattan, which has been abandoned since the riots that destroyed the city years ago. He

wants Paul to come along, since the others are suspected of being Rumanians and Paul speaks the language.

Paul accompanies him to Manhattan where they meet MARK MARTINO, an IABI agent who pretends to be one of the "baboons" who live in the ruins of the city, outcasts from society and rebels against the Ultra-welfare State.

Through the efforts of PETE and REPEAT, two youthful baboons who are in Martino's debt, they locate the hideaway of the saboteurs and, in an effort to secure more information about them, send Pete through the ruined subways with a bug to plant near the former bombshelter in a deserted department store basement where the others are hidden.

Pete is captured and in an effort to rescue him and also to prevent the others from escaping by way of a submarine which is awaiting them in the Hudson River, Paul, Zack and Martino dash in. A fight follows in which all except Paul and one of the enemy, who escapes, are killed.

Paul, badly wounded, activates his wrist teevee phone and calls Dempsey Harrison in Denver. "I'll take that assignment," he says.

XI

Dempsey Harrison, Director of the National Data Center, located in Denver, said, "Professor Kosloff, Mr. Edgar of the Inter-American Bureau of Investigation. I believe you have already met Miss Stebbins."

Paul Kosloff recognized the head of the IABI from long years of Tri-Vision news programs. He shook hands and exchanged the usual banalities. He also said hello to Lisa Stebbins, who today was in the latest of feminine fashion, rather than Data Center uniform.

They were in the escape room of Harrison's luxurious offices in the National Data Center, possibly the most extensive complex of offices in the world. Implausibly, there was a real fire going in the fireplace and, almost as implausibly in this ultimate center of the computer system of the United States of the Americas, their host stood before a real bar.

He took up a bottle, saying hospitably, "Is it too early in the day for anyone?"

James Edgar chortled deeply to the point that his rotund belly shook. He was a rolly-poly man in his late fifties, jolly of face and looked absolutely nothing at all what one would expect of the ultimate authority in the world's second largest police organization.

He said, "It is never too early, in this day and age, when you are offered real guzzle. The ultimate luxury, eh, Professor Kosloff? Dempsey should be ashamed of

himself, setting such an example. For all practical purposes, the whole world has banned the use of cereals for beverages, and this nation, at least, grapes for wine. Next thing we know, he'll be offering us cigars."

Their top bureaucrat host said, "My dear Jim, none of your precious laws are being broken. This stuff is all prehistoric. Rank has its privileges, one of which is to spend astronomical sums on such ultimate luxuries as top quality guzzle and — you'll never believe this — hermatically sealed Havanas. I had one the other day at Bickford's. Actually, it has been so long that I found I had lost the taste for tobacco. Cognac and soda acceptable to everyone?"

Lisa Stebbins, sitting rather primly to one side, said, "If you don't mind, sir, sherry for me."

"Imagine anyone as young as Miss Stebbins having developed a taste for anything as exotic as Spanish sherry," Harrison said jovially.

Paul Kosloff was inwardly impatient. He still had minor bandages here and there and was a full five pounds under his normal weight. He wanted to get underway. He said, "Cognac is fine."

While Harrison was making the drinks, Edgar said to Paul Kosloff, "I knew your father slightly.

"Oh?" He couldn't help adding, "So did I."

The IABI head looked at him.

Paul said, "What I meant was — only slightly. He was too busy fighting the Cold War to pay much attention to the little boy under foot about the house."

James Edgar chuckled, as though it had been meant to be amusing. "The Lawrence of Arabia of the Cold War, eh? And now, here you are following in his footsteps."

"Not exactly," Paul said coldly. The rotund police head had a tendency to irritate him. As a matter of fact, he was beginning to have second reactions to this situation in which he found himself.

Dempsey Harrison evidently sensed the latent antagonism. He handed the drinks around, found his own favorite comfort chair, and said to Paul, a placating element in his voice, "You must realize, Professor Kosloff, that we four in this room are the only persons in the United States of Americas who are familiar with your assignment."

Paul couldn't keep from frowning at him. "You mean that not even the President . . . "

Harrison made a negative gesture with his left hand. "There is no such thing as letting the President in on an ultimately hush-hush situation such as this, Professor Kosloff. He has assistants, and assistants of assistants, and assistants of assis-

tants of assistants. It funnels down through scores of persons." He added, dryly humorous. "And besides, frankly, he isn't very bright."

Paul Kosloff had already suspected that from what he had heard of the Chief Executive, but it wasn't exactly the sort of thing he had expected to hear from Dempsey Harrison who was actually a more important official, though supposedly a subordinate of the President.

The computer data chief went on. "We are keeping the utmost security on this, Professor. It is not even going into the top priority data banks. How efficiently this mysterious element is tapping our information, we don't know, but they won't find anything about your mission. The last piece of information that went into your dossier recorded your refusal to take the assignment to Common Eur-Asia. There has been no record of your trip to Manhattan, your hospitalization, nor your coming here today."

Paul said, "That Rumanian with the bug planted on him. He probably saw me there at the fight at the bomb shelter."

"Possibly," the IABI head said. "But from the description of that fracas, it was brief and poorly lit. It's very probable that he didn't know you were present."

"What's happened to him?" Paul said.

James Edgar's face had lost its jolly qualities and there was a puzzled something in his voice. "We kept the fix on the bug. He went down to the river, obviously got aboard a vessel and headed out for the open sea."

"Couldn't you have had the craft intercepted?"

Edgar shook his head. "Not when it was three hundred feet below the surface. By the time we had suitable craft after it, it was six hundred feet."

Paul said, "I didn't realize naval submarines went that deep."

Dempsey Harrison said, "Why did you think it was necessarily a naval vessel?"

Paul looked at him in surprise. "It never occured to me otherwise. A Common Eur-Asia submarine."

The IABI man took it up again. "I doubt if the usual submersible could have penetrated our waters, even to such a point as the ruins of Manhattan. But our detectors, once locked onto it, indicated that this vessel was less than fifty feet long. Some specially built spy-craft, possibly. And that was borne out later. You see, we dumped the whole thing in the lap of Interpol when the submarine began to approach Europe. Frankly, we expected it to proceed through the Straits of Hercules and probably to the Dalmatian coast of what was formerly Yugoslavia. But according to Interpol, it didn't. That bug

of ours proceeded to a thinly populated stretch of the Normandy coast. The man carrying it obviously disembarked. The bug then proceeded to Paris, where it was lost."

"Lost?"

"Evidently, at that point the carrier was mopped and the bug discovered and destroyed. We're lucky it remained undetected as long as it did."

Paul Kosloff thought about it. He said finally, "Frankly, I don't see of what use I'd be to you. People continually seem to get the impression that because my father was active in international espionage-counter-espionage that I acquired his abilities in my genes. I didn't. I don't know a secret code from the blue prints of a space satellite."

"You don't have to," James Edgar said. "What you'll be mostly, Kosloff, is a contact man. You have various excellent qualifications, especially your cover. You speak the Balkan languages, you have relatives there. You're undeniably a university professor. In fact, if I'm not misinformed, you have some international credit coming to you that you can spend only in Common Eur-Asia — royalties on a couple of your books."

"I'd forgotten about that," Paul said, nodding.

"Very good. You have a perfect excuse for going into their country. You'll contact people there, give them the situation, find out what can be found out and return to report verbally."

Paul said, "Do you mean to tell me that you people have no more efficient means of communicating with your foreign agents than messenger boys?"

Dempsey Harrison said mildly, "Formerly, a sealed beam phone was considered excellent. But if they are tapping our data banks, how do we know they aren't tapping everything else? No, everything connected with this operation goes by courier."

The IABI head said, "We'll do it this way. You'll lob over to Paris, independently of each other, and contact Interpol to find out if they have anything. They've already been briefed by courier and..."

"Independently of each other?" Paul asked.

"Ah, you didn't know that Miss Stebbins is also involved in the assignment?"

"Miss Stebbins?" Paul looked at the beautiful and self-possessed Lisa Stebbins.

She turned down the sides of her mouth. "You have objections?"

"Oh, I didn't mean that. It just, well, never occurred to me."

"How much do you know about computers and their data banks, Professor Kosloff?"

"Nothing."

"I know everything about them."

Dempsey Harrison said, "You might need someone on the spot to consult with on some element of the problem with which you are not familiar. Miss Stebbins won't go into Common Eur-Asia with you, but will be on hand in, say, Geneva. Interpol will undoubtedly have some suggestions on that. We're turning this over to them."

"Could you brief me on this Interpol?" Paul Kosloff said. "I've heard of them vaguely."

"International Police," Edgar said. "In the old days, before the amalgamation of the Western European countries into Common Europe, Interpol was a somewhat loose organization of national police cooperating in international matters, smuggling, the dope traffic, criminals who would commit a crime in one country and flee to another to escape arrest. That sort of thing. But with the forming of Common Europe, the only thing that made sense was to merge Scotland Yard, the *Prefecture de Police* of France, the *Bund Polizei* of West Germany, and all the rest, into one. We cooperate widely, of course."

Paul said, "All right. I contact Interpol. How?"

"Carefully. You first go to a moderately priced hotel, like any tourist. That evening you go out on the town. You'll be met."

"How'll I know I'm being contacted by the right people?"

"You'll know. And they'll take it from there. Miss Stebbins will go independently of you and will make connections through Interpol."

"All right," Paul said. "I suppose I have it." He looked over at Dempsey Harrison. "Could I have a spot of that cognac for the road?"

Harrison grinned at him. "I should say no," he said plaintively. "Within a couple of hours you'll be in France, and there you can still get the precious stuff, although they won't export it." But he took the edge off his words by pouring them all another hefty snort.

The data bank head looked at Paul speculatively. "You realize, of course, Professor Kosloff, that this is the single most important project upon which you have ever embarked. Our world today is geared to the computer. We cannot go back. If anything happened to our data banks, our culture would collapse. All industry, all distribution, all our accumulated knowledge, is dependent upon the data banks."

Paul Kosloff knocked back the brandy. "So everybody keeps telling me," he muttered.

Dempsey Harrison said, "We might as well get the show on the road. Professor Kosloff, Miss Stebbins will go further into the details with you, provide your rocketplane ticket, and International

Credit Card." The data bank head looked at James Edgar. "If you'll just stay on for a few minutes, Jim, there are some odds and ends to go over."

Paul Kosloff and Lisa Stebbins came to their feet. Paul went through the usual routine of shaking hands and murmuring amenities, then turned and followed the lithe Lisa from the escape room, studiously trying to keep his eyes from the gentle sway of molded hips.

In the outer office, she was briskly efficient. She fished in a drawer of her desk.

"Here is your International Credit Card."

"How about my passport?"

"You are out of date, Professor. Your International Credit Card *is* your passport. All the data once on a passport is now on your credit card."

"I assume I have unlimited credit."

"Wrong assumption, Professor. It is not to be expected that a teacher of languages would be quite so prosperous. We don't know to what extent our data banks are being pried into, but if our friends came up with the little item that Professor Paul Kosloff had been given unlimited credit, they might smell a rat. As Mr. Edgar suggested, you should act like any tourist, staying in a moderately priced hotel and so forth."

Paul pretended to groan. "Paris, and I have to be on a shoestring."

She looked at him speculatively. "You don't exactly look the type who would throw a blast on the Rue Pigalle."

"Looks can deceive."

"If that is supposed to be a leer, it doesn't quite come off. Here's your rocketplane ticket."

"Tourist class, of course."

"Of course."

Paul was looking at the International Credit Card. He winced and said, "Where'd you get this photograph?"

"Out of the data banks, of course. I picked the one that looked least like you."

"I'll say you did."

"Lends authenticity. Passport photos never looked like the bearer, and now the same thing applies to International Credit Cards."

He looked at her. "I'll bet your lunch that your own photo on your credit card is tri-di, in color and makes you look like this year's winner of the Inter-American Miss America Contest."

For the first time since he had met Miss Lisa Stebbins, she laughed. And it came to Paul Kosloff suddenly that not only was this girl extraordinarily handsome but that she was possibly the single most beautiful girl he had ever seen. It brought him up abruptly,

along with the realization that he was going to be thrown together with her in the following days very closely indeed. He wasn't complaining.

"All right," she said. "You win. Lunch is on me. No, I'm prevaricating. Actually, it's on the National Data Center. Mr. Edgar already suggested that we two get together over lunch to learn to know each other a bit better. If you'll come this way, I'll take you to the senior executives' auto-cafeteria."

"Auto-cafeteria?" Paul said. "Is that the best Edgar could offer to two of his gladiators who are probably going forth to die? Which reminds me, he looks like a professional Santa Claus between Christmases."

She led the way to the outer corridor, saying, "Don't downgrade Mr. James Edgar. You don't reach his position by other than your own efforts and his position is one of the highest in the Ultra-welfare State." She looked up at him from the side of her eyes. "By the way, just for the record, he is a very bad man not to have on your side."

Paul snorted lightly. "I'm a professor of Slavic languages. What difference could it possibly make if Edgar was less than happy about me?"

She said, "All right, but I told you."

Lunch was surprisingly good in spite of the ultramated nature of the auto-cafeteria. Evidently, Harrison's comment about rank having its privileges applied to the food of the data center's senior executives, as well as to liquor laid down before the bans on distilling and fermentation. No dishes based on Antarctic krill were served here, nor even whale steaks. Paul ate beef for the first time in so long that he couldn't remember. It must have been imported from Australia, he decided. He had heard that they still grazed beef cattle down under, and wondered vaguely how much longer the Aussies would be able to afford to.

It turned out that they had considerable in common, including love of sports, contempt of Tri-Vision as a means of entertainment, love of good books, contempt of labor draft dodgers and others who purposely lived lives of complete leisure, love of good food and drink, and contempt of what they usually had to put up with as an alternative, a preference for Chinese food, and contempt for such pseudo-concoctions as Chop Suey and Chow Mein.

XII

Paul said, over their coffee, "Actually, I'm not really interested in socio-economics but I sometimes wonder if we aren't in

a rut with this People's Capitalism of ours."

"How do you mean, Paul?" They were calling each other Paul and Lisa already. Professor Kosloff and Miss Stebbins had fallen by the wayside.

"It's possible for cultures to get into a historic rut. Egypt was an example. So was the Mayan civilization. They reached a certain level and stayed there for centuries."

She thought about it, tilting her head unconsciously. She was, he decided all over again, the best looking woman he had ever talked to. He had never particularly liked red hair before; now he was enraptured of red hair.

"Go on," she said.

"It's not good for a people to be able to exist without any effort whatsoever. It wasn't good for the Roman proletariat, and it finally contributed greatly to the fall of that Empire. And it's not good for the United States of the Americas, and I wonder if it'll eventually contribute to the fall of our country. Possibly, it'd be better if these data banks of ours were wiped clean, and we'd all have to pitch in and rebuild our world."

She shook her head at him.

"You can't unsolve a solved problem, Paul, any more than you can unscramble scrambled eggs. The computer world is here to stay. Perhaps it isn't the best possible of all worlds, possibly it needs changes. But whatever changes we make, the new world would still utilize computers. You know what would happen if our worse fears were justified and our unknown enemy was able to wipe our data banks?"

He looked at her.

She said, "We'd devote all efforts to fill them again. We'd have to. It gives me a headache just to think of the magnitude of the task, but we'd have to begin."

He shrugged. "Life was simpler before."

"That it was," she admitted. "But that doesn't answer everything. Today, the combination of computer, data banks and the teevee phone working through them, is as important to man as fire was a couple of centuries ago."

"Oh, come now."

She pointed at her wrist teevee phone. "Practically every element of your life is tied up with this. At birth you are issued your teevee phone number which is also your credit account number, the number of your home, your postoffice box number, if you will. It is also your driver's license number, your medical records number, your military, and so on. It's also your voter's registration number and your teeveephone is your secret voting booth.

"Think of just that aspect of it. A citizen no longer registers to vote. Upon coming of age, the com-

puters automatically register him. When he votes, it is on his teevee phone and there is no way possible for a crooked politician to count him out. Remember reading in the past, when whole elections were completely crooked? Ward heelers would go through the cemeteries finding names to register and later vote. Ballot boxes would be stuffed, or sometimes stolen. Records would be 'lost'. Some elements even voted over and over again. Well, no more. Elections are now at least honest.

"Or take another aspect, that you've possibly never thought of. Children don't get lost any more. They can't. At birth they get their number and parents hang a little — well, it amounts to a bug — around their neck. The little tots don't have teevee phones that early but their parents, the police, or whoever else might be looking for them, can get a fix on them from the computers in a matter of seconds. Of course, that applies to you, too. I understand you like mountain climbing. Wizard. Suppose you're up in the Canadian Rockies alone and fall and break your leg way out in the boondocks. In the past, you would have been a dead man. But today you activate your wrist phone and request that they come and get you. You are, literally, in communication with anyone in the world within seconds."

Paul Kosloff said uncomfortably, "Oh, I'm not denying the extent to which the computer-data bank-teevee phone combine enters into our lives. But that's the very trouble. It robs us of all privacy. Of course I can get in communication with anyone in the world in a matter of seconds, but the trouble is, they can get in touch with me, too. Suppose I'm up there in the Canadian Rockies trying to get away from it all, and my phone rings and there's some slick trying to sell me a fancy imported wall-to-wall rug for my mini-apartment."

Lisa had to laugh. "You know very well that's easily handled. You have priorities on your phone. Tri-Vision stars and other celebrities would be deluged otherwise. Everyone lists their Number One Priorities and only those persons can ring them up at any time at all. Then you have your Number Two Priorities and that list includes most of your friends, acquaintances and business associates. But if you'd rather not have even these calling you in the middle of the night, or when you're out on a date, or whenever, you simply switch off your Number Two Priority and nobody on that list can get through to you. Then, of course, there's Number Three, and celebrities keep that switched off practically all of the time, but persons like you and me don't both-

er to. Number Four Priority is for the pests, and only the type person who is lonesome, or some such, and willing to take any call that comes through has it switched on."

It was Paul's turn to laugh and his chuckle was rueful. "Trouble with me is, I'm too curious to know who's calling to switch off any of the priorities, except possibly Four. But this whole conversation reminds me. I've heard they have a new library booster teevee phone screen over in Common Europe. Very fine screen, wonderful for its reproductions of paintings and such delicate reception. I want one."

Lisa said, "I've got too many teevee boosters around the house as it is. One whole wall is taken up by my movie booster. Then there's my library booster, and a phone screen in every room. That's not counting the door identity screen, the Tri-Vision set and a smaller library booster screen I've had set into the ceiling above my bed so I can dial old movies, or concerts or whatever, if I can't sleep. I'll have to move out if anyone moves another screen in."

Paul Kosloff said, "All right, I surrender. I'll admit that our world is so computer-teevee phone orientated that we couldn't abolish them, even if we wanted to."

Lisa Stebbins was suddenly very serious. "The point is that we've simply got to prevent anyone else from abolishing them for us."

The rocketplane lobbed him over directly to Orly Rocketport and he took a vacuum-tube vehicle from there to the terminal on the *Ile de la Cite.* He had never been in Paris before, but his French was adequate and he was tourist equipped with maps and guidebooks.

He had been somewhat surprised that Harrison and Edgar hadn't given him a definite hotel to go to, but then, he supposed that was part of his cover, as they called it. The less others knew about where he was and what he was doing, the better. He didn't imagine Interpol would have much trouble finding him, not in this day of police detection gadgets.

From one of his guides he had already picked a hotel, the aging *George V Hilton.* He studied the maps and instructions on the terminal walls, and dialed his way through to it, after placing his International Card in the payment slot.

In the United States of Americas, he could have dialed through right to a room and have registered from it without ever having to see a hotel employee. But evidently here in Common Europe ultramation had not gone quite so far, at least not in the *George V Hilton.* He emerged from his vacuum-tube vehicle into a large lobby and live bellhops grabbed up his luggage and hauled it to a busy reception desk. Paul Kosloff had never seen

a bellhop before, save on Tri-Vision shows.

At the reception desk he told them his needs, was assigned quarters and registered by putting his International Credit Card in the desk teevee screen, and adding his thumbprint. At least, the bellhops didn't lug his stuff all the way to his room. There was a delivery chute at the side of the desk.

In his room, he found the French weren't as prehistoric as all that. There was an auto-bar in the comfortable quarters which overlooked the Place de la Madeleine and the Roman temple with its majestic Corinthian colonnade.

The auto-bar was a slightly different model than the ones he was used to at home, but presented no problems. He dialed beverages, then alcoholic beverages and then read the list admiringly. Perhaps the French had gone along when the world had banned the use of cereals for such drinks as beer and whiskey, but they had no intentions of giving up the products of the vine. Paul Kosloff had had precious little wine in his life and looked forward to it during his stay in Europe, but right now he was up to spirits.

He dialed a cognac and soda and, when it came, took it to a chair near the window and sat and sipped and looked out over the city. Paris, the City of Light. He had never met a person who had been to Paris that didn't like the city. Come to think of it, they usually liked the city and disliked the French. Why, he didn't know. Paul Kosloff was not politically conscious, but inwardly thought of himself as a liberal. He didn't believe in making judgments of a whole people, he believed in judging each person as an individual. But then, he had never met such as the Egyptian, either singly or en masse.

He was again having second thoughts. He must have been an idiot to have taken this assignment. He hadn't the vaguest idea of what was expected of him. Very well, admittedly his cover was excellent. Few would think twice of his entering either Common Europe, formerly known as the West, or even Eastern Europe, now part of Common Eur-Asia. But so what? Once there, what was there for him to do?

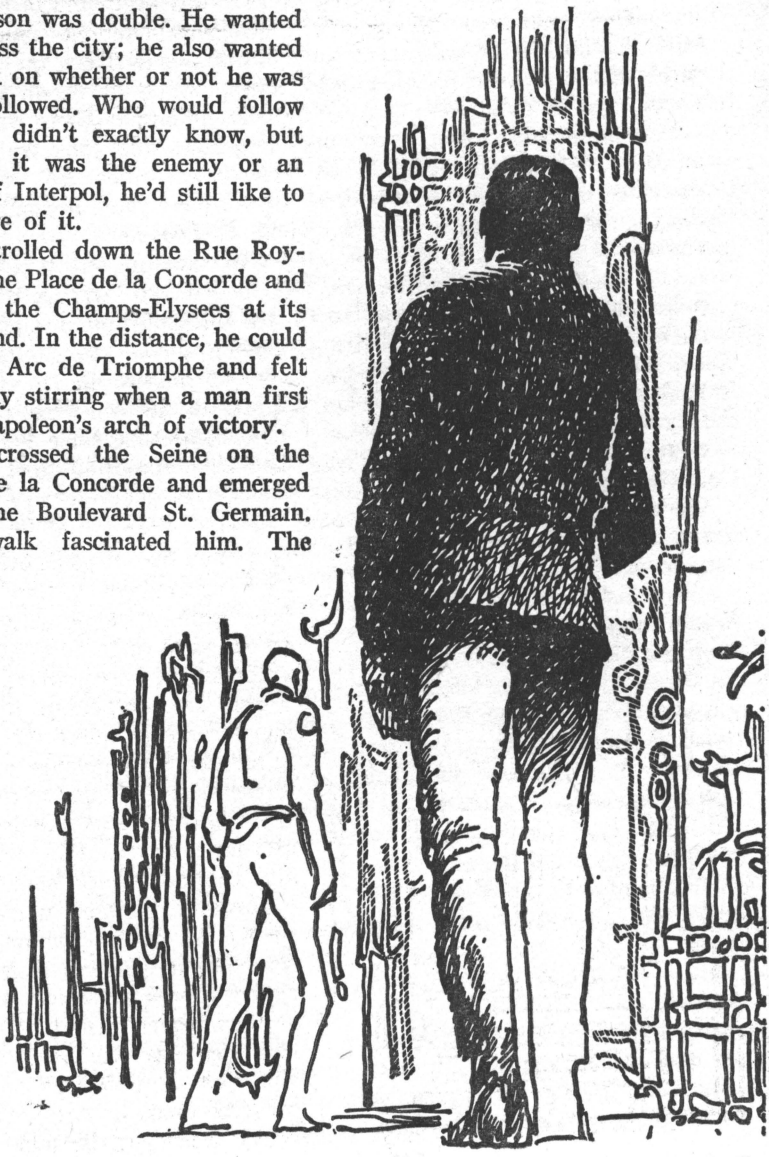
Well, he couldn't put it off indefinitely. He put his glass back on the top of the auto-bar so that it could sink away into the bowels of the hotel to be automatically washed and stored away for its next usage.

Map and guidebook in hand — still the tourist — he went down to the lobby and out onto the street. He could have taken a vacuum-tube vehicle or, just for the experience, one of the antiquated

metros, but he decided to walk. The reason was double. He wanted to witness the city; he also wanted to check on whether or not he was being followed. Who would follow him, he didn't exactly know, but whether it was the enemy or an agent of Interpol, he'd still like to be aware of it.

He strolled down the Rue Royale to the Place de la Concorde and crossed the Champs-Elysees at its lower end. In the distance, he could see the Arc de Triomphe and felt that tiny stirring when a man first sees Napoleon's arch of victory.

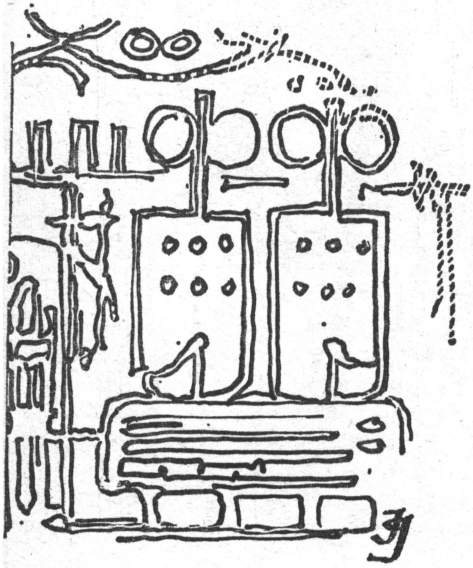
He crossed the Seine on the Pont de la Concorde and emerged onto the Boulevard St. Germain. The walk fascinated him. The



United States of the Americas was new. The cities, even the old ones still standing, were new, not to speak of the planned pseudo-cities. Paris was old, old.

His instructions were to go out on the town. How he would be contacted and by whom, he hadn't the vaguest idea. Very well, he was out on the town.

He strode along St. Germain, taking in this generation's artists, poets, musicians, sculptors, writers, both pseudo and otherwise. Paul Kosloff didn't know it, but they differed little from those of Hemingway's Lost Generation, or of the lost generation of Francois Villon's day. All generations of artists are evidently lost.



He was beginning to get tired of pavement-pounding and turned left on a side street, the Rue L'Abbaye, which bordered an ancient looking church. There was a sound of guitars and song from a small place. All right, he was on the town. He entered a small club called *L'Abbaye.*

And was hissed to silence. An aging Negro was sitting on a straight chair on a platform and singing a folk song. Folk music was no longer "in" in the United States of the Americas and it had been some time since Paul Kosloff had been subjected to it. The old timer was good.

When the song was over, he was ushered to a tiny table. A head waiter, yet, he marvelled. He was used to the auto-cafeterias and auto-bars of home, where the customer was untouched by human hands, period; where the customer never saw an employee of the establishment — assuming there were any such. Usually, efficient crews of men served the ultramated auto-cafeterias back home.

However, his table was automated. He put his International Credit Card in the slot and dialed champagne. It was expensive, but, then, he had never tasted champagne. Let Dempsey Harrison foot the bill. Paul Kosloff was on an expense account.

The center of the table sank —

to return with glass and a full bottle of chilled wine. Paul Kosloff blinked at it. He had expected a single glass.

However, he poured and sipped. To his surprise, it turned out that he didn't like the taste of the bubbly wine as much as he had expected to.

The folk singer launched into a new song.

Little boy, how old are you?
Little boy, how old *are you?*
Why, sir, I'm only six years old.

Paul Kosloff found that he was enjoying himself. The other occupants of the tiny *boite* were largely younger people, teenagers some of them. Evidently, this was a favorite hangout of the ardent striver set. When a song ended, they snapped their fingers rather than applauding; seemingly it was an institution in this establishment.

As he lifted his glass to his lips again, realizing that the taste of the vintage wine was growing on him, a newcomer slid into the chair across the table.

The light was dim, but it was all that he could do to refrain from spewing his mouth full of wine out over the table top.

"*Zack!*" he ejaculated.

XIII

The other said drily, "The name is Georg."

And then, even in the dim light of *L'Abbaye,* Paul Kosloff could see that the man across from him was a younger edition of Zack Castriota.

He put his glass down and shook his head. "This came as a surprise," he said. "I last saw Zack under the most unpleasant of circumstances. We hadn't known each other very long, but we were beginning to grow on one another. Brother . . . ?"

"That's right," the other said. He extended a hand to be shaken. His voice was low. "Younger brother. Colonel Georg Castriota. You, of course, are Professor Kosloff."

Paul said, even as he shook, "How did you locate me? I've been looking out for anyone following me."

The other chuckled in deprecation and looked at the champagne. He even had the mannerisms of his brother. "That's going to cost you a million dollars a bottle," he said, dialing for a glass.

"I will gladly submit the bill to Mr. James Edgar of the IABI," Paul said.

Georg Castriota's glass arrived and he helped himself to a glass of the wine, evidently automatically assuming he was welcome.

He said, quietly, "Security being what it is, the details of Zack's . . . end haven't all come through to us."

Paul Kosloff said in a new-found caution. "Is it at all possible that our conversation is being overheard?"

The other shook his head. "Quite impossible."

"Someone told me that snooping devices have been so perfected that it is possible to put a bug on anyone's wrist teevee phone so that not only can all phone calls be monitored but all conversations taking place in the vicinity. And nobody seems to know just how sophisticated this equipment of our mysterious snoopers might be. If they can tap our data banks, perhaps they can also tap our communications system."

The Interpol agent nodded. "However..." He brought from an inner pocket of his jerkin what would at first appear to be an old fashioned cigarette case and handed it to Paul Kosloff. Paul scowled down at it.

Georg Castriota said, "For every flow there's an ebb. When some slick first invented the sword, several millennia ago, in short order somebody else came up with armor. More recently, when the tank was devised, someone else came up with the bazooka." He nodded at the compact object Paul was examining. "You activate it by simply throwing that little switch. It scrambles any electronic bugs in your immediate vicinity. A lot of people keep a variation of it in their escape rooms. As long as it's on, not even your teevee phone will work."

"I'll be darned," Paul said. He began to hand the device back.

"Keep it," Georg Castriota said. "And now, the details of Zack's death?"

Paul told the whole story.

By the time he had come to the end, the bottle of wine was empty. They maintained a lengthy silence. Georg Castriota's face was expressionless save for a slight tic at the side of his mouth.

He sucked in air, finally, and said, "All right. It's the way Zack would have liked to have gone." He fished in a pocket again to emerge with another credit card. He handed it to Paul Kosloff.

It was evidently a standard Common Europe equivalent of the American Universal Credit Card, although Paul had never seen one before. The face on it was his own and he suspected the thumbprint was as well. However, the identity number was strange to him and the name on the card read, Herman Voss. He looked across the table at the Interpol man.

Georg said, "Your cover involves your having limited expenditures as a teacher making a tourist trip through Europe. We've issued this to you in case of extraordinary expenses. Even though our data banks are being tapped as well as

your own, it's unlikely they could trace this to you. Nor will any of the records of this appear in your own data banks to cause suspicion. What you spend on your International Credit Card will, of course, appear all over the place, including in Switzerland for eventual international clearing."

He grunted sourness. "The world's got a lot of progress still to be made. We need an international monetary system. As it is, ultimately our exchange is still based on gold, and still has to be cleared from one country to another."

"Well," Paul said, "the credit card is still a big improvement over the old system. Money never was a very good means of exchange. In the old days, you could work all your life and accumulate a small fortune, represented by gold. Wizard. But along would come a man with a gun and point it at you and walk off with your life-time work. It got even worse when paper came in to represent the gold, which was buried away in the ground somewhere. Your house could burn down and your paper money with it, and there was the end of your life's work. At least now nobody can steal your money, nobody can spend it but you, you can't lose it, and you can't be conned out of it."

"I suppose so," Castriota said. "However, I still think at least a monetary union of the United States of the Americas and Common Europe would make a lot of sense. For that matter, a more all-embracing union."

Paul Kosloff was intrigued. "Sort of bring you into the United States as a junior partner of the firm, eh?"

Castriota said, "Why junior?"

Paul said, "Sorry. I wasn't trying to tread on your toes. It's just that we're so much bigger than you are."

"Size isn't everything. Australia is bigger than Common Europe, too."

Paul said uncomfortably. "Well, I wasn't simply speaking of size. Our gross national product is considerably larger and..."

Castriota was looking at him impatiently. "Zoroaster, I sometimes think you Americans are the most arrogant people since Rome. These gross national product statistics are, along with per capita income statistics, some of the most elastic going, and it makes one hell of a difference who does the compiling."

Paul frowned at him.

"Look," Castriota said, leaning forward slightly. "Suppose you have two brain surgeons, one located in Greater Washington and one in Vienna. They are equally accomplished and do the same number of operations a year. The American is paid fifty thousand

dollars a year and the Austrian doctor ten thousand. Those amounts are entered in their respective countries as part of the gross national product. Next year, the American arbitrarily doubles his fees, figuring he might as well get in on the gravy. He performs no greater number of operations, but now his contribution to the GNP of your country is one hundred thousand dollars. That of the Austrian doctor, strictly controlled by the government, still remains ten thousand dollars."

Paul had to laugh. Defensively he said, "Well, admittedly in services, errors can creep in. However, ultimately the proof of the pudding is in the eating and the American standard of living is the highest in the world."

The other was still irritated. "Is it? What determines a standard of living? For a long time, you Americans have been claiming the highest in the world, but by using whose criteria? If you base standard of living on diet, then the Australians, New Zealanders and even Argentines could point out that their meat consumption has been higher than yours since the early part of the 20th Century. If your national health is a criterion, then by the standards of northern Europe in general, your level is shockingly low. If education is your criterion, then even the Russians surpass you."

Paul said mildly, "We have more color Tri-Vision and teevee sets per capita..."

The other was on him. "And so what? How do you stand on legitimate theatres, opera, ballet, concert halls? Even the Eastern Europeans have been far ahead of you in those fields since long before your Ultra-welfare State was formed. Where do you place security in this standard of living of yours? The Scandinavians, the Swiss, the Dutch have had a security going back for decades before your comparatively recently instituted People's Capitalism with its inadequate womb to tomb dividends from Inalienable Basic. There hasn't been what you could truly call a poor man in Scandinavia or Switzerland in the memory of living man."

Georg Castriota was well into it now; evidently it was a pet peeve of his. He said, "Besides, Gross National Product and the per capita income of a country has little to do with the living standards of the people. You might have ten people whose gross product is one million dollars, which would make their per capita income a hundred thousand dollars apiece. However, how it is distributed is another thing. One man might get nine hundred thousand of that amount, a second man get sixty thousand of it, and the remaining eight wind up with five thousand apiece, which

comes under the head of poverty in these days.

"As far back as the middle of the 20th Century, Russia had the second largest gross national product in the world, but the people lived like pigs. The government spent the income on rapid industrialization, on the military and the space program. The United States had the largest gross national income of all; but it also had the largest military machine, the largest bureaucracy, and the most ostentatiously living upper class in the world. And with all this went the appalling poverty of your slum dwellers, your American Indians and your rural backward areas such as the Appalachians."

Paul Kosloff said with a grimace. "You're even worse than Zack. He too had this anti-American bit."

Georg Castriota was still impatient. "I'm not anti-American. If anything, it's the other way. I think Common Europe and the United States should have closer ties, particularly in our monetary systems, communications and computer data banks. But I get fed up with your delusions of grandeur occasionally." Then, in a complete change of subject: "Who are they?"

Paul looked at him.

Castriota said, "These people who are tapping the data banks?"

"We were hoping you'd have some ideas."

The other shook his head. "Do you know who we thought it was, at first?"

"Who?"

"You."

The American stared at him. "What are you talking about?"

"When we first became aware of the fact that our data banks were being tapped, we thought you Americans had come up with a method of doing it. Zack couldn't believe it and was assigned to go to Greater Washington to check. He had the advantage of being a personal acquaintance of your Dempsey Harrison. We accepted his reports that you people were up against the same thing."

"Well, that leaves our friends the communists."

"Calling them communists, these days, is stretching a point. However, why? Why couldn't it be some neutral state — say the Union of North Africa?"

Paul Kosloff was unhappy. "From what Dempsey Harrison said, our own technicians have been working on the theory . . . "

"Oh, they have, eh?"

Paul said, "Well, have yours?"

Castriota grunted. "I suppose so. Not with much success certainly."

"Harrison says that our people think they're near some breakthroughs, and near possibilities,

whatever that means. But it's one thing being near breakthroughs, and another having made them. The point is that this is pretty sophisticated stuff. If your scientists and ours haven't been able to tap the data banks of another power from a distance, why should a bunch of Arabs, or whoever, be able to?"

"You're most likely right. Look, who started the rumors?"

"What rumors?"

"The first inklings we had of our banks being tapped were a spate of rumors that spread through Paris and Geneva, where, as you know, we have our main banks. Rumors were that the data banks were being invaded."

Paul Kosloff said slowly, "Zack and Harrison did mention rumors. They didn't go into details."

Castriota said suddenly, "Look, have you had dinner?"

"Why, no. I ate last in Greater Washington, just before taking the rocketplane over."

The other came to his feet.

"There's a restaurant nearby. Let's continue there."

It was all right with Paul Kosloff. He looked forward to French food which, along with that of the Chinese, was still the most famed in the world. However, they had to wait for a short period until the folk singer finished his current song. Evidently in *L'Abbaye* correct protocol was not to stir as long as a song was in progress. When it was through, they dutifully snapped their fingers in applause along with the teenage fans of the *boite*.

On the street again, it was night.

"This way," Castriota said. "It's only a few blocks and the walk will give us an appetite."

He led the way back up to Boulevard St. Germain and turned left. It was completely dark now, save for the street lights, which were somewhat more bright than Paul Kosloff was used to in the pseudocities of America. However, he suspected that the Manhattan of the old days before the riots must have been even more brilliant than this, not to speak of such abominations as Las Vegas.

As they pressed through the throngs of pedestrians, Georg said, "You've never been to Paris before?"

"No. My sole European jaunt was to Yugoslavia to visit some relatives there."

"It's a town that gets under your skin. I suspect that it will be a long time before such centers as Paris, Rome and London disappear. Our cities didn't evolve quite the way yours did."

They waited at the corner of St. Germain and Rue de Seine for a letup in the swarm of floater autocabs, and then crossed to the far side of the boulevard. Paul Kosloff was fascinated by the clothing

styles, or rather the lack of them. Evidently fashion on the Left Bank of Paris was meaningless. It was every person on his own, and evidently the devil take the hindmost. Had he known it, this had been so almost since Caesar's day, and a computerized world was not about to change it.

He looked at his companion and said, "How do you mean?"

"Your big cities never had anything of enough value to retain. They completely changed their faces every couple of decades or so. A building seldom lasted long enough to become old. It was torn down and another more modern one erected. We treasure old building, you become impatient with them. Some of the best hotels in Europe are literally hundreds of years old."

Paul said sourly, "I doubt if we have any that are fifty. If we do, they aren't our best hotels. They're fleabags."

Georg said, "So when you started building your expressways and speedways, you tore great holes in your cities, pulled down buildings, uprooted parks. We couldn't do it. Almost every building in downtown Paris or Rome is a historic monument that can't be touched. We simply couldn't allow to happen to our cities what did to yours."

Paul looked about him. "You should be glad."

"I am. Here. We turn here. You'll love this place. Run by a family that's now in its third generation. Old, old neighborhood. There's one bar in this vicinity that has cellars going back to Roman times."

XIV

They turned right onto Rue Monsieur-le-Prince, out of the bright lights of the main stem of the Latin Quarter. Within a block it had become quite dark.

Georg Castriota looked up at a darkened lamppost and said, with a puzzled quality, "Lights seem to be out in this vicinity. Hope the restaurant hasn't been affected."

They crossed another street. The area was residential now, and largely deserted. Paul could see only two other figures, both of them in the distance.

Georg said, "That's the Odeon Theatre up there at the end of the street. Very famous once." He added, "Here's the restaurant. *Monsieur Pierre's*. Michelin gives it one star, but it deserves two."

Paul snapped, "Look out!"

He spoke too late. The assailants were upon them.

He inwardly swore now. He hadn't been allowed to bring his .38 Noiseless. University professors on tourist trips do not usually go armed. And most certainly, crossing the Common Eur-Asian

border with a gun would have been disastrous. The border authorities would without doubt have been equipped with detectors that would have picked the metal up.

There were three of the others, and they descended from nowhere. Immediately, developments became a blur of confusion.

Georg Castriota blurted, "The scrambler! Deactivate..." and then went down in a crumbled heap.

Paul bounded back into the small doorway of the restaurant. It wasn't a matter of two to three now, it was one to three. Georg didn't stir. Paul hadn't even seen what had hit the Interpol agent. Evidently, some sort of bludgeon. Georg seemingly wasn't the hand-to-hand fighter his brother Zack had been.

The three came toward him slowly.

One said in a low, guttural voice in English, "Surrender yourself, Professor Kosloff. Resistance is futile."

Paul Kosloff was in the *Hachiji-dachi* spreadout position. Left foot slightly forward, body weight evenly distributed, both fists clenched, knuckles facing down and held slightly to the side of his waist.

"Come in and get me, you funkers," he growled.

They began to move in unison, their hands outstretched.

It suddenly came to him what Georg Castriota had said, even as he noted that worthy beginning to move slightly beyond the trio. He darted a hand to his side jerkin pocket, slid it in and snapped over the lever of the cigarette-case-like scrambling device Georg had given him.

The three rushed.

One threw a right, and Paul moved slightly back and to the left and blocked the punch with a hard right block to the other's outside wrist.

He felt a blow crush into his left ribs, and grunted.

He had one small advantage. The three got in each other's way. No, he had two advantages. The others were trying to overcome him, not kill him. In fact, the one who had spoken was still muttering placatingly, calling on him to surrender, even as he tried to throw his arms around the American.

As they scrambled about, behind them, still on the cement sidewalk near the curb, Georg Castriota managed to get his wrist teevee phone to his face. *"Zero-dans, zero-dans!"* he snarled into it.

One of the three growled irritation and rushed over and aimed a brutal kick at the fallen man's head. But Georg rolled quickly over the curb and into the street and tried to come erect. The other followed him and chopped down with a vicious judo blow. It contacted

only glancingly, but the Interpol man went down again.

Meanwhile, Paul Kosloff had his work cut out for him. The narrow doorway in which he had taken his stand confined him in his movements, but on the other hand, it prevented the two who now opposed him from coming in from either side. Their attack had to be from the direct front.

Largely he punched, using the Okinawa fist, but given the room, he occasionally attempted a side knife-edge kick or a cross kick.

Suddenly the two stepped back, their expressions furious. One fumbled under his coat to emerge with a squat handgun.

But at that split moment, a police floater came careening around the corner from the direction that Paul and Georg Castriota had just come. The wail of another floater's siren screamed down from the direction of the Odeon.

The gun began to come up, but its bearer was put off by the new emergency.

One of the three, darting his eyes about like a trapped coyote, screamed, "*Venu rapide!*" Even as he began to run, he also began tearing a weapon from his own shoulder rig.

In seconds the street was seemingly full of police floaters and men, both uniformed and in plain clothes, began erupting from them.

Georg Castriota, a gun now in his right hand, was up on one knee and yelling, "*Prend-les vivant!*"

And disregarding his own order, he blasted three rounds into the back of the sole remaining of the trio, just in time to prevent that cornered desperado from cutting Paul down.

A uniformed flic came running up to Castriota. "*Colonel, comment allez-vous, okay?*"

Georg snarled something at him, came entirely erect and barked at Paul, "Get inside, damn it! Off the street!"

Paul Kosloff knew when to take orders. He turned quickly, grabbed the knob of the door and went on into the restaurant, ignoring the body of the fallen assailant. From up the street came the chatter of guns.

Inside, obviously the sounds of the conflict had penetrated. The ground floor of the small establishment seated approximately twenty, and the tables had evidently been full. Now the customers were on their feet buzzing excitedly, bug-eyeing Paul when he entered.

In the middle of the floor, standing before a tiny bar, a pear shaped, applecheeked little man in the most stereotyped of stereotyped chef's costumes, complete to white hat perched high, was wringing his hands and whining.

Paul said impatiently, "Do you have a private room?"

The other stared at him in terror.

Paul repeated it in French, "*Avez-vous une chambre privee?*"

The restaurant employee came out of it long enough to point at a very narrow, winding stairway.

Paul went up it and found three small private dining rooms above. He entered one of them and took a chair facing the door. Georg Castriota wanted him out of the way. Very well, he was out of the way. He sat there wishing that he'd had the presence of mind to garner himself a hefty drink down at the bar before coming up here.

Possibly twenty minutes passed before Georg Castriota entered, still dusting the street's dirt from the knees of his trousers. He was obviously disgusted. He turned and shouted something down the stairwell, then entered the room where Paul sat.

He glared at Paul. "Did you contact anyone at all, between the time you left Orly until you entered that boite on the Rue d'Abbaye?"

Paul said, "No."

"You had to have!"

"No. I don't know anybody in Paris, even if I had wanted to contact them."

Georg Castriota flung himself into a chair, rather than simply sitting down. "They're all dead," he said in complete disgust. "They wouldn't allow themselves to be captured. They shot it out. Damn good men, as a matter of fact."

A waiter, on the trembling side, came up the stairs.

"A bottle of Beaujolais," Georg snapped in French. "And menus. This is a restaurant, isn't it?"

The waiter murmured something, and scurried down the stairs again.

Georg took a deep breath and looked at Paul accusingly. "That simply couldn't have happened. It makes no sense at all."

Paul could think of nothing to say to that. Finally, he said, "Who were they?"

"We don't know. No identification at all. I couldn't even identify that language."

"It was Esperanto," Paul said. "I'm not really up on that so-called universal language, but I know a few words. I heard one of them say, *kill him* in Esperanto."

Georg looked at him in surprise. "I gained the impression that they were trying to kidnap you."

"At first. When they saw it wasn't coming off, evidently their orders were to finish me."

"The thing is, they shouldn't have been there. It's an impossibility."

"If you located me, why couldn't they have? You found me by getting a fix on my teevee phone?"

"Correct. But there in the nightclub we had the scrambler on. No bug could have worked. They had

no way of knowing we were going to *Monsieur Pierre's* here."

"Maybe they simply tailed us. This might be the age of computers and teevee phones and all the rest, but methods of yesteryear can still be used."

Georg said, as though explaining to a backward child, "They didn't tail us here. They were here before we arrived."

"How do you know?" Paul said, mystified.

"Because the street lights had been extinguished before we ever turned off St. Germain to go up Rue Monsieur-le-Prince."

Paul Kosloff was taken aback. "That's right," he said. "How did they accomplish that?"

"We'll find out," Georg said grimly. "Some of my men are working on it now. But it couldn't have been something they pulled off on a minute's notice."

They halted their conversation when the waiter returned with the bottle of light red Burgundy, two glasses and two menus. When he was gone, Georg Castriota took up his glass. "Well, it was a short acquaintanceship, but it was pleasant knowing you, Professor. A real experience to see you in action."

Paul looked at him. "How do you mean?"

"I mean you might as well get back on the rocketplane and return to your university, Professor. You're useless over here. Your cover has been blown sky high. How, I don't know, but so far as cover is concerned, you're as conspicuous as a walrus in a goldfish bowl."

As was obviously correct.

Paul sipped at his glass, frowning his puzzlement. "I can't see how."

"Neither can I, damn it. There must have been a leak back in Denver."

Paul shook his head. "Only Dempsey Harrison, James Edgar and Lisa Stebbins knew about it at all. Nothing went into the data banks. It was all planned in Mr. Harrison's escape room. Nothing was said over a teevee phone. The leak couldn't have been in Denver."

"Well, it couldn't have been here. You weren't in town for more than a few hours."

"Could it have possibly been a coincidence? Three footpads attacking us?"

"Don't be ridiculous. Have you forgotten? They were trying to kidnap you. Zoroaster only knows why. And one of them called you by name. It's as you said earlier. Their orders were to kidnap you, and if it was impossible to pull that off, to kill you."

The Interpol man's phone tinkled and he activated it and held it up to his face.

Paul couldn't hear the conversation, but the other's face went wan.

Finally, Georg Castriota said, "I'll be at the office later." He deactivated the phone, picked up his glass and drained it.

He looked over at Paul Kosloff.

"That was Geneva. What did you say the name of that girl was? The one who was present at your conference in Harrison's office at your National Data Center, in Denver?"

"Lisa Stebbins. Why?"

"She's disappeared. She was scheduled to land at the Geneva rocketport at seven o'clock. Evidently, she did. That is, she was on the rocketplane. She must have left it, quite normally. There's no record of her from there on. Her luggage is still at the rocketport. Her wrist teevee phone has evidently been destroyed or deactivated. They can't get a fix on it."

XV

Paul Kosloff blurted, "She's been kidnapped!"

Georg Castriota looked at him strangely. "Or rejoined her colleagues?"

"Don't be ridiculous."

"Somebody blew your cover. An attempt was made to capture you. It failed. So she disappears. Doesn't that suggest anything to you, Professor Kosloff?"

"Yes. We were a team. When we landed here in Common Europe an attempt was made to kidnap me. Evidently, in her case, it succeeded. Her cover was obviously blown too. It sounds increasingly as though whoever is behind all this is on this side of the ocean."

"You're the one who is being ridiculous."

"Why would she abandon her luggage, if she simply wished to make off with her colleagues, as you call them?"

"How would I know?" Georg Castriota picked up his menu in disgust. "We might as well order. We have to eat. Do you like *Coquilles St. Jaques?* Monsieur Pierre does them beautifully, in a special semi-sweet wine sauce."

"Scallops? Of course, but look here, Castriota..."

"You're going to have to eat anyway. We can finish any discussion while we do." He pressed a button for the waiter. "I'll assign you a couple of bodyguards and they can see you safely back to Orly Field and get you on the next rocketplane."

Paul Kosloff lapsed into sour silence while the waiter came, took their order and disappeared again.

He said, merely to be saying something, "I don't believe I've ever seen so un-automated a restaurant. I doubt if there are a score of live waiters in all Greater Washington, and they're in private clubs and such, purely for ostentation."

The Interpol man said ungraci-

ously, "You Americans carry your ultramation to the utter extreme. Gracious living is one of the most precious attributes of existence, why throw it away? Auto-cafeterias are all very well, if you are in a hurry and want only a quick sandwich and a cup of coffee for lunch, but to eat automatically prepared food, served in a sterile atmosphere automatically to canned music, is an abomination and to be avoided if possible."

"It saves a good deal of time and labor."

"Time and labor we have in abundance these days. Save it to what end? What better way to expend surplus labor than on attractive restaurants? Saving labor was all very important a century ago, but you Americans got on the binge and can't shake it."

The dishes they had ordered came and were served with a flourish.

Paul Kosloff tasted.

"*Zo-ro-as-ter!*" he said.

"Good?"

"Wonderful!" Paul exclaimed. "I don't believe I've ever tasted anything like this."

The other nodded, gratified. "You certainly haven't in the United States of the Americas."

"No. I suppose I haven't. Admittedly, we Americans largely eat to stoke the furnace. Perhaps it's part of our Puritan tradition." Paul took another bite of the superlative food. "A good many of us look on too much preoccupation with food as, well, almost effeminacy. The question is put: do you live to eat, or eat to live."

Georg Castriota snorted at that. "Obviously, both. However, good food is an art, not a craft. You don't look down on a man because he likes to *listen* to good music, nor to *look* at beauty, or to *smell* a flower. Why should the other sense, taste, be discriminated against?"

He pointed at Paul with his fork. "You started with some very sound traditions in the foods of a frontier country. Such items as the seafoods of New England, your wonderful fruit pastries, pies, your smoked hams and the skillet magic of your Southern States, your barbeque meats, your soups and chowders. But then you began to mechanize. You started down hill with your monstrous reliance on canned foods. You invented such abominations as skinless frankfurters, and the feeding of skim milk to chickens." The European rolled his eyes upward. "Anyone who would eat the insipid meat of a milk-fed chicken! But that was just the beginning. Frozen foods came along and rapidly became a fetish. Very few, if any, foods will take freezing and retain their true flavor. But it was still just the beginning. Your women became caught up in

this drive to save time at any cost and revolted against the kitchen. Prepared dinners came in and took over. Put the whole, beautifully packaged, prepared mess into an electronic heater and then serve, later throwing away the dishes and even utensils. And your restaurants. Cafeterias and automats and finally, now, the auto-cafeterias, the food prepared by auto-chefs, untouched by human hands and served at auto-tables automatically, in restaurants that even self-clean themselves. Nor . . . "

Paul said quietly, "I'm not going, you know."

The other was disconcerted by the break into his attack on the eating habits of the people of the United States of the Americas.

"Eh?" He took up his wine and half drained it.

"I'm not going back to the States."

"But of course you are."

"No."

Georg Castriota put down his fork. "Look here, hombre, I told you, your cover is completely blown. You're of no value to us. Frankly, I never was of the opinion that you would be of much use, but the decisions were made on a higher level than mine."

"I'm staying."

"And I say you've gone completely drivel happy. Do you think for a moment that we would now turn over to you the identity of any of our contacts in Bucharest, Belgrade, or anywhere else?"

"No, I suppose not. Nevertheless, Miss Stebbins and I were a team. I'm not going to leave her over here."

"Wizard. The lone eagle, eh? A university professor storming into Common Eur-Asia looking for his chum-pal. Kosloff, what in the name of the very living Zoroaster do you think you could do in the way of finding this Lisa Stebbins that Interpol, with the cooperation of your Inter-American Bureau of Investigation, can't do?"

"I don't know," Paul Kosloff said stubbornly.

"If you stay on here, we'll have to utilize the manpower necessary to guard you, when they could be busy at trying to find Miss Stebbins."

"I don't want a guard. He'd probably just draw attention to me, anyway. Listen, that fellow your brother Zack planted the little bug on. Where'd he go? All they told me in Denver was that the bug faded out here in Paris."

Georg Castriota sighed. "We followed him a bit longer than that. Before he detected the bug, here in Paris, we put a twenty-four-hour-a-day tail on him. He shook two of them, the last day he was here, and evidently thought he had shaken them all. However, one agent was still on him."

"And then where did he go?"

"Budapest. We lost him there."

Paul said thoughtfully, "Of course, you would. He was in home territory."

Georg Castriota scowled at that. "Well, no, not necessarily. You see, he was of Italian descent, not Rumanian. Possibly the other one that jumped you and Zack in front of your home was a Rumanian, but we checked this one out closely enough when he was here in Paris to find he was an Italian."

"Do you have any idea at all why he went to Budapest? I suppose it's a silly question."

Georg Castriota said, in a tone reminiscent of his brother, "Budapest, Budapest. Seat of the Commissariat of Computer Data Banks of Common Eur-Asia, and the head offices of Academecian Pol Kodaly."

"Who is he?"

"You really don't know anything about the computer system, do you, Professor? Pol Kodaly is the Common Eur-Asian equivalent of your Dempsey Harrison. In other words, ultimate head of their data banks."

"All right," Paul said. "That's where I'm going. To Budapest."

"I warn you, Kosloff. You'll have no support whatsoever from Interpol."

"I don't expect any."

He had already been equipped by the efficient Lisa Stebbins with visas for Common Eur-Asia and with sufficient international credits to see him through the expenses end.

He returned to the hotel, downed several stiff cognacs in hopes of nulling himself to sleep, but then spent a largely slumberless night. By three in the morning he was fully awake, staring into the darkness above, and going through that early morning period of wakefulness during which all seems disaster.

Georg Castriota had obviously been right. Who was he to go romantically to the rescue of his team mate? International espionage-counter-espionage was not handled on such a basis. Spy-craft was not as prevalent today, perhaps, as it had been of old, but organizations such as Interpol and the IABI were still far better equipped to handle the problem than was Professor Paul Kosloff, linguistics teacher on the Tri-Vision University of the Air.

But toward dawn he fell off again and got some fitful rest.

From the air he received a quick impression of Budapest when the rocketplane utilized its braking jets for the descent and landing.

The two old cities straddling the Danube had changed little in the central areas over the centuries. Buda on the hilly west bank, Pest on the flat east bank, and the ultra-

beautiful Margitsziget Island going back to the days when Roman legions originated the twin city as a military camp.

The outer areas were different, especially on the Pest side of the river. Pest now spread out almost to the extent of an American pseudo-city, and far beyond the modern rocketport. Paul Kosloff had heard it had one of the most advanced vacuum-tube transport systems in Europe and quite up to the standards he was used to. And by the looks of the hills above Buda, the elite of Common Eur-Asia evidently made their home here. He was mildly surprised, since his one contact among his never-seen relatives lived in the Matyas-Hegy section of Buda. Evidently at least one branch of the family had prospered, in spite of living behind what had once been known as the Iron Curtain — now long since rusted through.

He had actually half expected to be arrested at the rocketport upon landing. To the contrary, he was all but ignored. The examination of his papers and his luggage was but a formality, and the immigration authorities seemed downright pleased at an American with such an excellent command of their language. He realized, of course, that linguistically speaking the Hungarians were an island in the midst of a Germanic and Slavic sea. The only other European language even remotely allied to Magyar was Finnish, thousands of miles away.

He explained briefly his business. He was an American teacher in Budapest to perfect his accent and to visit his relatives on his mother's side. He entered as a tourist and really had no idea of how long his stay was to be. They politely inquired as to his finances, and he revealed that he had certain resources beyond the amount credited to him on his International Credit Card. He had royalties coming on several of his books that could be spent only in Common Eur-Asia, an institution between East and West that went back for decades.

The government tourists organization, still known as *Ibusz*, had tourist guides available; but with Paul's command of the language and his ever-ready tourist guide books, it was obvious that he didn't require one. He went on into Budapest proper in a public vacuum-tube vehicle that differed little from those he was used to at home, save that the vehicle seated some fifty persons rather than the more usual twenty in the Americas.

The downtown terminal was located at what had once been the *Keleti* railroad station at the end of *Rakoczi Ut.*

Paul Kosloff emerged and asked a police officer how to summon a floater auto-cab, and how to dial it through to his destination. Once

again, his command of the Magyar tongue greased the way for him. In fact, the policeman tried to practice his English on Paul, who remained firm, explaining that his own purpose was to perfect his accent.

He had read of Budapest, and had seen Tri-Vision travel and fictional shows devoted to the city. And it was, after all, the birthplace of his maternal grandmother. He would have liked to have strolled the streets, assimilating its flavors. However, his luggage among other things called for an immediate locating of a hotel.

The better Budapest hotels stretched along the Danube, on both sides. Those destroyed in the Hitler war were a heartbreaking loss of some of the most elegant hostelries of the old Europe, but long since they had been replaced. To Paul Kosloff's gratification, the Hungarian architects had refrained from the ultra-modern which prevailed in the Americas and had chosen to rebuild in the architectural traditions of the medieval.

At random, he chose the *Danu,* at *Apaczai Cseri Janos ut 4,* located charmingly on the river within sight of Margitsziget Island and Buda on the far bank. The old, weathered Parliament Building, now a museum, his guidebook told him, was a block or two to the north.

As in Paris, hotel employees were still utilized. Paul Kosloff repressed a smug feeling of satisfaction that in the United States of the Americas the hotel enterprises had been far more ultramated. In the States one could dial right through in a small vacuum-tube vehicle to a hotel room, register in the teevee screen there, order food, drink or anything else, stay for the period desired and leave again, without ever seeing a hotel employee.

Come to think of it, though, he was not so very sure that such sterility in hotel hospitality was so desirable. There was a certain pleasantness here in being personally greeted, his desires requested, having a clerk see him to his room and being assured that all was in correct order.

The clerk suggested a cool bottle of Riesling wine, to help him relax from his arduous trip and showed him how to dial the Common Eur-Asia version of the room's autobar.

His trip hadn't been as arduous as all that, having lasted a matter of no more than minutes from Orly field, but Paul Kosloff had heard of Hungarian Riesling and had no desire to refrain. He put his International Credit Card in the teevee screen slot, his thumbprint on the indicated position, and dialed a bottle of Balaton.

He poured and took the glass of

chilled wine to the window and stared out. Well, here he was, on his own in Common Eur-Asia. Was Lisa Stebbins here in Budapest, probably under duress and possibly even physical pressure? He shook his head.

In actuality, he had no idea of why they should wish to abduct her. For that matter, he had no idea of why they had made the attempt on him in Paris. Nothing about all this made sense to him.

XVI

He finished the one portion of wine and put the glass down. He went over to the room's teevee phone screen and dialed information and then said, "I wish to put a call through to Antal Puskas."

When the face faded in, Paul said, "I am Paul Kosloff, from the United States of the Americas."

"Paul Kosloff? Professor Kosloff, my nephew?"

"That is correct, Uncle Antal. I am here in Budapest."

"Well, how pleasant." The other man was in perhaps his early sixties. "My dear boy, just a minute, we must get together as soon as possible."

Evidently, he was checking the time. "See here, could you come to the house in, say, two hours?"

"Excellent."

Antal Puskas gave him the address, which Paul already had at any rate, gushed his pleasure for a moment and then faded off.

Two hours. He had the time to eat his lunch and perhaps to stroll along the river a bit before looking up his relative.

Lunch at the *Danu* was a revelation. Evidently the Hungarians no more than the Parisians made modern concessions to good food. He ordered *porkolt,* a veal stew heavy with paprika sauce, after *halazle,* a fish soup which was Budapest's answer to bouillabaisse. He had another half bottle of Riesling to wash it down with, and wound up with *retes,* the local strudel which came crisp and flaky and filled with cherries, apples and nuts. Throughout the meal he enjoyed greatly the small gypsy stringed instrument band. Offhand, he could never remember having eaten to the music of live musicians before. The institution had disappeared in favor of the canned variety long years since back home. Or, at least, it had in the sort of establishment Paul Kosloff could afford.

Later, replete, he strolled down to the Lanchid Bridge and over to the Buda side of the river and wandered around in the reconstructed medieval buildings there. It was, he decided, a beautiful city.

It came to him that if the local authorities were by this time looking for him, it might be as well if he didn't return to the hotel. His dimly conceived program was now

under way and he didn't want it aborted.

When the two hours his uncle had given him were up, he dialed for a floater auto-cab, got into it, put his International Credit Card into the slot and dialed his relative's home. In actuality, of course, if the local police — or whoever — was really interested in him, they'd have no trouble at all finding him. They could always take a fix on his teevee phone, and obviously such taxi rides as this would be monitored somewhere in the computers of the city.

The cab took him along the river on *Bem Rakpart* to about half way down Margitsziget Island and then turned left and ascended into the Buda hills up *Utca Epvolgyi.*

His uncle's home was moderately impressive, set back off the road behind a brick wall no more than waist high. Flowers were in profusion on the wall and in the garden behind it. By American standards, Uncle Antal was in upper-class categories. A member of what Djilas, the Yugoslavian, had once called the New Class. Evidently the achievement of the classless society was still in the future in Common Eur-Asia.

He left the auto-cab and approached the gate and looked into the identity screen there. He said, "Paul Kosloff."

The gate opened and he went through and started up the gravel path to the front door. There was another identity screen, but before he could activate it, the door opened and Antal Puskas was there, beaming hospitality.

He grabbed Paul's hand, shook it; grabbed Paul about the body with both arms and bussed him on each cheek in turn. Paul's first American reaction was to recoil from an embrace by another man, no matter how closely related, but then he recalled the few occasions during his youth, when he had met European relations of his mother's side of the family. Evidently kissing, in the Balkans, was protocol. He bore this now with such stamina as he could muster.

Antal Puskas ushered him back into what was obviously the Hungarian equivalent of the American institution of the escape room, jabbering away that it was a shame that both of Paul's cousins and his Aunt Ana were away on a short vacation in the mountains of Transylvania. It was to be hoped that Paul's stay would be lengthy enough so that they would return before he left.

In the escape room, Antal Puskas bustled about securing a bottle so long-necked as to be grotesque and two liqueur glasses. He held the bottle up triumphantly.

"Barack," he said. "Stoneage apricot brandy. Ah ha, it is seldom you get barack, eh?"

Paul smiled. "None at all, Uncle. Our production planners don't allow fruit for beverages. Most of our drink, these days, comes from products of the sea, although we can still get Mexican tequila and mescal, which is distilled from an inedible plant related to cactus."

His uncle closed his eyes in pain. "In Hungary, it would lead to revolution," he said.

In actuality, Paul Kosloff didn't particularly like sweet drinks, and inwardly steeled himself before sipping the barack. To his surprise, it was extremely strong and had no suggestion of sweetness at all. Evidently, it was distilled and redistilled until all except the faintest hint of the apricot flavor was gone.

He bore the expected questions pertaining to family and the state of matters in the Americas until at long last, Antal Puskas who, though aging, was obviously as sharp as he was energetic, switched subjects.

He said, "You're here for some definite purpose, I can see. Not that you aren't interested in meeting your relatives, but your visit here involves more than that."

Paul nodded. "Well, yes. The fact is, Uncle, I wish to meet Pol Kodaly."

"Pol Kodaly! You mean Academician Pol Kodaly, of the Commissariat of Computer Data?"

Paul nodded again.

"My dear Paul, you must realize I don't move in such exotic circles. My work is in biological research." He reached out and poured them additional barack, an apologetic element in his voice.

Paul leaned forward. "I didn't expect you to. However, I once listened in on a conversation in which one of the speakers maintained that it took only four contacts, at most, to meet anyone in the world."

His uncle snorted. "I'd just like to see four contacts get me an introduction to, say, the King of England."

Paul accepted that. "Very well, I would be your first contact. I studied Polish and Czech with a friend who had once spent a year at Oxford. I would introduce you to him. In turn, while at Oxford, he associated with a man who was later to become Sir Antony Brett-James, who is now a colonel in the Royal Guard. I am sure he could arrange for an introduction for you to the King. Four contacts, in fact only three."

Antal Puskas was taken aback. "Fascinating," he said.

Paul said urgently, "I didn't expect you to know Kodaly; however, I thought you might be my first contact. That you could introduce me to someone who could introduce me to the head of your Commissariat of Computer Data."

His uncle was unhappy. "But why do you wish to see this man, Paul? His time is not available for frivolous reasons."

Paul looked at him. "A man does not travel from the Americas all the way to Budapest — risking his life in the process, by the way — for some frivolous reason, Uncle Antal."

"Risking your life!" his uncle said. "See here, Paul. I am not political."

"Neither am I, in the ordinary sense."

His uncle said doubtfully, "What do I tell these people is your reason for seeking out Pol Kodaly?"

Paul Kosloff thought about that. "You may say that I am on a secret mission for Dempsey Harrison."

Harrison's name was known even in Common Eur-Asia, evidently. Paul's uncle was impressed. His face twisted in irritated thought. "I understand that back in Greater Washington you teach the Slavic languages over the airwaves."

Paul nodded. "They are also taped, and both in Tri-Vision and in book form go into our own data banks."

"Ah, ha. Perhaps I have something." Antal Puskas thought about it some more. "I have a colleague who sometimes has dinner with Zoltan Szilard. You have possibly heard of him?"

"I am afraid not."

"Too bad. It would have been perhaps easier if you had. In a way, he is a colleague of yours. You see, he is in charge of the educational matter that goes into our computer banks for later release to the schools all over Common Eur-Asia. He, of course, works closely with Academician Kodaly."

"Sounds ideal," Paul nodded. "If I can just get that far."

His uncle stood and went over to the teevee phone screen. "Just a minute," he said, dialing. "I'll get in touch with Ferencz." He grinned at Paul. "He's your second contact."

As is so often the case with men who have reached the apex of power, Pol Kodaly, once met, was friendly, affable, and seemingly had at his disposal all the time in the world for an obscure American professor of languages. He came around his desk to shake hands with Paul at his entry. He was a tall man for a Hungarian, brisk of movement and with a pleasant enough face, save possibly for an overly piercing quality in his eyes. He would be, Paul decided, in his early fifties; young considering his rank.

He said in English, "Professor Kosloff? We have all of your works in our library banks, of course. I had the occasion to skim through your book on Serbo-Croatian variations on the basic Slavic. Most in-

teresting. I look forward to when I can find the time to read it thoroughly. I too am fascinated by language, Professor."

Paul Kosloff was taken aback. He had expected at best a quick handshake and then an almost immediate attempted brush-off. He shook and allowed the other to see him comfortably into a chair.

While Kodaly was returning to his own swivel chair behind his desk, Paul looked about the room. It was a far cry from the swank of Dempsey Harrison's office in Denver.

He said, in the way of opening, "I had occasion to be in the American data center, just recently. The magnitude of the building astonished me. I am surprised you are able to do with so much less room."

The Hungarian chuckled. "This building was formerly a royal residence of the Hapsburgs, back before the first World War, Professor. It contains but a few offices of senior executives. Our more modern equipment and our banks are far below the surface. So far, that it would take a major nuclear attack to discomfit them."

He added quickly, "Not that such an eventuality was what we had primarily in mind in so constructing them. You see, of recent years we in Common Eur-Asia have evolved what amounts to an absolute fetish in regards to hiding the more grotesque buildings necessary in a highly technological society. Once we proudly built our factories and other industrial buildings prominent to view. But that was in our infancy. Now that the basic goals have been reached, we are more conscious of beauty."

"I couldn't agree with you more," Paul said.

Pol Kodaly smiled at him. "And now, Professor? I am sure you haven't traveled all the way to Budapest merely to compare the architecture of this city with that of Denver."

Paul took a deep breath before launching into his fling. "I'll come right to the point, sir. I've come here looking for Lisa Stebbins."

The Academician looked at him quizzically. "Indeed? A moment, please." He touched a desk control and said into one of his abnormally large desk teevee phone screens, "The dossier on Lisa Stebbins, if we have one."

He looked at Paul. "An American?"

Paul said, somewhat surprised, "Well, yes."

"That will cut it down considerably." And into the screen: "An American."

To Paul: "A contemporary, of course."

Paul said grimly, "She'd better be."

Into the screen: "Contemporary."

Printed matter appeared on the

screen and the Hungarian quickly scanned it.

Finally he grunted and looked up at Paul again. "Very well. I assume she is not an elderly poetess, now residing in a small town in what was once the State of Iowa. Remaining is one other Lisa Stebbins, thirty years of age, resident of Denver. Employed by the National Data Center and currently the secretary and mistress of my colleague Dempsey Harrison."

XVII

"Mistress?" Paul blurted. "That's ridiculous."

Pol Kodaly nodded. "Quite possibly. Our data on American citizens is obviously limited, nor are they usually in any position to challenge a misconception that creeps into it. However, in this case..."

He went back to the screen and read further.

"...I am inclined to think the report accurate."

Paul shook his head. He felt bewildered, but wasn't quite sure why.

Kodaly said, "Our material on Miss Stebbins is limited. Could you tell me why you are looking for the young lady here in Budapest, and how I could possibly help?"

"I suspect she has been brought here."

The data chief looked back at the screen and shook his head. "No. There is no record that Miss Stebbins has entered Common Eur-Asia."

Paul said, "Perhaps the material has not been entered in your computer banks."

The other shook his head again. "No, Professor. If you are thinking of forged papers perhaps, it is still no. For her to cross our borders, her thumbprint would have to be registered. Just as yours was when you crossed. It would have immediately been cross-checked and all but instantly the computers would have recorded that Lisa Stebbins was trying to cross into Common Eur-Asia under false pretenses. You see we have here her thumbprint from when she once attended a conference in Warsaw with her superior, Dempsey Harrison.

"Possibly she was brought here in some manner so that the regular customs and immigration authorities were avoided. Perhaps against her will."

Still another shake of the head. "Professor, as chief of the Commissariat of Computer Data, I am also a full member of the Presidium of the Central Committee — a rank, as you possibly know, only under that of Number One himself. The Presidium no longer consists of Old Bolsheviks and ambitious politicians, but of scientists, highly trained technical men, managers of industry. Nothing else makes sense

in this technological world. And, Professor, not even the KGB plays hanky-panky with a member of the Presidium. If, for whatever reason, some Common Eur-Asian authority found it necessary to perform such an action as would not be entered in the data banks, I would be informed — or heads would roll."

Paul said doggedly, "Perhaps someone involved thought it not important enough to be brought to your attention."

"Professor Kosloff, if the secretary and mistress of Dempsey Harrison, my equal number in your country — though I have sometimes wondered why — is involved, then the matter would be brought to my attention."

Paul Kosloff sank back into his chair. "Where else could she be?" he muttered.

"I suggest that you tell me what this is all about. I am admittedly intrigued."

For reasons unknown to him, Paul Kosloff trusted the other. He said, "Sir, are your data banks being tapped?"

"What?"

"I said, are your computer data banks being tapped? Those of both the United States of Americas and Common Europe are."

"My dear Professor, you . . . you are speaking nonsense."

"Dempsey Harrison doesn't think so. The head of our IABI, James Edgar, doesn't. And neither does Interpol."

"But this is unbelievable. Tapped by whom?"

Paul shook his head. "We don't know. When it first began to happen, the Interpol people of Common Europe suspected us, but when they sent a representative to Greater Washington, it was discovered that our banks too were being tapped. And the rumors spread that there was a possibility of them being wiped clean."

"But, by *whom?"*

The man was either a superlative liar, or he was completely bewildered.

Paul said slowly, "Obviously, one alternative we had to consider was that Common Eur-Asia was behind it all. In short, that the Cold War was being secretly reheated. I need not point out to someone in your position what it would mean to our economy, our military machine, and everything else for that matter, if our data banks were wiped clean."

The other remained silent for long moments. Finally, he said, "See here, Professor Kosloff, how do you know that your data banks are being tapped, as you call it?"

Paul looked up at him blankly. "I'm not up on the technology involved. I would think that you would certainly know more about that phase of it."

Pol Kodaly allowed impatience

to show through. "Professor, the data banks are simply an extensive collection of human knowledge. If somebody extracts a portion of the information contained in them, the data itself is not affected, any more than anything is changed when you read the type on the page of a book. There is no physical evidence that a page of a book has been read, after a person has read it. Not even the librarian could look at the page later and say, 'Somebody has read this.'" He chuckled deprecation. "Not unless it was a child who had been eating bread and jam."

Paul Kosloff was puzzled. "I simply don't know. Mr. Harrison didn't go into that detail."

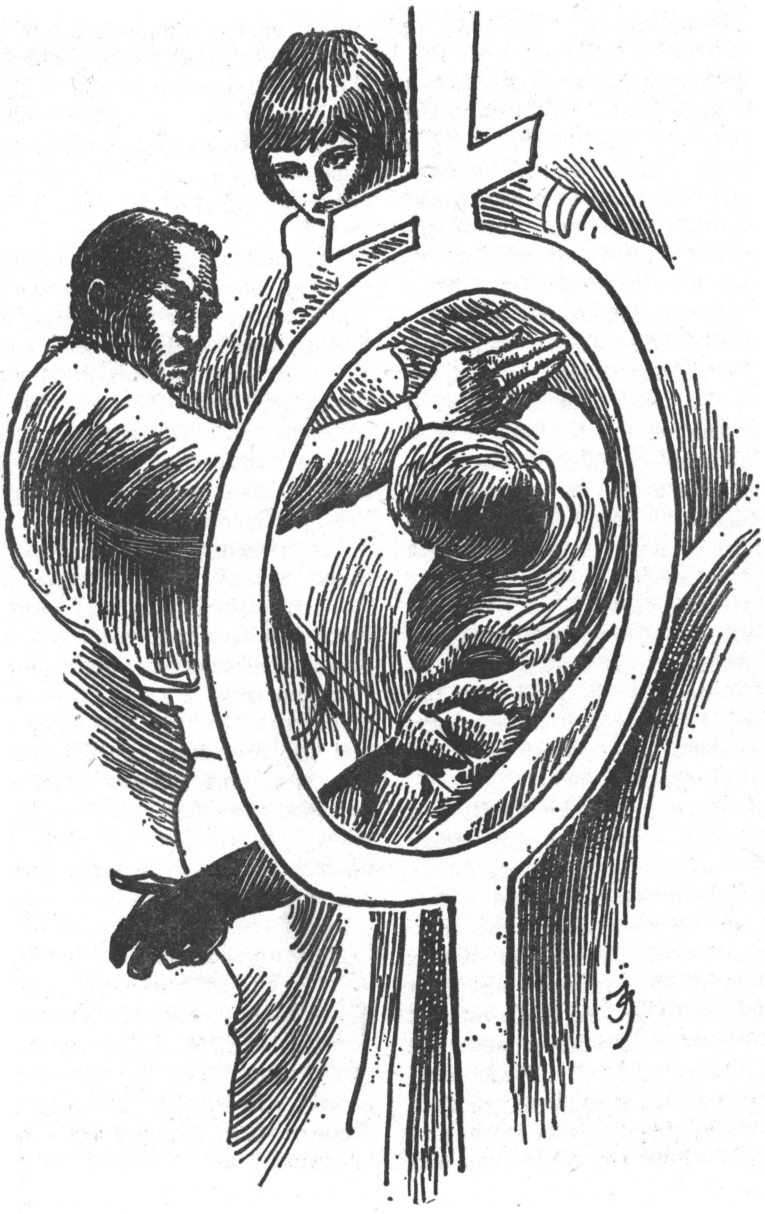
The other was silent again.

"Professor Kosloff," he said finally. "In view of your status as an envoy of Dempsey Harrison, I am going to let you in on a matter that is very hush-hush, as you Americans would say. Let me give you some background."

Paul nodded, and remained silent.

"Very well. The nationalization of the data banks was a comparatively simple operation in your nation, Professor. When the modern computer first began to come into its own, you were fifty — no, I suppose still forty-eight — States. But you were *United* States, with but one Federal government. It was simple enough to consolidate all of your computer data into your National Data Center. However, at that time what is now Common Eur-Asia was a dozen individual countries, each admittedly with the same socio-economic system, but still sovereign — although we had such institutions as the Warsaw Pact and in actuality the Soviet Union dominated like a colossus. Thus it was that in the early days each nation compiled its own computer data banks, most of which were inadequate. Those of the then Soviet Union were, obviously, by far the most extensive, but even nations as small as Bulgaria accumulated their own. It was ridiculous; indeed, one of the prime reasons for our amalgamation into Common Eur-Asia was so that we could unite our data in the same manner you were able to unite that of your fifty States.

"Much the same was developing in Western Europe. Each country was compiling national data banks; Germany, France, England, Italy, every country rich enough to have a computer system. Once again it was ridiculous, a fantastic duplication of effort. However, so long as the nations remained sovereign, a national data bank was as necessary as a national military. It was one of the strongest factors leading to the growth of an alliance from the beginnings that were the Common Market. Do you begin to see at what I am driving, Professor?"



Paul frowned. "I don't believe so."

Pol Kodaly looked at him, a touch impatiently. "Professor, the next step should be obvious. It is ridiculous that the two major powers have individual data banks, and just as ridiculous that those neutrals, such as Common Europe, that are strong enough to have their own national data banks, have separate ones. We have internationalized communications — nothing else made sense. The next step is to internationalize the world's data banks, bring together in one wonderful whole all the accumulated knowledge of man." There was an element of inspiration in the data chief's tone.

Paul said slowly, "Just recently a citizen of Common Europe was suggesting to me that an international currency be developed, but he was referring only to Common Europe and the United States of the Americas."

The other spread his hands in a Hungarian gesture. "But why? That too obviously makes sense, and will eventually come about. But what I am saying is this, Professor Kosloff. The discussions now underway to combine our data banks are being held in the utmost secrecy. It may take a month, it may take a year; international jealousies and suspicions are such that it might take many years of discussions, debate, concessions and all the rest of it; but, Professor, sooner or later, and I hope sooner, the world's data banks will be joined. Now in view of that fact, is it reasonable that we of Common Eur-Asia would attempt to tap your data, not to speak of wiping it clean?"

Paul Kosloff sank back into his chair in complete confusions. He said finally, "Dempsey Harrison told me nothing about this."

"It is being conducted only on the highest levels, but certainly my colleague, Mr. Harrison, is privy to the conference. Probably he didn't deem it expedient to entrust the information to you."

"It possibly doesn't seem to make sense," Paul complained. "But the fact is still with us that I was sent over here to find whether or not the saboteurs originated in Common Eur-Asia. I have been twice attacked by men who attempted to kidnap or kill me. A general of Interpol was killed and an American IABI agent. And finally Lisa Stebbins has been abducted. This is not imagination, it has actually happened."

XVIII

Pol Kodaly evidently made a snap decision. He came to his feet. "Come with me, Professor," he said, and led the way to a small elevator which occupied one corner of the office.

He opened the door and motioned Paul inside.

"Careful," he said. "The drop is abrupt."

It was. Paul Kosloff's knees all but buckled.

The drop was both abrupt and long.

Pol Kodaly was saying, "While most of us in Common Eur-Asia look forward to the day when all data banks are united, meanwhile we continue to work on our own, independently of the other nations. Undoubtedly, both your country and Common Europe do the same. Thus it is that each year we make progress in one aspect or the other of our computer system."

"They're certainly continuing to evolve in the States," Paul said, "and I suppose the end is not in sight. Sometimes there are terrifying aspects."

They had evidently reached the level for which the computer chief was heading. The elevator had slowed and stopped. They emerged and a soldier sprang to the salute, his submachine gun held across his chest.

Kodaly ignored him and ushered Paul Kosloff past and to an interoffice corridor floater very similar to those Paul and Zack had utilized in the data center in Denver. They mounted it and Kodaly flicked the direction dial.

He continued to talk as they traveled endless halls.

"I suspect that in this particular field we have forged ahead of you." He smiled his smile of deprecation. "But of course, one never knows. Perhaps it is something like the former space race; first one ahead, then the other." He snorted. "*There* is a prime example of the stupidity and duplication of human effort. Billions of rubles and dollars spent, duplicating each other's efforts. We could have reached the moon on less than half of what was spent, had we cooperated."

Paul Kosloff didn't bother to point out the impossibility of that at the time involved.

It was hard to believe, here in the sterility of this ultra-modern atmosphere, that they were still in actuality in the medieval-like city of Budapest. It could have been thought that this maze had been designed by the same architects that had laid out the data center in Denver. Paul Kosloff, the scholar and teacher, was far out of his element.

And he continued to be when the corridor floater came to a halt and they dismounted.

Pol Kodaly, obviously completely at home, activated a door and ushered his guest into a chamber that extended so far that the final reaches seemed to disappear into the distance.

"One of our research areas," the Hungarian murmured. "This way, please."

He led Paul to a side alcove where a dozen or so coveralled technicians were engrossed in a fantastic mess of electronic equipment, absolutely none of which was recognizable to the American. The computer chief nodded to all, spoke a first name to several. Evidently they were of various nationalities. Frol is not a Hungarian name, nor is Ion.

Pol Kodaly didn't bother to introduce Paul around. He chuckled and said, "Frol is astonished at your being here. Supposedly, this is currently our most hush-hush of projects."

He led Paul to a console which had a seemingly standard computer screen on it and motioned him to a stool, taking one himself. For the moment, he seemed to ignore the machine. The technicians went back to their work after shooting questioning glances at the stranger.

Kodaly said, "Professor, what do you know about intuition?"

Paul frowned at him. "Intuition? Why, I don't know. Do you mean in the colloquial sense, such as 'feminine intuition,' or the philosophical interpretation, the power of obtaining knowledge which cannot be acquired by either inference or observation, reason or experience?"

The other said, "Well, perhaps both. Let us put it this way. We are still in our infancy in the understanding of the human mind. Some of its workings are all but mystical. We like to think of ourselves as logical beings but, in actuality, sheer intuition enters into our thinking processes to an amazing extent.

"Suppose, Professor Kosloff, you have a problem to solve that contains, say, ten elements, one or two of which are unknowns. Very well, into our human brain we begin to feed the elements known, one by one. Somewhere along about the fifth or sixth element, the answer suddenly comes to the human brain. The problem is solved, even before all the known aspects were considered. Assimilating the remaining knowns but strengthens the validity of the conclusion. You follow me?"

"I . . . I suppose so," Paul frowned.

"Let me use an example. Suppose we have a poker game in progress. American poker is an addiction of mine. Say stud poker, rather than draw. You have a pair of queens. Across from you an opponent has nothing showing higher than a king. Possibly his hole card is another king, in which case you have met defeat. Very well, you have considered all the elements available. Such matters as the cards showing in the hands of the other players. Suddenly as though by inspiration, intuitively, you know that his hole card is the other king he needs. So you fold your

hand. How did you know, Professor Kosloff?"

Paul Kosloff had to laugh. "As you say, intuitively. It doesn't exactly admit of proof."

"Until he turns the card over," the Hungarian laughed in return.

He hooked long fingers around a knee cap and became serious again. "Currently, most popular opinion is that in actuality you were calling upon data you didn't know you possessed, something perhaps buried in your subconscious. Possibly your opponent has a mannerism that revealed his secret to you. Each time he gets a pair of cards back to back, he has a habit of lighting a cigarette, taking a single puff, and then grinding it out. You have not *consciously* noted this, but subconsciously you have filed the information away. When your supposed intuition comes up with an accurate answer, you have called upon your subconscious data bank."

Paul said, "Sounds fairly reasonable. But what are we getting at?"

The Hungarian reached out and patted the machine before which they sat. "We call it Nostradamus."

The technician he had earlier addressed as Frol was working only a few yards off. He snorted.

Kodaly laughed. "Though Frol is more inclined to Casandra or even Cagliostro. We are having our difficulties."

The American scowled his lack of understanding.

The computer chief said, "However, we shall give it a try, Professor. State your question and then divulge all the data of which you are cognizant."

Paul Kosloff stared at him. "What do you mean?"

"This is an intuition computer, Professor. Given that same problem I mentioned earlier that had ten elements, two of which are unknowns: A man will often hit, intuitively, the correct answer after assimilating only five or six of the seemingly necessary elements. Nostradamus, here, halves that. It often comes up — intuitively — with the correct answer after being given but one-third of the seemingly pertinent information."

"Zo-ro-as-ter!" Paul blurted unbelievingly.

Kodaly shrugged. "We are still in highly technical debate, and frankly I myself am out of my depth. However, it would seem that Nostradamus works on much the same basis as does our intuitive poker player. He is tied into our complete Computer Data Banks. Undoubtedly, Nostradamus draws upon data with which we are unfamiliar, draws upon elements which it would not occur to us to utilize in solving our problems logically. Whatever, Nostradamus can

sometimes be startlingly accurate."

"You mean this is a *thinking* machine? Thinking machine, hell, an E.S.P. machine."

"Perhaps. We would have to go into the semantics. State your problem into the screen, Professor, and then give us all the data you have available."

Paul Kosloff stared at the computer's screen in fascination. "In what language?" he said.

"Whichever best suits you. As I say, Nostradamus is tied into our whole system. He can be utilized in any known language or combination of languages."

Paul took a deep breath. He worded it over inwardly, before saying, "Who is tapping the data banks in Denver and in Geneva?"

He then began reciting every item of information he had accumulated, even that which didn't seem relevant.

He began to feel foolish. Could this Pol Kodaly be pulling his leg? On the face of it...

The machine had thus far been absolutely noiseless. Not a hum had proceeded from its interior.

Now, of a sudden, a robot voice announced:

THE DATA BANKS IN DENVER AND GENEVA ARE NOT BEING TAPPED.

Paul Kosloff came to an abrupt halt, in mid-sentence, and goggled the screen. He turned and stared at Pol Kodaly, who returned his look with a certain complacence.

Paul blurted at the Hungarian, "But that's impossible."

The other shook his head negatively. "I doubt it. I told you earlier that in my estimation the charge is ridiculous."

Paul spun and said shakily into the screen, "Who spread the rumors that the American and Common Europe computer data banks were being tapped and in danger of being wiped clean?"

HIGH AMERICAN AND COMMON EUROPE GOVERNMENT OFFICIALS.

"What are their names!"

DATA UNAVAILABLE UPON WHICH TO BASE AN ANSWER.

Paul Kosloff felt as though his brain was spinning. To the next question, he didn't expect an answer.

"Where is Lisa Stebbins?"

IN PARIS.

He turned weakly, and looked at Pol Kodaly. He said, "I am beginning to have some intuitive ideas of my own."

XIX

Paul Kosloff lobbed back to Orly Rocketport, Paris, and went directly to the *George V Hilton*. To his surprise, he was given the same accommodations he had occupied before.

It was too late to begin his project that night, and he kept to his

room, making sure the door was barred and ordering food and drink at the room's auto-table. He had no intention of exposing himself on the streets at this stage.

He was halfway through his meal when the door screen hummed. His eyes narrowed as he activated it.

However, the face there was that of Georg Castriota. Paul Kosloff flicked the button that opened the door and came to his feet.

Castriota entered and eyed him speculatively, "Well, back already, eh? And have you found your Lisa Stebbins?"

"Not yet," Paul said, making sure the door was barred again. He motioned to the table. "Wine?"

"No, thanks. When are you returning to the States, Professor?"

"I don't know," Paul said, refreshing his own glass.

Castriota said grimly, "I suppose I could have you declared *persona non grata.*"

Paul thought about that. "I wish you wouldn't. I have a lead on Miss Stebbins."

The other was surprised. "A lead? What is it?"

"I don't believe I'll tell you."

"Why not, hombre? I've got all the resources of Interpol at my command. You're working alone in a strange country."

Paul said deliberately, "Because you have leaks in your highest ranks."

"Leaks! Have you gone completely drivel-happy, hombre? Do you mean in Interpol?"

"Probably. It comes to me that it was no accident that those three men who jumped us outside the restaurant were all gunned down, in spite of the fact that you yelled at your men to try and capture them alive. Dead men tell no tales. It also comes to me that there could be only one reason why they knew we were going to be at Monsieur Pierre's restaurant. You *told* somebody we were going to go there and they passed the information on. But whether or not some of the higher echelon Interpol people are in on the conspiracy, others in high office are, and probably have Interpol connections."

"You've said either too much or too little, Kosloff," the Interpol man said.

"I've said all I'm going to say, since I have no intentions of committing suicide."

"And you insist on remaining here in Paris?"

"Yes. For a time, at least. Can you arrange permission for me to buy a gun?"

Georg Castriota, disgust on his face, brought an automatic from under his left arm and handed it over. "Do you know its operation?"

Paul Kosloff threw the breech, checked the magazine, clicked it back into the gun's butt and jacked a cartridge into the barrel.

"I know its operation. Thanks."

"Don't mention it," Castriota said grimly. "I'll keep in touch. The sooner you get out of town, the happier I'll be." He turned to go.

Paul said, "So will I, but I've got something to do first."

He found them on the third night, in a small Chinese restaurant in the vicinity of the *Place d'Etoile*. She'd mentioned her liking of Chinese food and he'd been haunting the few Oriental places for the past few nights.

They were seated in a small alcove, eating with chopsticks.

Paul came up behind them, immediately behind the man, and stared over his back at Lisa Stebbins, whose flaming red hair had been dyed black. Her eyes came up and suddenly widened in shocked surprise.

The man, sensing something, started to his feet, his hand darting beneath his jerkin. It was one of the two who had first jumped Paul and Zack Castriota in front of the Kosloff apartment.

Paul chopped down viciously with the *Tettui ken* edge of fist blow to the other's right collar bone, crushing it, and then again, in a blur of speed to the other collar bone. The man collapsed into his chair, unconscious. Paul steadied him so that he wouldn't fall.

Keeping his eyes on Lisa Stebbins, he brought his wrist teevee phone to his face and said into it, "Information. I want to talk to Georg Castriota of Interpol."

Castriota's face faded in immediately. He seemed to be seated in a vehicle. He snapped, "Yes?"

"I'm in the Lee Chang Chinese Restaurant, near the Place..."

"I know where it is."

"And I have the man who killed your brother Zack."

Castriota's face flicked off.

Paul, still steadying the unconscious Italian, took an empty chair and sat down.

"Professor Kosloff!" Lisa blurted.

"So. No more Paul and Lisa, eh? Don't use that wrist phone! I warn you."

To his surprise, Georg Castriota came hurrying in, followed by another husky who was obviously a plainclothesman.

Paul said, "You got here in a hurry."

Georg Castriota said disgustedly, "You didn't think we'd allow you to bustle all over town on your own, did you? We have a dozen men on you, Kosloff, including me. What's this about my brother's killer?"

"This was one of the four men at the final shoot-out, there on Manhattan."

"That's a lie," Lisa Stebbins said. She began to bring her wrist phone to her face.

Paul Kosloff reached out and, more or less gently, pulled the in-

strument from her arm and pocketed it.

Georg Castriota looked at them.

Paul said, "This is our missing Lisa Stebbins."

Lisa said indignantly, "It is illegal to deprive a citizen of her teevee phone."

The husky companion of the Interpol man had taken over the handling of the Italian triggerman.

Paul looked at Castriota. "I don't want her to make any contacts over here. If she does, I wouldn't guarantee that we'd live the night out."

The other's eyebrows went up skeptically, but he said to the beauteous secretary of Dempsey Harrison, "In Common Europe it is legal for a proper authority, such as a police officer performing his duty, to temporarily appropriate a personal teevee phone."

"He is not a proper authority and I am not subject to the laws of Common Europe."

"The way I see it," Georg Castriota said, evidently deciding on Paul's support, "is that Professor Kosloff is at present on a special mission for the Inter-American Bureau of Investigation, and as such can be deemed a police officer. And so long as you are on Common Europe soil, you are subject to our laws, since you cannot claim diplomatic immunity." He looked back at Paul. "What's up?"

"I'm returning with her tomorrow to the United States. She has some matters to answer to."

"What are your charges against this man?" He made a gesture with his head at the still unconscious Italian. "Your evidence."

"You know as much as I do. Find your own evidence. All I can tell you is that he's one of the men who participated in killing Zack. Your Interpol facilities should allow you to dredge up all you'll need against him. And, Georg . . ."

"Yes?"

" . . . remember what I told you about leaks. I mean *big* leaks. If you lose this man, it's your own fault."

"I won't lose him," Georg Castriota said grimly.

Georg Castriota saw them to the Orly Rocketport in the morning. He was unshaven and somewhat red of eye and obviously hadn't slept.

Lisa Stebbins had gone into a sullen silence. They had spent the night in Paul's *George V Hilton* room, she taking the bed and sleeping fully clothed, he sitting in the heavy comfort chair, snoozing fitfully, coming awake immediately if she so much as stirred.

Paul said to the Interpol man, "Any luck with our friend?"

The other grinned. "Not yet. He's a tough one, a real pro. But we've got methods. I'm waiting on a serum they've recently developed in Copenhagen. Truth-drug sort of

thing that makes scopolamine ashamed of itself." He motioned with his head at the girl. "You know, as soon as you get her back to the States, you're not going to be able to keep her. I've made concessions, under the circumstances, but in actuality you're in no more position to arrest her than she is to arrest you."

"I know."

Lisa Stebbins scowled.

It was time for them to embark.

Georg Castriota held out a hand to be shaken. "Good luck, Professor. And as soon as you're in a position to do so, let us know what you're holding that you can't release now. You've got a Priority One rating on my teevee phone."

"Of course."

Georg looked at Lisa Stebbins and said wryly, "You're awful pretty to be a wrong-o."

"Curd!"

"My, my. Four letter words out of that rosebud of a mouth."

As they lobbed across the Atlantic, Paul looked at her from the side of his eyes. "Zack Castriota said you were ambitious. That you'd do anything to get to the top."

She bit out, "That's more than I can say for you, *Professor* Kosloff. You're going to find out the hard way that you shouldn't nose yourself into situations that don't concern you."

In spite of himself, he had to laugh. "Don't concern me? In the first place I didn't nose myself in, I was dragged in, protesting all the way. In the second place, at least three attempts have been made on my life for reasons I hadn't the vaguest idea about at the time. If that doesn't concern me, I don't know what does. By the way, has it occurred to you that you, too, know too much? These people are ruthless, Lisa. Are you sure you were meant to ever return from Common Europe? It would have been a bit difficult for them to explain, when and if you did."

For a moment, she looked startled, but then snorted her scorn. "Don't be ridiculous. Besides, you don't know what you're talking about. You're fishing around, trying to get me to say something I'd regret."

Paul Kosloff smiled at her and dropped it.

They landed at the Greater Washington Rocketport. As soon as they were at the administration building, she turned on him bitterly and held out her hand. "My teevee phone, please, or I'll immediately call an officer and have you arrested."

He bowed slightly and extended it to her.

He said, "I imagine you'll be going on directly to Denver. I have some personal things to do here. Among other matters, checking in

at the school. You see, ordinarily, this is my day to broadcast my lecture."

"Ever the pedagogue, eh?" she said contemptuously. "You might as well forget it, *Professor*. After today, you'll never again work in the United States of the Americas. You'll be bounced down to living on your ten shares of Inalienable Basic — at best."

"We'll see," he said. "However, as soon as I get one or two things fixed up, I'll come to Denver, too. You can expect me later today."

She looked at him coldly. "Is that a guarantee?"

"It is. Word of honor."

She spun and stalked off, her Etruscan revival sandals clicking sharply on the cement of the tarmac. For the moment, Paul Kosloff stared after her, but then he too turned and hurried away. He had no way of knowing how quickly she might make contact with some of her people, and possibly take steps against him.

XX

He tried to time it exactly, and wasn't overly surprised when he had no difficulty whatsoever in entering the Denver National Data Center. In fact, he was met at the entry by not only the guards he had come up against before, when he had first entered the information center, but by a clean-cut, conservatively dressed young stalwart as well.

When he had identified himself, this new one said, "Professor, the indicator there . . . " He nodded at a small red light set into an inconspicuous panel to one side. " . . . suggests you are carrying a shooter. I'm afraid you are not allowed to enter the Center armed."

"Very well," Paul said. "But what is your own authority?"

The younger man brought forth his Universal Credit Card, and showed it to Paul Kosloff. He said softly, "Agent Peter Baker." Under occupation, it read: *Senior Agent, Inter-American Bureau of Investigation.*

Paul said, "Pardon me." He took the card from the other's hand. Peter Baker's eyebrows went up slightly, but he surrendered the identification.

On the heavy desk that stood at the entry was a standard teevee screen. Paul put the card in the slot and said, "Your thumbprint, please."

The agent shrugged and put his thumb on the screen.

Paul said, "Identity check, please."

A robot voice said, "Identity established, as indicated."

Baker regained his card and returned it to his pocket. His eyebrows went up again.

Paul said, "I just wanted to be sure with whom I was dealing." He

brought the gun Georg Castriota had given him from his hip pocket and handed it over. The agent stuck it in his own pocket and indicated a corridor floater. Evidently, the rule against firearms in the data center didn't apply to Agent Peter Baker.

On the floater, they retraced the route Paul had first taken with Zack Castriota — which now seemed long, long ago but in actuality was only a couple of weeks in the past.

There was another at the desk that had been occupied by Lisa Stebbins when he had first come. Identically uniformed, but far from the pulchritude standards of the beauteous Lisa.

Agent Baker said something to her that Paul didn't catch, and she answered, "Professor Kosloff is to go in immediately."

Evidently this was as far as Peter Baker entered into the picture. He nodded to Paul and made a gesture toward the door which opened to Dempsey Harrison's sanctum sanctorum.

As he approached, the door opened before him and he was once again in the escape-room-like office of the ultimate head of the National Data Center.

Lisa Stebbins, in smart fresh business suit, was seated there and hardly bothered to look up at him when he entered. Her face was surly.

James Edgar was there, rotund and beaming, a cool long glass in his right hand. He sat, at jovial ease, in one of the room's several comfort chairs.

Dempsey Harrison was over at the bar, evidently refreshing his own drink. He turned when Paul entered.

The IABI head said, "Ah, our Professor. Returned from the wars."

Dempsey Harrison, his close shaven, well cared for face bland, said, "A drink, Professor Kosloff?"

"No, thanks," Paul said. "I'd rather this take place in some other room."

Harrison scowled at him questioningly.

Paul said doggedly, "In the past couple of weeks I've become ultraconscious of bugs, spying devices of a half dozen varieties, electronic geegaws that I'd never dreamed existed. This report can't get much more confidential. I'd rather we talked in... well, say the autocafeteria Miss Stebbins took me to when I was here last."

Dempsey Harrison sighed. "I can assure you it is no more bugged, or romantically equipped with electronic gadgets than this room. We can adjourn there if you so demand. Lisa, my dear?" He cavalierly held out a hand to help her to her feet.

She looked her disgust at Paul, but stood up and led the way to the door.

James Edgar chuckled. "Cloak

and dagger." He too followed.

In the relatively spacious senior executive's auto-cafeteria several of those sitting about looked moderately surprised when their chief entered with his guests; but without instructions they moved away from the vicinity of the table Dempsey Harrison chose.

The four of them sat.

"Can I order you something?" the data head said courteously to Paul Kosloff.

"No," Paul said. He looked up at the clock on the wall. "I suppose your time is valuable, and this might be long. Shall we dispense with the amenities and get underway?"

"By all means. Lisa has filled us in a bit. It would seem that you ran into some difficulties . . . and some misconceptions."

"I don't think so," Paul said evenly. "Give me a moment to describe what I found."

Lisa gave a bored sigh. Edgar chuckled meaninglessly.

Harrison said, "By all means, Professor."

Paul took his characteristic deep breath before launching into his subject. "I suppose it starts with the old truism that power corrupts and absolute power corrupts absolutely."

"My dear Professor."

Paul said, "When Miss Stebbins supposedly disappeared in Geneva, with the implication of kidnapping, I was urged to return home by Colonel Castriota of Interpol, following an attack on my own person. However, I refused; instead, I went to Budapest where I was able to confront Pol Kodaly, of the Commissariat of Computer Data."

Harrison nodded pompously. "I know Pol well. We have met at various conferences. Competent man."

"Yes, so I thought. He revealed to me the high-security conferences being held on the matter of uniting all the computer data banks in the world."

Harrison was slightly taken aback. "Ah? In actuality, a matter that should be held in more secrecy, considering your level of authority — or lack of it, Professor."

"Perhaps," Paul said. "He also pointed out some of the ramifications. This would be a step far and beyond such organizations as the Reunited Nations, toward world government, obviously. The first feeble efforts in that direction, the League of Nations, the United Nations, and now the Reunited Nations have all come a cropper. But on the face of it, a combining of the world's data banks would be a step toward a one-world government that could never be retraced. Perhaps in the conferences now being so secretly held, that aspect isn't even being discussed. The sub-

ject would have such taboo aspects that it might be completely avoided; but, gentlemen and Miss Stebbins, given amalgamation of all the world's data banks, further steps would willy-nilly follow. Unification of postal systems, of coast and geodetic surveys, the exploration of the ocean depths and of space. All these things and a score more, a hundred more, become ridiculous to be handled unilaterally, when all the world's information is at the hands of each nation. And such cooperation would inevitably lead in time to more and more amalgamation in every field from industrial planning to education."

"I am afraid you are a dreamer and a romantic, Professor Kosloff."

Paul Kosloff had put his hands on the table before him, the fingers interlaced. "That I am not, as you well know. I am a somewhat stodgy professor of language, immersed largely in his work and not up on the ins and outs, the double-dealing of high government and international intrigue. Which is one of the reasons I was chosen to be one of your stooges."

James Edgar chuckled and said, "What were the other reasons?"

Paul twisted his hands slightly and said, "The fact that I am my father's son. I can hear the Tri-Vision news commentator excitedly saying: *'Flash!* Paul Kosloff the Second, son of the espionage-counter-espionage star agent once known as the Cold War's Lawrence of Arabia, was shot to death today in Paris while involved in an attempt to flush secret agents who have been tapping American data banks and threatening to wipe them clean. It is known that these agents have stolen the plans for the min-nuclear bomb and it is expected that they will utilize them for extortion.' "

Lisa Stebbins snorted.

Paul twisted his hands again, nervously, and looked at her. "Possibly later, there would be another alarming news flash. 'Beautiful Lisa Stebbins, personal secretary of Data Chief Dempsey Harrison, while on vacation in Common Europe was kidnapped today by elements of the group which has been threatening to wipe clean American and Common Europe data banks, thus precipitating a complete collapse of our economies. It is suspected that she has been smuggled into Budapest.' "

Edgar chuckled again, but Harrison was staring at Paul Kosloff speculatively.

Paul went on. "And somewhere along in here there would probably be an item which would go like this: 'It has been revealed that Generale Zack Castriota, ace Interpol agent, met his death in the ruins of Manhattan with IABI agent Mark Martino in a gun battle with elements of the gang suspected by some of being from Common Eur-

Asia, and known to be tapping American and Common European data banks. Remnants of the gang escaped by submarine.' "

Paul's hand moved nervously again. "And somewhere along in here would come the really big news flash. Something like this would probably be announced: *The President of the United States of the Americas has called upon IABI head James Edgar, and generals so and-so, to take emergency measures to protect our national data banks, and forestall attempts at extortion on the part of enemy agents, suspected of representing Common Eur-Asia.*"

"Generals so-and-so?" Dempsey Harrison said.

Paul looked at him. "I don't know all the details of this, and doubt if I ever will. I don't have to know them. I don't know who your confederates might be, but I assume some of them are highly placed military."

"*Our* confederates!" Harrison said. "My dear Professor, your, ah, report has thus far been so ridiculous as to be almost incoherent, but now you verge on insanity. What possible reason could we have to go to these fantastic extremes?"

Paul nodded. "That would be your obvious reaction, of course. To pretend innocence. There must be many elements in high government in our country and in Common Europe and Common Eur-Asia as well who would be opposed to eventual world government. Given such drastic changes, how could they be sure of retaining their posts? They might even be afraid that basic socio-economic changes would take place that would leave them without their present affluence. It would seem impossible, for instance, that the present economic system in Common Eur-Asia could stand if subjected to union with the West. But possibly our own People's Capitalism, which has its ridiculous aspects, couldn't stand either. In short, there are those in all major governments who, to protect themselves in their positions of power, would take any steps — *any* — to forestall the moves in the direction of world government such as the amalgamation of the world's data banks."

He looked straight into Harrison's face. "Take your own position as head of the National Data Center. If this merging of the banks took place, could you be sure that you would be chief of the new ultra-data-banks, or might the position go to Pol Kodaly, or whoever it is that currently heads the Common Europe banks? Might it turn out that while you are quite a wily politician, perhaps you haven't the real knowledgeability of such men as Kodaly? I suspect that in at least one field of computer research the Common Eur-Asian scientists are sweeping ahead of our

own research. Could it be because of ineptness in our ranks?"

He twisted his hands again nervously. "The same would apply, of course, to our military. Given all the data banks of the world combined, armies and navies would be completely antiquated, since all information of a military nature would be available to all. Generals and admirals would suddenly be on the scrapheap."

Lisa Stebbins said to her boss, "I told you."

"Be quiet, my dear. Let me think."

James Edgar said, his voice less than amiable now, "What is there to think about? Let me take care of him."

For the moment, Dempsey Harrison ignored Paul Kosloff as though he wasn't there. He said to the IABI head, "Do you think he would have entered this lion's den, if he didn't have some resources to guarantee his safety? What they are, I don't know."

He looked back to Paul. "There are many aspects to this of which you are unaware, Professor Kosloff. You have done a fairly good job of striking near the truth, but there are elements with which you are unfamiliar. It is quite true that I and certain colleagues in both this country and Common Europe, and even Common Eur-Asia, strongly oppose the merging of the data banks and for the very reason you point out. That is, it would eventually tend to eliminate national boundaries. It is our motivation that you misunderstand."

"Oh?" Paul Kosloff said flatly.

"Yes. Professor, we of the elite, if you will not think me too vain to use that term, cannot allow the mongrelization of this, our great country. We must stand firm and prevent, by whatever methods we can, being taken over by the hordes of Europe and Asia."

"And I suppose over there, they are telling their people that the threat is of being taken over and mongrelized by the hordes of Americans."

"Please don't be facetious, Professor. This noble goal must be achieved."

"And the ends justify the means, eh? Even when the means involve the killing of — let me see — eleven men that I know of, so far."

Harrison said tightly, "The means are justified by our idealistic ends, Professor. Eleven is a small number when the cause is considered. They were expendable."

Paul said wryly, "The one who tells others they are expendable usually isn't one of those who becomes expended. Did Zack Castriota know that he was expendable in this idealistic cause? He seemed to think you were somewhat of a friend."

"That was an accident," Edgar

said coldly. "That group in Manhattan was putting on a show, admittedly to alarm the common herd to the point where they would not object to certain measures taken to strengthen our government. But they were meant to be gone before Castriota found their mysterious hideaway. It was all a big act."

"Generale Castriota was not acquainted with the true nature of this little intrigue," Harrison said. "Our group includes members of Interpol, and indeed some elements in Budapest and Moscow, but Castriota was not among them." His voice went very earnest. "Professor, some are meant to rule, others to be ruled. We who are, let us say, in the saddle now in the United States of the Americas, are the elite of this land. If basic changes take place, who can know who might wind up in control of our noble country? It is our duty to remain in our position of power. Now obviously you are even more astute than I had believed. You belong with us. Professor Kosloff, how would you like to be Secretary of Education in the President's cabinet?"

Paul Kosloff laughed and shook his head in deprecation. "I am not trained in administrative education, Mr. Harrison."

"That is not of essence," Harrison beamed at him. "You can be briefed on the duties. They are not arduous."

"I'll bet they're not," Paul said. "I'm beginning to see why you're afraid of amalgamation with the other leading countries, if our cabinet members are chosen in such manner as this."

James Edgar had drifted far from his pose of amiability. He looked a question at Harrison, who shook his head negatively.

Dempsey Harrison said to Paul, "Very well. The issues are great, and I have no way of knowing what steps you have taken. I will pull no punches. Professor, how would you like deposited to your portfolio so many shares of Variable Basic stock that all your dreams of avarice would be more than fulfilled?"

Lisa said sourly, "I don't see why you think him so damned important."

Paul ignored her and said to Harrison, "That's the difficulty. You see, I have no dreams of avarice. I am that rare specimen, a satisfied man. I like my work, I enjoy my leisure; I am amply enough paid to accomplish the things in life that I like. Mr. Harrison, I can't be bribed. Even if ordinarily I could be, I rather doubt if I could ever forget a young chap named Pete who died in the ruins of Manhattan as a result of your little play act, nor Zack Castriota and Mark Martino. You and your friends have concocted a fantastic scheme to

frighten the people of this country into accepting some sort of emergency government which would undoubtedly seize power in the name of protecting the nation against the two most dreaded things that could happen to it — nuclear attack and a complete collapse of our culture due to loss of our data banks. I intend to do everything in my power to reveal your scheme."

James Edgar said flatly, "I see that it's about time for me to take over. Kosloff, I have approximately a hundred men between this room and the nearest exit. Do you really think you can get out of here? I suggest you take Dempsey's offer while you can, and mend your fences with him and me. The issues are too big for a pipsqueak of a language teacher to get in the way."

"You're threatening me?"

Lisa Stebbins laughed at him, her voice ugly, and shook her head as though marveling.

"Could it be more obvious?" Edgar said flatly.

Paul said, "You know, you should have considered that pipsqueak of a language teacher a bit sooner." He looked up at the clock on the wall. "Did you know that this is the hour upon which Professor Paul Kosloff of the University of the Air, on National Tri-Vision, brings his weekly lecture to his students?"

"What in the name of Zoroaster are you driveling about, hombre?" Edgar snorted.

Paul twisted his hands again, this time in such a way that they could all see the screen of his wrist teevee phone.

"The reason I wanted you to come here to the auto-cafeteria for our little discussion was because I wasn't sure but that you might have a scrambler in your office. You see, this past couple of weeks I've become increasingly conscious of bugs, teevee phone communications, and a dozen other electronic devices. To cut the story short, chum-pals, before I came here I made a call on the studios in Greater Washington where I give my broadcasts. The technician is an old friend who owes me a debt. The past two weeks, I missed my regular broadcasts but he played canned ones. This time, we made other arrangements. You see, all through this conversation, my teevee wrist phone has been on and dialed to Jerry, who has been receiving it for the past fifteen minutes and broadcasting it. With a little screen like this, I imagine reception will be somewhat poor so far as image pickups are concerned, but it should be sufficient so that you are all identifiable. And, of course, the sound will be excellent."

END

Dear Editor:

As one of the offenders of Miss Carno, in that I used Altair as the scene of a story *(Close to Critical)*, may I be allowed a word of defense? First, she is partly right, and if I had known in 1957 what I know now, I would probably have laid the story on Venus. However —

Altair does, indeed, rotate rapidly; it is the standard example of this property in astronomy texts. This would have no affect whatever on the stability of a planetary orbit, however. It *does* suggest that most of the original angular momentum of the cosmic cloudlet which presumably formed the star is concentrated in the star itself; it is the rather sudden disappearance of evidence for rapid rotation at about spectral class F2 which makes some astronomers suspect that something regularly causes these cooler bodies to give their angular momentum to, say, a planetary system. Since this point came out, I have avoided hotter stars as background scenes for stories; but I am not convinced that the original cloud couldn't have had enough angular momentum to take care of planets and a rapidly whirling sun. We just don't know; this is one of the foggier spots in the current theories of planet formation.

Calling Altair a "kid" as stars go is a bit shaky. It is *not* a Rigel-type supergiant only a million or two years old; it is of spectral type A7, luminosity class V — that is, a main sequence star. Its absolute magnitude is about +2.3 — about a dozen times as bright as our sun — and may indeed be only a billion years or so old instead of Sol's four or five billion, but it's just not that different. I'm quite prepared to believe in not only life but intelligence evolving in a billion years.

The fact that no perturbations have been detected means nothing whatever. If Jupiter were in a 5 A.U. orbit around Altair, it would perturb the latter to the tune of about one fifteen-hundredth of a second of arc — wholly undetectable by present techniques. The Earth has less than one three-hundredth the mass of Jupiter; its perturbations would be directly proportional to this. Also, to have normal Earth temperature it would have to be less than four A. U.'s from Altair, rather than five, and the perturbations would also be

proportional to that. There is simply no star in the universe for which we can disprove the existence of planets on the basis of no-observed-perturbations.

I doubt that Ted Sturgeon used Altair because it was close to Vulcan, since he presumably knew better. It is true that 40 Eridani and Altair are about equally distant from Sol; it is also true that Buffalo, New York, and Richmond, Virginia, are about equally distant from New York City. Anyone who assumes that Richmond is adjacent to Buffalo has not checked all the relevant facts.

A similar relevant fact is that 40 Eridani, seen from near Sol, is over one hundred twenty degrees from Altair. If some hasty mental arithmetic is correct, the two are about thirty light years apart.

So — I grant that on the basis of current theory, Altair is rather unlikely to possess planets; but I still don't feel too guilty about using it. — Hal Clement, Milton, Mass.

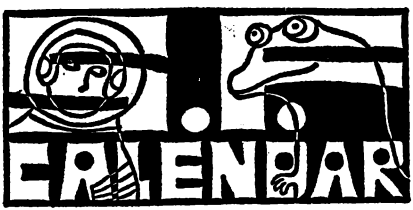
* * *

Dear Editor:

I'm a very old science fiction fan, and I've a complete collection of s-f works published in Italy. I read regularly French *Galaxy* edition and since last year I collect your *Worlds of IF*. I don't have a good knowledge of English, but I'm studying by myself, and *IF* is my reading book.

In the last *IF* issues I've liked Lin Carter's features on U.S. fandom and Zelazny, Delany and Ellison's stories. Very beautiful, your covers. Unfortunately in Italy we don't have as good artists as Pederson or Morrow.

I write to ask you for a favour: there is someone of your readers that will exchange back issues of *IF* with Italian magazines? I hope you publish my letter (subject to corrections). — G. L. Staffilano, 38 via Madonna delle Rosa, 10134, Torino, Italy.



November 9-10, 1968. PHILCON. At Sylvania Hotel, Broad & Locust Streets, Philadelphia, Pennsylvania. Features: Panel Discussion about "Science in Society," moderated by Ted Thomas; Ben Bova on "Weather Control"; panels on sex and violence in the future, with Fred Pohl, Lester del Rey, James Blish, *et aliens* . . . A special open meeting of the Philadelphia Science Fiction Society will be held at the YMCA (Broad and Arch Sts.) on November 8, at 8 P.M. — all welcome. For information: Tom Purdom, 4734 Cedar Avenue, Philadelphia, Pennsylvania 19143.

March 22-23, 1969. BOSKONE VI. At the Statler-Hilton, Boston, Massachusetts. Guest of Honor: Jack Gaughan. Membership $2.00. For information: New England Science Fiction Association, Box G, MIT Branch Station, Cambridge, Massachusetts 02139.

April 4-6, 1969. BRITISH SCIENCE FICTION CONVENTION. At Randolph Hotel, Oxford, England. Guest of Honor: Judith Merril. For information in the USA: Sam Russell, 1351 Tremaine Avenue, Los Angeles, California 90019.

April 11-13, 1969. LUNACON. Guest of Honor: Robert (Doc) A. W. Lowndes. At the Hotel McAlpin, New York City. Advance membership $2.00, or $2.50 at the door. Two Progress Reports will be sent to members. For information: Franklin M. Dietz, 1750 Walton Avenue, Bronx, New York 10453.

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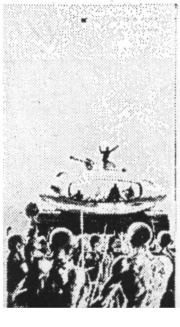

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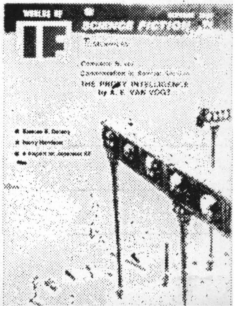

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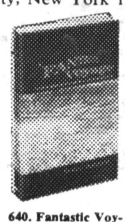

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