Galaxy

SCIENCE FICTION

MARCH 1956

35¢

We're Looking For People Who Like To Draw!

by Albert Dorne

FAMOUS MAGAZINE ILLUSTRATOR

DO YOU LIKE TO DRAW? If you do —America's 12 Most Famous Artists are looking for you. We want you to test your art talent!

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MARCH, 1956 VOL. 11, NO. 5

Galaxy

SCIENCE FICTION

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LOOK NOW!

SOME months back, I related the unsettling experience of a writer who found himself trudging up the subway steps behind two men. The first exclaimed that the Sun had been out when they got aboard . . . and here it was pouring downtown! "Well," said the other, "it's better than nothing."

I speculated on the possibility that the second speaker was an alien from a world without weather, or perhaps from an unknown part of Earth where weather was optional. Then I had to drop the subject, having run out of data.

That's not so any longer and I can't say I'm happy it isn't. All of it adds up to the conclusion that there are indeed Aliens Among Us.

No, it's not a matter of looking for slight scars where antennae have been neatly lopped off, signs of third eyes, fingers grafted onto tentacles, legs that bend backward at the knee, or where the knee should be, or watching for "people" to emerge from burrows in Central Park.

Even we, with our necessarily less advanced science, would be cleverer than that. The giveaways, as you can see, can't be that easily detected.

Then must we remain dupes? Not at all!

One thing that can't be shucked very readily is conditioning. You've had one example. Did the "man" who betrayed himself get flustered and fear exposure? I doubt it; we're accustomed to laugh off such flubs as unthinking answers or slips of the tongue, and any well-trained scout would exploit that human trait.

But no longer! Regard this blooper: A letter to a newspaper blamed subway accidents on the "fact" that, for the past few years, transport workers have had *no working conditions at all!*

Somebody (or something), I'll wager, is going to get recalled and made an example of. Besides shooting off his mouth, if that is what it is, he falsified *in our terms,* which are the ones that count, for if there's anything the TWU has, it's working conditions.

I admit that I was bothered by both these instances being associated with the subway. Now, considering the others at hand, I think it's only coincidence.

In my first editorial job, I was

jolted by this astonishing sentence: "Gibbering idiotically, his bare feet padded across the floor." Naturally, I thought it was merely a dangling participle—but gibbering feet aren't so impossible when you remember that crickets communicate, or whatever they do, by rubbing their hind legs together.

Then there's the now defunct (or recalled) Broadway character who enthused over a movie: "Don't miss it if you can!"

Translating that is as frustrating as staring at the optical-illusion blocks — just when you think you have it, the whole meaning turns upside down. I *think* it may indicate a desperate lack of free will. But it may be exactly the opposite . . . or something else entirely that we can't even imagine.

Sam Goldwyn's famous — well, Goldwynisms could stand deciphering. For example: "I'll believe in color TV when I see it in black and white." Anybody who sees color in black and white *could* be seeing black and white in color!

He is also reported to have said: "These guys who are working on the atom bomb must be crazy. Don't they know they're playing with dynamite?" I sense contempt here, a hint of alien weapons so powerful that even our most horrible are like blasting powder by comparison.

He denies authorship of these and other — well, Goldwynisms. I believe him, if only because no scout would be allowed to goof so often.

Or is that more of the same contempt? After a recent TV commercial, I can understand such superiority: Super Anahist, the anouncer said, gets rid of sniffles *and red, swollen eyes.* If we had detachable eyes, I guess we'd be feeling pretty superior, too, eh?

I think I'm on the right track in decoding these weird glimpses of outworld conditioning, but there are at least two complications:

— It sounds as if we're playing unwitting host to more than one alien species.

— Some human beings *do* have tangled tongues, like the Rev. Spooner's "Pardon me, madam; you're occupewing the wrong pie. I'll sew you to another sheet." That doesn't make detection a bit easier.

But what I'm really worried about is a quote from *The Pocket Book of Boners,* an omnibus of (supposedly) schoolboy howlers:

Name a noted foreigner assisting the colonists in the Revolutionary War.

God.

Now what in the name of Heaven does *that* mean?

—H. L. GOLD

By L. SPRAGUE DE CAMP

A Gun

In the bloodiest and most ferocious arena of all prehistoric Earth, hunting reptile heavyweights isn't for human lightweights!

Illustrated by EMSH

for Dinosaur

NO, MR. SELIGMAN, I won't take you hunting late-Mesozoic dinosaur.

Why not? How much d'you weigh? A hundred and thirty? Let's see, that's under ten stone, which is my lower limit.

I'll take you to any period in the Cenozoic. I'll get you a shot at an entelodont or a titanothere or a uintathere. The've all got fine heads.

I'll even stretch a point and take you to the Pleistocene, where

you can try for one of the mammoths or the mastodon.

I'll take you back to the Triassic where you can shoot one of the smaller ancestral dinosaur.

But I will not — will jolly well not — take you to the Jurassic or Cretaceous. You're just too small.

No offense, of course.

What's your weight got to do with it?

Look here, old boy, what did you think you were going to shoot them with?

You hadn't thought, eh?

WELL, sit there a minute . . . Here you are, my own private gun for that work, a Continental .600. Does look like a shotgun, doesn't it? But it's rifled, as you can see by looking through the barrels. Shoots a pair of .600 nitro express cartridges the size of bananas; weighs fourteen and a half pounds and has a muzzle energy of over seven thousand foot-pounds. Costs fourteen hundred and fifty dollars. Lot of money for a gun, what?

I have some spares I rent to the sahibs. Designed for knocking down elephant. Not just wounding them, knocking them base-over-apex. That's why they don't make guns like this in America, though I suppose they will if hunting parties keep going back in time through Prochaska's machine.

I've been guiding hunting parties for twenty years. Guided 'em in Africa until the game gave out there except on the preserves. That just about ended the world's real big-game hunting.

My point is, all that time I've never known a man your size who could handle the six-nought-nought. It knocks 'em over. Even when they stay on their feet, they get so scared of the bloody cannon after a few shots that they flinch. Can't hit an elephant at spitting range. And they find the gun too heavy to drag around rough Mesozoic country. Wears 'em out.

It's true, lots of people have killed elephant with lighter guns: the .500, .475, and .465 doubles, for instance, or even .375 magnum repeaters. The difference is that with a .375 you have to hit something vital, preferably the heart, and can't depend on simple shock-power.

An elephant weighs — let's see — four to six tons. You're planning to shoot reptiles weighing two or three times as much as an elephant and with much greater tenacity of life. That's why the syndicate decided to take no more people dinosaur-hunting unless they could handle the .600. We learned the hard way, as you Americans say. There were some unfortunate incidents. . .

I'll tell you, Mr. Seligman. It's

after seventeen hundred. Time I closed the office. Why don't we stop at the bar on our way out while I tell you the story?

IT WAS about the Raja's and my fifth safari. The Raja? Oh, he's the Aiyar half of Rivers & Aiyar. I call him the Raja because he's the hereditary monarch of Janpur. Means nothing nowadays, of course. Knew him in India and ran into him in New York running the Indian tourist agency. That dark chap in the photograph on my office wall, the one with his foot on the dead saber-tooth.

Well, the Raja was fed up with handing out brochures about the Taj Mahal and wanted to do a bit of hunting again. I was at loose ends when we heard of Professor Prochaska's time machine at Washington University.

Where is the Raja? Out on safari in the early Oligocene, after titanothere, while I run the office. We take turn about now, but the first few times we went out together.

Anyhow, we caught the next plane to St. Louis. To our mortification, we found we weren't the first.

Lord, no! There were other hunting guides and no end of scientists, each with his own idea of the right use for the machine.

We scraped off the historians and archeologists right at the start.

Seems the bloody machine won't work for periods more recent than 100,000 years ago. From there, up to about a billion years.

Why? Oh, I'm no four-dimensional thinker, but as I understand it, if people could go back to a more recent time, their actions would affect our own history, which would be a paradox or contradiction of facts. Can't have that in a well-run universe. But before 100,000 B.C., more or less, the actions of the expeditions are lost in the stream of time before human history begins. At that, once a stretch of past time has been used, say the month of January, one million B.C., you can't use that stretch over again by sending another party into it. Paradoxes again.

But the professor isn't worried; with a billion years to exploit, he won't soon run out of eras.

Another limitation of the machine is the matter of size. For technical reasons, Prochaska had to build the transition chamber just big enough to hold four men with their personal gear, plus the chamber-wallah. Larger parties have to be sent through in relays. That means, you see, it's not practical to take jeeps, boats, aircraft, or other powered vehicles.

ON THE other hand, since you're going to periods without human beings, there's no whistling up a hundred native bearers to trot along with your gear on their heads. So we usually take a train of asses—burros, they call them here. Most periods have enough natural forage to get you where you want to go.

As I say, everybody had his own idea for using the machine. The scientists looked down their noses at us hunters and said it would be a crime to waste the machine's time pandering to our sadistic amusements.

We brought up another angle. The machine cost a cool thirty million. I understand this came from the Rockefeller Board and such people, but that only accounted for the original cost, not the cost of operation. And the thing uses fantastic amounts of power. Most of the scientists' projects, while worthy as worthy could be, were run on a shoestring, financially speaking.

Now we guides catered to people with money, a species with which America seems overstocked. No offense, old boy. Most of these could afford a substantial fee for passing through the machine to the past. Thus we could help finance the operation of the machine for scientific purposes, provided we got a fair share of its time.

Won't go into the details, but in the end the guides formed a syndicate of eight members, one member being the partnership of Rivers & Aiyar, to apportion the machine's time.

We had rush business from the start. Our wives — the Raja's and mine—raised bloody hell with us. They'd hoped when the big game gave out they'd never have to share us with lions and things again, but you know how women are. Can't realize hunting's not really dangerous if you keep your head and take precautions.

ON THE fifth expedition, we had two sahibs to wet-nurse: both Americans in their thirties, both physically sound, and both solvent. Otherwise they were as different as different can be.

Courtney James was what you chaps call a playboy: a rich young man from New York who'd always had his own way and didn't see why that agreeable condition shouldn't continue. A big bloke, almost as big as I am; handsome in a florid way, but beginning to run to fat. He was on his fourth wife, and when he showed up at the office with a blonde with "model" written all over her, I assumed this was the fourth Mrs. James.

"Miss Bartram," she corrected me, with an embarrassed giggle.

"She's not my wife," James ex-

plained. "My wife is in Mexico, I think, getting a divorce. But Bunny here would like to go along—"

"Sorry," I said, "we don't take ladies. At least not to the late Mesozoic."

This wasn't strictly true, but I felt we were running enough risks, going after a little-known fauna, without dragging in people's domestic entanglements. Nothing against sex, you understand. Marvelous institution and all that, but not where it interferes with my living.

"Oh, nonsense," said James. "If she wants to go, she'll go. She skis and flies my airplane, so why shouldn't she—"

"Against the firm's policy."

"She can keep out of the way when we run up against the dangerous ones."

"No, sorry."

"Damn it," said he, getting red. "After all, I'm paying you a goodly sum and I'm entitled to take who I please."

"You can't hire me to do anything against my best judgment," I said. "If that's how you feel, get another guide."

"All right, I will. And I'll tell all my friends you're a goddamn—" Well, he said a lot of things I won't repeat. It ended with my telling him to get out of the office or I'd throw him out.

I was sitting in the office thinking sadly of all that lovely money James would have paid me if I hadn't been so stiff-necked, when in came my other lamb, one August Holtzinger. This was a little slim pale chap with glasses, polite and formal where the other had been breezily self-confident to the point of obnoxiousness.

Holtzinger sat on the edge of his chair and said: "Uh—Mr. Rivers, I don't want you to think I'm here under false pretenses. I'm really not much of an outdoorsman and I'll probably be scared to death when I see a real dinosaur. But I'm determined to hang a dinosaur head over my fireplace or die in the attempt."

"Most of us are frightened at first," I soothed him, and little by little I got the story out of him.

WHILE James had always been wallowing in money, Holtzinger was a local product who'd only lately come into the real thing. He'd had a little business here in St. Louis and just about made ends meet when an uncle cashed in his chips somewhere and left little Augie the pile.

He'd never been married but had a fiancée. He was building a big house, and when it was finished, they'd be married and move into it. And one furnishing he demanded was a ceratopsian head over the fireplace. Those are

the ones with the big horned heads with a parrot-beak and frill over the neck, you know. You have to think twice about collecting them, because if you put a seven-foot triceratops head into a small living room, there's apt to be no room left for anything else.

We were talking about this when in came a girl, a small girl in her twenties, quite ordinary-looking, and crying.

"Augie!" she wept. "You can't! You mustn't! You'll be killed!" She grabbed him round and said to me: "Mr. Rivers, you mustn't take him! He's all I've got! He'll never stand the hardships!"

"My dear young lady," I said, "I should hate to cause you distress, but it's up to Mr. Holtzinger to decide whether he wishes to retain my services."

"It's no use, Claire," said Holtzinger. "I'm going, though I'll probably hate every minute of it."

"What's that, old boy?" I asked. "If you hate it, why go? Did you lose a bet or something?"

"No," said Holtzinger. "It's this way. Uh—I'm a completely undistinguished kind of guy. I'm not brilliant or big or strong or handsome. I'm just an ordinary Midwestern small businessman. You never even notice me at Rotary luncheons, I fit in so perfectly. But that doesn't say I'm satisfied. I've always hankered to go to far places and do big things. I'd like to be a glamorous, adventurous sort of guy. Like you, Mr. Rivers."

"Oh, come," I protested. "Professional hunting may seem glamorous to you, but to me it's just a living."

HE SHOOK his head. "Nope. You know what I mean. Well, now I've got this legacy, I could settle down to play bridge and golf the rest of my life and try to act like I wasn't bored. But I'm determined to do something big for once. Since there's no more real big-game hunting, I'm gonna shoot a dinosaur and hang his head over my mantel. I'll never be happy otherwise."

Well, Holtzinger and his girl, whose name was Roche, argued, but he wouldn't give in. She made me swear to take the best care of her Augie and departed, sniffling.

When Holtzinger had left, who should come in but my vile-tempered friend Courtney James. He apologized for insulting me, though you could hardly say he groveled.

"I don't actually have a bad temper," he said, "except when people won't cooperate with me. Then I sometimes get mad. But so long as they're cooperative, I'm not hard to get along with."

I knew that by "cooperate" he meant to do whatever Courtney

James wanted, but I didn't press the point. "How about Miss Bartram?" I asked.

"We had a row," he said. "I'm through with women. So if there's no hard feelings, let's go on from where we left off."

"Absolutely," I agreed, business being business.

The Raja and I decided to make it a joint safari to eighty-five million years ago: the early upper Cretaceous, or the middle Cretaceous, as some American geologists call it. It's about the best period for dinosaur in Missouri. You'll find some individual species a little larger in the late upper Cretaceous, but the period we were going to gives a wider variety.

Now, as to our equipment, the Raja and I each had a Continental .600 like the one I showed you and a few smaller guns. At this time, we hadn't worked up much capital and had no spare .600s to rent.

AUGUST HOLTZINGER said he would rent a gun, as he expected this to be his only safari and there was no point in spending over a thousand dollars for a gun he'd shoot only a few times. But since we had no spare .600s, his choice was between buying one of those and renting one of our smaller pieces.

We drove into the country to let him try the .600. We set up a target. Holtzinger heaved up the gun as if it weighed a ton and let fly. He missed completely and the kick knocked him flat on his back with his legs in the air.

He got up, looking paler than ever, and handed me back the gun, saying: "Uh—I think I'd better try something smaller."

When his shoulder stopped being sore, I tried him out on the smaller rifles. He took a fancy to my Winchester 70, chambered for the .375 magnum cartridge. It's an excellent all-round gun—

What's it like? A conventional magazine rifle with a Mauser-type bolt action. It's perfect for the big cats and bears, but a little light for elephant and very definitely light for dinosaur. I should never have given in, but I was in a hurry and it might have taken months to get him a new .600. They're made to order, you know, and James was getting impatient. James already had a gun, a Holland & Holland .500 double express. With 5700 foot-pounds of muzzle energy, it's almost in a class with the .600.

Both sahibs had done a bit of shooting, so I didn't worry about their accuracy. Shooting dinosaur is not a matter of extreme accuracy but of sound judgment and smooth coordination so you shan't catch twigs in the mechanism of your gun, or fall into holes, or

climb a small tree the dinosaur can pluck you out of, or blow your guide's head off.

People used to hunting mammals sometimes try to shoot a dinosaur in the brain. That's the silliest thing you can do, because dinosaur haven't got any. To be exact, they have a little lump of tissue about the size of a tennis ball on the front end of their spines, and how are you going to hit that when it's imbedded in a moving six-foot skull?

The only safe rule with dinosaur is—always try for a heart shot. They have big hearts, over a hundred pounds in the largest species, and a couple of .600 slugs through the heart will kill them just as dead as a smaller beast. The problem is to get the slugs through that mountain of muscle and armor around it.

WELL, we appeared at Prochaska's laboratory one rainy morning: James and Holtzinger, the Raja and I, our herder Beauregard Black, three helpers, a cook, and twelve jacks. Burros, that is.

The transition chamber is a little cubbyhole the size of a small lift. My routine is for the men with the guns to go first in case a hungry theropod might be standing in front of the machine when it arrived. So the two sahibs, the Raja and I crowded into the chamber with our guns and packs. The operator squeezed in after us, closed the door, and fiddled with his dials. He set the thing for April twenty-fourth, eighty-five million B.C., and pressed the red button.

The lights went out, leaving the chamber lit by a little battery-operated lamp. James and Holtzinger looked pretty green, but that may have been the dim lighting. The Raja and I had been through all this before, so the vibration and vertigo didn't bother us.

I could see the little black hands of the dials spinning round, some slowly and some so fast they were a blur. Then they slowed down and stopped. The operator looked at his ground-level gauge and turned a handwheel that raised the chamber so it shouldn't materialize underground. Then he pressed another button and the door slid open.

No matter how often I do it, I get a frightful thrill out of stepping into a bygone era. The operator had raised the chamber a foot above ground level, so I jumped down, my gun ready. The others came after. We looked back at the chamber, a big shiny cube hanging in mid-air a foot off the ground, with this little lift-door in front.

"Right-ho," I told the chamber-wallah, and he closed the door. The chamber disappeared and

we looked around. The scene hadn't changed from my last expedition to this era, which had ended, in Cretaceous time, five days before this one began. There weren't any dinosaur in sight, nothing but lizards.

IN THIS period, the chamber materializes on top of a rocky rise from which you can see in all directions as far as the haze will let you.

To the west, you see the arm of the Kansas Sea that reaches across Missouri and the big swamp around the bayhead where the sauropods live. It used to be thought the sauropods became extinct before the Cretaceous, but that's not so. They were more limited in range because swamps and lagoons didn't cover so much of the world, but there were plenty of them if you knew where to look.

To the north is a low range that the Raja named the Janpur Hills after the little Indian kingdom his forebears had ruled. To the east, the land slopes up to a plateau, good for ceratopsians, while to the south is flat country with more sauropod swamps and lots of ornithopods: duckbills and iguanadonts.

The finest thing about the Cretaceous is the climate: balmy, like the South Sea Islands, with little seasonal change, but not so muggy as most Jurassic climates. We happened to be there in spring, with dwarf magnolias in bloom all over, but the air feels like spring almost any time of year.

A thing about this landscape is that it combines a fairly high rainfall with an open type of vegetation-cover. That is, the grasses hadn't yet evolved to the point of forming solid carpets over all open ground, so the ground is thick with laurel, sassafras and other shrubs, with bare ground between. There are big thickets of palmettos and ferns. The trees round the hill are mostly cycads, standing singly and in copses. Most people call them palms, though my scientific friends tell me they're not true palms.

Down toward the Kansas Sea are more cycads and willows, while the uplands are covered with screw-pine and ginkos.

Now I'm no bloody poet—the Raja writes the stuff, not me—but I can appreciate a beautiful scene. One of the helpers had come through the machine with two of the jacks and was pegging them out, and I was looking through the haze and sniffing the air, when a gun went off behind me—*bang! bang!*

I turned round and there was Courtney James with his .500 and an ornithomime legging it

for cover fifty yards away. The ornithomimes are medium-sized running dinosaurs, slender things with long necks and legs, like a cross between a lizard and an ostrich. This kind is about seven feet tall and weighs as much as a man. The beggar had wandered out of the nearest copse and James gave him both barrels. Missed.

I was a bit upset, as trigger-happy sahibs are as much a menace as those who get panicky and freeze or bolt. I yelled:

"Damn it, you idiot, I thought you weren't to shoot without word from me!"

"And who the hell are you to tell me when I'll shoot my own gun?" he demanded.

WE HAD a rare old row until Holtzinger and the Raja got us calmed down.

I explained: "Look here, Mr. James, I've got reasons. If you shoot off all your ammunition before the trip's over, your gun won't be available in a pinch and it's the only one of its caliber. Second, if you empty both barrels at an unimportant target, what would happen if a big theropod charged before you could reload? Finally, it's not sporting to shoot everything in sight. I'll shoot for meat, or for trophies, or to defend myself, but not just to hear the gun go off. If more people had exercised moderation in killing, there'd still be decent sport in our own era. Understand?"

"Yeah, I guess so," he said. Mercurial sort of bloke.

The rest of the party came through the machine and we pitched our camp a safe distance from the materializing place. Our first task was to get fresh meat. For a twenty-one-day safari like this, we calculate our food requirements closely so we can make out on tinned stuff and concentrates if we must, but we count on killing at least one piece of meat. When that's butchered, we go on a short tour, stopping at four or five camping places to hunt and arriving back at base a few days before the chamber is due to appear.

Holtzinger, as I said, wanted a ceratopsian head, any kind. James insisted on just one head: a tyrannosaur. Then everybody'd think he'd shot the most dangerous game of all time.

Fact is, the tyrannosaur's overrated. He's more a carrion-eater than an active predator, though he'll snap you up if he gets the chance. He's less dangerous than some of the other theropods—the flesh-eaters—such as the big saurophagus of the Jurassic, or even the smaller gorgosaurus from the period we were in. But everybody's read about the tyrant lizard and he does have the big-

gest head of the theropods.

The one in our period isn't the rex, which is later and a little bigger and more specialized. It's the trionyches with the forelimbs not reduced to quite such little vestiges, though they're too small for anything but picking the brute's teeth after a meal.

When camp was pitched, we still had the afternoon, so the Raja and I took our sahibs on their first hunt. We already had a map of the local terrain from previous trips.

The Raja and I have worked out a system for dinosaur hunting. We split into two groups of two men and walk parallel from twenty to forty yards apart. Each group consists of one sahib in front and one guide following and telling the sahib where to go.

We tell the sahibs we put them in front so they shall have first shot, which is true, but another reason is they're always tripping and falling with their guns cocked, and if the guide were in front, he'd get shot.

The reason for two groups is that if a dinosaur starts for one, the other gets a good heart shot from the side.

AS WE walked, there was the usual rustle of lizards scuttling out of the way: little fellows, quick as a flash and colored like all the jewels in Tiffany's, and big gray ones that hiss and plod off. There were tortoises and a few little snakes. Birds with beaks full of teeth flapped off squawking. And always that marvelous mild Cretaceous air. Makes a chap want to take his clothes off and dance with vine-leaves in his hair, if you know what I mean. Not that I'd ever do such a thing, you understand.

Our sahibs soon found that Mesozoic country is cut up into millions of nullahs—gullies, you'd call them. Walking is one long scramble, up and down, up and down.

We'd been scrambling for an hour and the sahibs were soaked with sweat and had their tongues hanging out, when the Raja whistled. He'd spotted a group of bonehead feeding on cycad shoots.

These are the troödonts, small ornithopods about the size of men with a bulge on top of their heads that makes them look quite intelligent. Means nothing, because the bulge is solid bone and the brain is as small as in other dinosaur, hence the name. The males butt each other with these heads in fighting over the females. They would drop down to all fours, munch a shoot, then stand up and look round. They're warier than most dinosaur because they're the favorite food of the big theropods.

People sometimes assume that because dinosaur are so stupid, their senses must be dim, but it's not so. Some, like the sauropods, are pretty dim-sensed, but most have good smell and eyesight and fair hearing. Their weakness is that, having no minds, they have no memories; hence, out of sight, out of mind. When a big theropod comes slavering after you, your best defense is to hide in a nullah or behind a bush, and if he can neither see nor smell you, he'll just forget all about you and wander off.

We sneaked up behind a patch of palmetto downwind from the bonehead. I whispered to James: "You've had a shot already today. Hold your fire until Holtzinger shoots and then shoot only if he misses or if the beast is getting away wounded."

"Uh-huh," said James and we separated, he with the Raja and Holtzinger with me. This got to be our regular arrangement. James and I got on each other's nerves, but the Raja, once you forget that Oriental-potentate rot, is a friendly, sentimental sort of bloke nobody can help liking.

Well, we crawled round the palmetto patch on opposite sides and Holtzinger got up to shoot. You daren't shoot a heavy-caliber rifle prone. There's not enough give and the kick can break your shoulder.

HOLTZINGER sighted round the last few fronds of palmetto. I saw his barrel wobbling and weaving and then off went James's gun, both barrels again. The biggest bonehead went down, rolling and thrashing, and the others ran on their hindlegs in great leaps, their heads jerking and their tails sticking up behind.

"Put your gun on safety," I said to Holtzinger, who'd started forward. By the time we got to the bonehead, James was standing over it, breaking open his gun and blowing out the barrels. He looked as smug as if he'd inherited another million and he was asking the Raja to take his picture with his foot on the game. His first shot had been excellent, right through the heart. His second had missed because the first knocked the beast down. James couldn't resist that second shot even when there was nothing to shoot at.

I said: "I thought you were to give Holtzinger first shot."

"Hell, I waited," he said, "and he took so long, I thought something must have gone wrong. If we stood around long enough, they'd see us or smell us."

There was something in what he said, but his way of saying it got me angry. I said: "If that sort of thing happens just once more, we'll leave you in camp the next time we go out."

"Now, gentlemen," said the Raja. "After all, Reggie, these aren't experienced hunters."

"What now?" asked Holtzinger. "Haul the beast back ourselves or send out the men?"

"I think we can sling him under the pole," I said. "He weighs under two hundred." The pole was a telescoping aluminium carrying pole I had in my pack, with yokes on the ends with sponge-rubber padding. I brought it along because in such eras you can't always count on finding saplings strong enough for proper poles on the spot.

The Raja and I cleaned our bonehead, to lighten him, and tied him to the pole. The flies began to light on the offal by thousands. Scientists say they're not true flies in the modern sense, but they look and act like them. There's one conspicuous kind of carrion fly, a big four-winged insect with a distinctive deep note as it flies.

THE REST of the afternoon, we sweated under that pole. We took turns about, one pair carrying the beast while the other two carried the guns. The lizards scuttled out of the way and the flies buzzed round the carcass.

When we got to camp, it was nearly sunset. We felt as if we could eat the whole bonehead at one meal. The boys had the camp running smoothly, so we sat down for our tot of whiskey feeling like lords of creation while the cook broiled bonehead steaks.

Holtzinger said: "Uh—if I kill a ceratopsian, how do we get his head back?"

I explained: "If the ground permits, we lash it to the patent aluminium roller-frame and sled it in."

"How much does a head like that weigh?" he asked.

"Depends on the age and the species," I told him. "The biggest weigh over a ton, but most run between five hundred and a thousand pounds."

"And all the ground's rough like today?"

"Most of it. You see, it's the combination of the open vegetation cover and the high rainfall. Erosion is frightfully rapid."

"And who hauls the head on its little sled?"

"Everybody with a hand. A big head would need every ounce of muscle in this party and even then we might not succeed. On such a job, there's no place for side."

"Oh," said Holtzinger. I could see him wondering whether a ceratopsian head would be worth the effort.

The next couple of days, we trekked round the neighborhood. Nothing worth shooting; only a herd of fifty-odd ornithomimes

who went bounding off like a lot of bloody ballet dancers. Otherwise there were only the usual lizards and pterosaurs and birds and insects. There's a big lacewinged fly that bites dinosaurs, so you can imagine its beak makes nothing of a human skin. One made Holtzinger leap into the air when it bit through his shirt. James joshed him about it, saying: "What's all the fuss over one little bug?"

The second night, during the Raja's watch, James gave a yell that brought us all out of our tents with rifles. All that had happened was that a dinosaur tick had crawled in with him and started drilling into his armpit. Since it's as big as your thumb even when it hasn't fed, he was understandably startled. Luckily he got it before it had taken its pint of blood. He'd pulled Holtzinger's leg pretty hard about the fly bite, so now Holtzinger repeated: "What's all the fuss over one little bug, buddy?"

James squashed the tick underfoot and grunted. He didn't like being twitted with his own words.

WE PACKED up and started on our circuit. We meant to take them first to the borders of the sauropod swamp, more to see the wild-life than to collect anything.

From where the transition chamber materializes, the sauropod swamp looks like a couple of hours' walk, but it's an all-day scramble. The first part is easy, as it's downhill and the brush isn't heavy. But as you get near the swamp, the cicads and willows grow so thickly, you have to worm your way among them.

There was a sandy ridge on the border of the swamp that I led the party to, for it's pretty bare of vegetation and affords a fine view. When we got to the ridge, the Sun was about to go down. A couple of crocs slipped off into the water. The sahibs were so exhausted, being soft yet, that they flopped down in the sand as if dead.

The haze is thick round the swamp, so the Sun was deep red and distorted by the atmospheric layers—pinched in at various levels. There was a high layer of clouds reflecting the red and gold, too, so altogether it was something for the Raja to write one of his poems about. Only your modern poet prefers to write about a rainy day in a garbage dump. A few little pterosaur were wheeling overhead like bats, only they don't flutter like bats. They swoop and soar after the big night-flying insects.

Beauregard Black collected firewood and lit a fire. We'd started on our steaks, and that pagoda-shaped Sun was just slipping be-

low the horizon, and something back in the trees was making a noise like a rusty hinge, when a sauropod breathed out in the the water. If Mother Earth were to sigh over the misdeeds of her children, it would sound just about like that.

The sahibs jumped up, waving and shouting: "Where is he? Where is he?"

I said: "That black spot in the water, just to the left and this side of that point."

They yammered while the sauropod filled its lungs and disappeared. "Is that all?" yelped James. "Won't we see any more of him?"

Holtzinger said: "I read they never come out of the water because they're too heavy."

"No," I explained. "They can walk perfectly well and often do, for egg-laying and moving from one swamp to another. But most of the time they spend in the water, like hippopotamus. They eat eight hundred pounds of soft swamp plants a day, all with those little heads. So they wander about the bottoms of lakes and swamps, chomping away, and stick their heads up to breathe every quarter-hour or so. It's getting dark, so this fellow will soon come out and lie down in the shallows to sleep."

"Can we shoot one?" demanded James.

"I wouldn't," said I.

"Why not?"

I SAID: "There's no point in it and it's not sporting. First, they're even harder to hit in the brain than other dinosaurs because of the way they sway their heads about on those long necks and their hearts are too deeply buried in tissue to reach unless you're awfully lucky. Then, if you kill one in the water, he sinks and can't be recovered. If you kill one on land, the only trophy is that little head. You can't bring the whole beast back because he weighs thirty tons or more. We don't need thirty tons of meat."

Holtzinger said: "That museum in New York got one."

"Yes," I agreed. "The American Museum of Natural History sent a party of forty-eight to the early Cretaceous, with a fifty-caliber machine gun. They assembled the gun on the edge of a swamp, killed a sauropod—and spent two solid months skinning it and hacking the carcass apart and dragging it to the time machine. I know the chap in charge of that project and he still has nightmares in which he smells decomposing dinosaur. They also had to kill a dozen big theropods who were attracted by the stench and refused to be frightened off, so they had *them* lying round and rotting, too. And the theropods ate

three men of the party despite the big gun."

Next morning, we were finishing breakfast when one of the helpers called: "Look, Mr. Rivers! Up there!"

He pointed along the shoreline. There were six big duckbill feeding in the shallows. They were the kind called parasaurolophus, with a crest consisting of a long spike of bone sticking out the back of their heads, like the horn of an oryx, and a web of skin connecting this with the back of their neck.

"Keep your voices down," I said. The duckbill, like the other ornithopods, are wary beasts because they have no armor or weapons against the theropods. The duckbill feed on the margins of lakes and swamps, and when a gorgosaur rushes out of the trees, they plunge into deep water and swim off. Then when phobosuchus, the super-crocodile, goes for them in the water, they flee to the land. A hectic sort of life, what?

Holtzinger said: "Uh—Reggie, I've been thinking over what you said about ceratopsian heads. If I could get one of those yonder, I'd be satisfied. It would look big enough in my house, wouldn't it?"

"I'm sure of it, old boy," I said. "Now look here. I could take you on a detour to come out on the shore near there, but we should have to plow through half a mile of muck and brush, up to our knees in water, and they'd hear us coming. Or we can creep up to the north end of this sand spit, from which it's four or five hundred yards—a long shot, but not impossible. Think you could do it?"

"With my 'scope sight and a sitting position—yes, I'll try it."

"You stay here," I said to James. "This is Augie's head and I don't want any argument over your having fired first."

JAMES grunted while Holtzinger clamped his 'scope to his rifle. We crouched our way up the spit, keeping the sand ridge between us and the duckbills. When we got to the end where there was no more cover, we crept along on hands and knees, moving slowly. If you move slowly directly toward or away from a dinosaur, it probably won't notice you.

The duckbills continued to grub about on all fours, every few seconds rising to look round. Holtzinger eased himself into the sitting position, cocked his piece, and aimed through the 'scope. And then—

Bang! bang! went a big rifle back at the camp.

Holtzinger jumped. The duckbill jerked up their heads and leaped for the deep water, splash-

ing like mad. Holtzinger fired once and missed. I took a shot at the last duckbill before it disappeared. I missed, too: the .600 isn't designed for long ranges.

Holtzinger and I started back toward the camp, for it had struck us that our party might be in theropod trouble and need reinforcements.

What happened was that a big sauropod, probably the one we'd heard the night before, had wandered down past the camp under water, feeding as it went. Now the water shoaled about a hundred yards offshore from our spit, halfway over to the edge of the swamp on the other side. The sauropod had ambled up the slope until its body was almost all out of water, weaving its head from side to side and looking for anything green to gobble. This kind looks like the well-known brontosaurus, but a little bigger. Scientists argue whether it ought to be included in the genus camarasaurus or a separate genus with an even longer name.

When I came in sight of the camp, the sauropod was turning round to go back the way it had come, making horrid groans. It disappeared into deep water, all but its head and ten or twenty feet of neck, which wove about for some time before they vanished into the haze.

When we came up to the camp, James was arguing with the Raja. Holtzinger burst out: "You bastard! That's the second time you've spoiled my shots!" Strong language for little August.

"Don't be a fool," said James. "I couldn't let him wander into camp and stamp everything flat."

"There was no danger of that," objected the Raja politely. "You can see thee water is deep offshore. It is just that our trigger-happee Mr. James cannot see any animal without shooting."

I SAID: "If it did get close, all you needed to do was throw a stick of firewood at it. They're perfectly harmless." This wasn't strictly true. When the Comte de Lautrec ran after one for a close shot, the sauropod looked back at him, gave a flick of its tail, and took off the Comte's head as neatly as if he'd been axed in the Tower.

"How was I to know?" yelled James, getting purple. "You're all against me. What the hell are we on this goddamn trip for except to shoot things? You call yourselves hunters, but I'm the only one who's hit anything!"

I got pretty wrothy and said he was just an excitable young skite with more money than brains, whom I should never have brought along.

"If that's how you feel," he said, "give me a burro and some food

and I'll go back to the base by myself. I won't pollute your air with my loathsome presence!"

"Don't be a bigger ass than you can help," I snapped. "That's quite impossible."

"Then I'll go all alone!" He grabbed his knapsack, thrust a couple of tins of beans and an opener into it, and started off with his rifle.

Beauregard Black spoke up: "Mr. Rivers, we cain't let him go off like that by hisself. He'll git lost and starve or be et by a theropod."

"I'll fetch him back," said the Raja and started after the runaway. He caught up as James was disappearing into the cycads. We could see them arguing and waving their hands, but couldn't make out what they said. After a while, they started back with arms

around each other's necks like old school pals. I simply don't know how the Raja does it.

This shows the trouble we get into if we make mistakes in planning such a do. Having once got back into the past, we had to make the best of our bargain. We always must, you see.

I don't want to give the impression Courtney James was only a pain in the rump. He had his good points. He got over these rows quickly and next day would be as cheerful as ever. He was helpful with the general work of the camp—when he felt like it, at any rate. He sang well and had an endless fund of dirty stories to keep us amused.

We stayed two more days at that camp. We saw crocodile, the small kind, and plenty of sauropod—as many as five at once—

but no more duckbill. Nor any of those fifty-foot super-crocodiles.

SO, ON the first of May, we broke camp and headed north toward the Janpur Hills. My sahibs were beginning to harden up and were getting impatient. We'd been in the Cretaceous a week and no trophies.

I won't go into details of the next leg. Nothing in the way of a trophy, save a glimpse of a gorgosaur out of range and some tracks indicating a whopping big iguanodont, twenty-five or thirty feet high. We pitched camp at the base of the hills.

We'd finished off the bonehead, so the first thing was to shoot fresh meat. With an eye to trophies, too, of course. We got ready the morning of the third.

I told James: "See here, old boy, no more of your tricks. The Raja will tell you when to shoot."

"Uh-huh, I get you," he said, meek as Moses. Never could tell how the chap would act.

We marched off, the four of us, into the foothills. We were looking for bonehead, but we'd take an ornithomime. There was also a good chance of getting Holtzinger his ceratopsian. We'd seen a couple on the way up, but mere calves without decent horns.

It was hot and sticky and we were soon panting and sweating like horses. We'd hiked and scrambled all morning without seeing a thing except lizards, when I picked up the smell of carrion. I stopped the party and sniffed. We were in an open glade cut up by these little dry nullahs. The nullahs ran together into a couple of deeper gorges that cut through a slight depression choked with a denser growth, cycad and screw-pine. When I listened, I heard the thrum of carrion flies.

"This way," I said. "Something ought to be dead—ah, here it is!"

And there it was: the remains of a huge ceratopsian lying in a little hollow on the edge of the copse. Must have weighed six or eight tons alive; a three-horned variety, perhaps the penultimate species of *Triceratops*. It was hard to tell because most of the hide on the upper surface had been ripped off and many bones had been pulled loose and lay scattered about.

HOLTZINGER said: "Oh, hell! Why couldn't I have gotten to him before he died? That would have been a darn fine head." Associating with us rough types had made little August profane, you'll observe.

I said: "On your toes, chaps. A theropod's been at this carcass and is probably nearby."

"How d'you know?" James challenged, with the sweat running off his round red face. He

spoke in what was for him a low voice, because a nearby theropod is a sobering thought even to the flightiest.

I sniffed again and thought I could detect the distinctive rank odor of theropod. But I couldn't be sure because the stench of the carcass was so strong. My sahibs were turning green at the sight and smell of the cadaver.

I told James: "It's seldom even the biggest theropod will attack a full-grown ceratopsian. Those horns are too much for them. But they love a dead or dying one. They'll hang round a dead ceratopsian for weeks, gorging and then sleeping their meals off for days at a time. They usually take cover in the heat of the day anyhow, because they can't stand much direct hot sunlight. You'll find them lying in copses like this or in hollows, anywhere there's shade."

"What'll we do?" asked Holtzinger.

"We'll make our first cast through this copse, in two pairs as usual. Whatever you do, don't get impulsive or panicky." I looked at Courtney James, but he looked right back and then merely checked his gun.

"Should I still carry this broken?" he wanted to know.

"No; close it, but keep the safety on till you're ready to shoot," I said. It's risky carrying a double closed like that, especially in brush, but with a theropod nearby, it would have been a greater risk to carry it open and perhaps catch a twig in it when one tried to close it.

"We'll keep closer than usual, to be in sight of each other," I said. "Start off at that angle, Raja. Go slowly and stop to listen between steps."

We pushed through the edge of the copse, leaving the carcass but not its stink behind us. For a few feet, we couldn't see a thing. It opened out as we got in under the trees, which shaded out some of the brush. The Sun slanted down through the trees. I could hear nothing but the hum of insects and the scuttle of lizards and the squawks of toothed birds in a treetop. I thought I could be sure of the theropod smell, but told myself that might be imagination. The theropod might be any of several species, large or small, and the beast itself might be anywhere within a half-mile radius.

"Go on," I whispered to Holtzinger, for I could hear James and the Raja pushing ahead on my right and see the palm-fronds and ferns lashing about as they disturbed them. I suppose they were trying to move quietly, but to me they sounded like an earthquake in a crockery shop.

"A little closer," I called, and

presently they appeared slanting in toward me.

WE DROPPED into a gully filled with ferns and clambered up the other side, then found our way blocked by a big clump of palmetto.

"You go round that side: we'll go round this," I said, and we started off, stopping to listen and smell. Our positions were exactly the same as on that first day when James killed the bonehead.

I judge we'd gone two-thirds of the way round our half of the palmetto when I heard a noise ahead on our left. Holtzinger heard it and pushed off his safety. I put my thumb on mine and stepped to one side to have a clear field.

The clatter grew louder. I raised my gun to aim at about the height a big theropod's heart would be at the distance it would appear to us out of the greenery. There was a movement in the foliage—and a six-foot-high bonehead stepped into view, walking solemnly across our front from left to right, jerking its head with each step like a giant pigeon.

I heard Holtzinger let out a breath and had to keep myself from laughing. Holtzinger said: "Uh—"

"Quiet," I whispered. "The theropod might still—"

That was as far as I got when that damned gun of James's went off, *bang! bang!* I had a glimpse of the bonehead knocked arsy-varsy with its tail and hindlegs flying.

"Got him!" yelled James, and I heard him run forward.

"My God, if he hasn't done it again!" I groaned. Then there was a great swishing, not made by the dying bonehead, and a wild yell from James. Something heaved up and out of the shrubbery and I saw the head of the biggest of the local flesh-eaters, tyrannosaurus trionyches himself.

The scientists can insist that rex is bigger than trionchyes, but I'll swear this tyrannosaur was bigger than any rex ever hatched. It must have stood twenty feet high and been fifty feet long. I could see its big bright eye and six-inch teeth and the big dewlap that hangs down from its chin to its chest.

The second of the nullahs that cut through the copse ran athwart our path on the far side of the palmetto clump. Perhaps six feet deep. The tyrannosaur had been lying in this, sleeping off its last meal. Where its back stuck up above ground level, the ferns on the edge of the nullah masked it. James had fired both barrels over the theropod's head and woke it up. Then James, to compound his folly, ran forward without reloading. Another twenty feet and he'd

have stepped on the tyrannosaur's back.

JAMES understandably stopped when this thing popped up in front of him. He remembered his gun was empty and he'd left the Raja too far behind to get a clear shot.

James kept his nerve at first. He broke open his gun, took two rounds from his belt and plugged them into the barrels. But in his haste to snap the gun shut, he caught his right hand between the barrels and the action—the fleshy part between his thumb and palm. It was a painful pinch and so startled James that he dropped his gun. That made him go to pieces and he bolted.

His timing couldn't have been worse. The Raja was running up with his gun at high port, ready to snap it to his shoulder the instant he got a clear view of the tyrannosaur. When he saw James running headlong toward him, it made him hesitate, as he didn't want to shoot James. The latter plunged ahead and, before the Raja could jump aside, blundered into him and sent them both sprawling among the ferns. The tyrannosaur collected what little wits it had and crashed after to snap them up.

And how about Holtzinger and me on the other side of the palmettos? Well, the instant James yelled and the tyrannosaur's head appeared, Holtzinger darted forward like a rabbit. I'd brought my gun up for a shot at the tyrannosaur's head, in hope of getting at least an eye, but before I could find it in my sights, the head was out of sight behind the palmettos. Perhaps I should have shot at where I thought it was, but all my experience is against wild shots.

When I looked back in front of me, Holtzinger had already disappeared round the curve of the palmetto clump. I'm pretty heavily built, as you can see, but I started after him with a good turn of speed, when I heard his rifle and the click of the bolt between shots: *bang*—click-click—*bang*—click-click, like that.

He'd come up on the tyrannosaur's quarter as the brute started to stoop for James and the Raja. With his muzzle twenty feet from the tyrannosaur's hide, he began pumping .375s into the beast's body. He got off three shots when the tyrannosaur gave a tremendous booming grunt and wheeled round to see what was stinging it. The jaws came open and the head swung round and down again.

Holtzinger got off one more shot and tried to leap to one side. He was standing on a narrow place between the palmetto clump and the nullah. So he fell into the nullah. The tyrannosaur

continued its lunge and caught him, either as he was falling or after he struck bottom. The jaws went chomp and up came the head with poor Holtzinger in them, screaming like a doomed soul.

I CAME up just then and aimed at the brute's face. Then I realized its jaws were full of my friend and I'd be shooting him. As the head went up, like the business end of a big power shovel, I fired a shot at the heart. But the tyrannosaur was already turning away and I suspect the ball just glanced along the ribs.

The beast took a couple of steps away when I gave it the other barrel in the back. It staggered on its next step but kept on. Another step and it was nearly out of sight among the trees, when the Raja fired twice. The stout fellow had untangled himself from James, got up, picked up his gun and let the tyrannosaur have it.

The double wallop knocked the brute over with a tremendous smash. It fell into a dwarf magnolia and I saw one of its hind-legs waving in the midst of a shower of incongruously pretty pink-and-white petals.

Can you imagine the leg of a bird of prey enlarged and thickened until it's as big round as the leg of an elephant?

But the tyrannosaur got up again and blundered off without even dropping its victim. The last I saw of it was Holtzinger's legs dangling out one side of its jaws (by now he'd stopped screaming) and its big tail banging against the tree-trunks as it swung from side to side.

The Raja and I reloaded and ran after the brute for all we were worth. I tripped and fell once, but jumped up again and didn't notice my skinned elbow till later. When we burst out of the copse, the tyrannosaur was already at the far end of the glade. I took a quick shot, but probably missed, and it was out of sight before I could fire another.

We ran on, following the tracks and spatters of blood, until we had to stop from exhaustion. Their movements look slow and ponderous, but with those tremendous legs, they don't have to step very fast to work up considerable speed.

When we'd finished gasping and mopping our foreheads, we tried to track the tyrannosaur, on the theory that it might be dying and we should come up to it. But the spoor faded out and left us at a loss. We circled round hoping to pick it up, but no luck.

Hour later, we gave up and went back to the glade, feeling very dismal.

COURTNEY JAMES was sitting with his back against a tree, holding his rifle and Holtzinger's. His right hand was swollen and blue where he'd pinched it, but still usable.

His first words were: "Where the hell have you been? You shouldn't have gone off and left me; another of those things might have come along. Isn't it bad enough to lose one hunter through your stupidity without risking another one?"

I'd been preparing a pretty warm wigging for James, but his attack so astonished me, I could only bleat: "*We* lost—?"

"Sure," he said. "You put us in front of you, so if anybody gets eaten, it's us. You send a guy up against these animals undergunned. You—"

"You stinking little swine," I began and went on from there. I learned later he'd spent his his time working out an elaborate theory according to which this disaster was all our fault—Holtzinger's, the Raja's and mine. Nothing about James's firing out of turn or panicking or Holtzinger's saving his worthless life. Oh, dear, no. It was the Raja's fault for not jumping out of his way, etcetera.

Well, I've led a rough life and can express myself quite eloquently. The Raja tried to keep up with me, but ran out of English and was reduced to cursing James in Hindustani.

I could see by the purple color on James's face that I was getting home. If I'd stopped to think, I should have known better than to revile a man with a gun. Presently James put down Holtzinger's rifle and raised his own, saying: "Nobody calls me things like that and gets away with it. I'll just say the tyrannosaur ate you, too."

The Raja and I were standing with our guns broken open, under our arms, so it would take a good part of a second to snap them shut and bring them up to fire. Moreover, you don't shoot a .600 holding it loosely in your hands, not if you know what's good for you. Next thing, James was setting the butt of his .500 against his shoulder, with the barrels pointed at my face. Looked like a pair of blooming vehicular tunnels.

The Raja saw what was happening before I did. As the beggar brought his gun up, he stepped forward with a tremendous kick. Used to play football as a young chap, you see. He knocked the .500 up and it went off so the bullet missed my head by an inch and the explosion jolly well near broke my eardrums.

The butt had been punted away from James's shoulder when the gun went off, so it came back

like the kick of a horse. It spun him half round.

The Raja dropped his own gun, grabbed the barrels and twisted it out of James's hands, nearly breaking the bloke's trigger finger. He meant to hit James with the butt, but I rapped James across the head with my own barrels, then bowled him over and began punching the stuffing out of him. He was a good-sized lad, but with my sixteen stone, he had no chance.

WHEN HIS face was properly discolored, I stopped. We turned him over, took a strap out of his knapsack and tied his wrists behind him. We agreed there was no safety for us unless we kept him under guard every minute until we got him back to our time. Once a man has tried to kill you, don't give him another opportunity. Of course he might never try again, but why risk it?

We marched James back to camp and told the crew what we were up against. James cursed everybody and dared us to kill him.

"You'd better, you sons of bitches, or I'll kill you some day," he said. "Why don't you? Because you know somebody'd give you away, don't you? Ha-ha!"

The rest of that safari was dismal. We spent three days combing the country for that tyrannosaur. No luck. It might have been lying in any of those nullahs, dead or convalescing, and we should never see it unless we blundered on top of it. But we felt it wouldn't have been cricket not to make a good try at recovering Holtzinger's remains, if any.

After we got back to our main camp, it rained. When it wasn't raining, we collected small reptiles and things for our scientific friends. When the transition chamber materialized, we fell over one another getting into it.

The Raja and I had discussed the question of legal proceedings by or against Courtney James. We decided there was no precedent for punishing crimes committed eighty-five million years before, which would presumably be outlawed by the statute of limitations. We therefore untied him and pushed him into the chamber after all the others but us had gone through.

When we came out in the present, we handed him his gun—empty—and his other effects. As we expected, he walked off without a word, his arms full of gear. At that point, Holtzinger's girl, Claire Roche, rushed up crying: "Where is he? Where's August?"

I WON'T go over the painful scene except to say it was distressing in spite of the Raja's

skill at that sort of thing.

We took our men and beasts down to the old laboratory building that Washington University has fitted up as a serai for expeditions to the past. We paid everybody off and found we were nearly broke. The advance payments from Holtzinger and James didn't cover our expenses and we should have damned little chance of collecting the rest of our fees from James or from Holtzinger's estate.

And speaking of James, d'you know what that blighter was doing all this time? He went home, got more ammunition and came back to the university. He hunted up Professor Prochaska and asked him:

"Professor, I'd like you to send me back to the Cretaceous for a quick trip. If you can work me into your schedule right now, you can just about name your own price. I'll offer five thousand to begin with. I want to go to April twenty-third, eighty-five million B.C."

Prochaska answered: "Vot do you vant to go back again so soon so badly for?"

"I lost my wallet in the Cretaceous," said James. "I figure if I go back to the day before I arrived in that era on my last trip, I'll watch myself when I arrived on that trip and follow myself till I see myself lose the wallet."

"Five thousand is a lot for a vallet."

"It's got some things in it I can't replace. Suppose you let me worry about whether it's worth my while."

"Vell," said Prochaska, thinking, "the party that vas supposed to go out this morning has phoned that they vould be late, so maybe I can vork you in. I have alvays vondered vot vould happen vhen the same man occupied the same time tvice."

So James wrote out a check and Prochaska took him to the chamber and saw him off. James's idea, it seems, was to sit behind a bush a few yards from where the transition chamber would appear and pot the Raja and me as we emerged.

HOURS later, we'd changed into our street-clothes and phoned our wives to come get us. We were standing on Forsythe Boulevard waiting for them when there was a loud crack, like an explosion or a close-by clap of thunder, and a flash of light not fifty feet from us. The shock-wave staggered us and broke windows in quite a number of buildings.

We ran toward the place and got there just as a policeman and several citizens came up. On the boulevard, just off the curb, lay a human body. At least it had

been that, but it looked as if every bone in it had been pulverized and every blood vessel burst. The clothes it had been wearing were shredded, but I recognized an H. & H. .500 double-barreled express rifle. The wood was scorched and the metal pitted, but it was Courtney James's gun. No doubt whatever.

Skipping the investigations and the milling about, what had happened was this: Nobody had shot us as we emerged on the twenty-fourth and that, of course, couldn't be changed. For that matter, the instant James started to do anything that would make a visible change in the world of eighty-five million B.C., the space-time forces would snap him forward to the present to prevent a paradox.

Now that this is better understood, the professor won't send anybody to a period less than five hundred years *prior* to the time that some time traveler has already explored, because it would be too easy to do some act, like chopping down a tree or losing some durable artifact, that would affect the later world. Over long periods, he tells me, such changes average out and are lost in the stream of time.

We had a bloody rough time after that, with the bad publicity and all, though we did collect a fee from James's estate. The disaster hadn't been entirely James's fault. I shouldn't have taken him when I knew what a spoiled, unstable sort he was. And if Holtzinger could have used a heavy gun, he'd probably have knocked the tyrannosaur down, even if he didn't kill it, and so given the rest of us a chance to finish it.

So that's why I won't take you to that period to hunt. There are plenty of other eras, and if you think them over, I'm sure you'll find—

Good Lord, look at the time! Must run, old boy; my wife'll skin me. Good night!

— L. SPRAGUE DE CAMP

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flat tiger

By GORDON R. DICKSON

Certainly people have to be fed, but the question was — what foods like to be eaten?

Illustrated by WEISS

I AM PROUD and happy to announce that contact with intelligent beings other than ourselves has finally been achieved and that, as a result of that meeting, peace has come at last, with the peoples of all nations firmly united behind a shining new doctrine.

The true story of this final contact has been delayed for several months, for security reasons, which necessitated that any publication of the facts be cleared first with the Secret Service, the FBI, the Treasury Department, the ICC, the Immigration Service and Senator Bang — who, while he had no direct official connection with the matter, would have caused everybody else a lot of trouble if he hadn't

been checked with first.

Also, it was necessary to clear with the opposite numbers of the above individuals and organizations in some one hundred and twenty-seven other nations, who either had representatives at the final contact aforementioned, or learned about it afterward in one way or another, and were understandably miffed at not being invited to the conference, as they called it.

The story actually begins some few months back when a spaceship landed on the lawn of the White House one morning about eight A.M. and the President, looking out the window of his bedroom, perceived it.

"A spaceship!" he ejaculated.

"That is correct, sir," replied a voice inside his head. *"The ship you see is the racing spaceabout* Sunbeam *and I am Captain Bligh. Over."*

"Captain Bligh!" echoed the astounded President.

"Why, yes—" The voice broke off suddenly and the President received the impression of a chuckle of amusement. *"Oh, I see the coincidence that startles you. I read you loud and clear. Strange, isn't it, how words will sometimes duplicate themselves in a totally alien language? If you will go down to your office, you will meet me and we can talk there. Over."*

"I'll be right down," said the President, hurriedly grabbing for his pants.

"Right. See you then. Over and out."

"Over and out," replied the President mechanically.

HE RUSHED down to his office and locked the door. A curtain by the window stirred and there stepped into view a creature slightly shorter than himself, but much heavier, equipped with tentacles and fangs. The President, however, was pleasantly surprised to note that it—or rather he, for it later turned out that Captain Bligh was, indeed, a male—did not in the least repel him with his alienness, this being the first human to discover that no totally unfamiliar form can arouse an emotional response.

"Captain Bligh, I presume," he said politely.

"The same," replied the captain in passable English. "I have been profiting by the interval since we last spoke to learn your language and succeeded to some degree. Two-way mental radio is a marvelous device, you know. Over."

"Roger—I mean you do very nicely," said the President, passing a hand over his damp brow. "But you know, my dear sir, that ship of yours will attract all sorts of attention."

"Not at all," answered Bligh.

"The spaceabout's light-reflecting properties have been heterodyned to your personal retinal pattern only. Be assured that you are the only man on this world that can see it at the present moment."

"That's a relief. You have no idea how the papers would jump on something like this." He gestured to a chair. "Won't you sit down?"

"Thanks, but I'd rather stand. No leg joints, you see. You're probably wondering how I happen to be here."

"Well, I don't think I should commit myself by giving you a definite answer immediately on that," said the President cautiously.

"No matter," said Bligh. "I will explain anyway. I happen to be in a round-the-Galaxy race at the moment — the *Sunbeam* is a stripped-down hot-warp. Unfortunately, as I was passing your solar system, I got a flat tiger and had to pull in for repairs."

"I beg your pardon?" queried the President. "Did you say a flat tiger?"

"Excuse me," said Bligh. "I should have explained. The tiger — *Felis Tigris Longipilis* or what you know as the Siberian tiger — is a discarded mutant variform of a race which was formerly distributed everywhere throughout the Galaxy, but which has since ended its physical existence and passed on —" Captain Bligh's voice took on a reverent hush and he removed the top of his head, considerably startling the President until he realized that it was actually a cap of some sort — "to that great macro-universe up yonder to which we must all go one day."

THE President cleared his throat embarrassedly. Captain Bligh put his cap back on and continued his explanation.

"Tigers are, therefore, to be found on every world and familiar to every intelligent race. Since they still possess many of the potentials of their departed master-strain, they have been bred and conditioned to a variety of uses. One of the most widespread of these is as neural governors on the feeders that meter out fuel to the warp engines. The fuel feed must be controlled with such delicacy that no mechanical process can be devised fine enough. I have four warp engines on my *Sunbeam* and therefore, naturally, four tigers; one petty tiger and three tigers second class."

"Ah — yes," the President replied. "But you said that this tiger was flat."

"Exactly. My tigers and others like them have been bred and trained for their work. It is a very exacting job, as you can

imagine, since a tiger's attention must not waver for one millisecond while the ship is in operation. To aid them in their concentration, the tigers' lungs are filled with a drug in gaseous form under high pressure, which, being slowly absorbed into the bloodstream, keeps them in a state of hyper-concentration."

"Oh?" said the President. "But why a gaseous drug? I should think an injection—"

"Not at all. A gaseous drug has the great advantage that when the trip is over, or at any moment when the situation may require it, the tiger may exhale and within a few seconds be rid of the effects of the drug. No tiger of your planet, of course, could do it — but our tigers are quite capable of holding their breaths for weeks."

"Then how did this accident occur?"

"My Number One Port Tiger somehow omitted a basal metabolism test at his last physical checkup," said the Captain sadly. "I am sorry to say that he was eighteen points over normal and used up his gas ahead of schedule. There is no room on the ship to set up the gas-manufacturing apparatus and, of course, yours was the only habitable planet for us to land on in this system. I did not know it was — er — civilized."

"And when you saw it was?" prompted the President.

"I looked you up immediately," replied the Captain. "I am in no sense an official, but I could hardly wait to offer you the tentacle of friendship on behaif of the Galactic Confraternity of Intelligences."

COUGHING explosively to gain a little time, the President dabbed at his mouth with his handkerchief and put it away again.

"I am only, you must understand, executive head of this one nation."

"Oh? I see—" said Captain Bligh, telepathing the equivalent of a bothered frown. "That makes it troublesome. Time is, of course, relative; but there's this little matter of my possibly losing the race if I have to spend too much time here. I can, of course, notify Exploration when I reach the finish point on Capra IV, but that will mean centuries of red tape. It would short-cut things enormously if I could carry word directly to Confraternity Headquarters that you already consider yourselves a member world."

"Oh, I see," said the President. "Tell me, just how much time can you afford to spend?"

"Well, let me see—To set up the apparatus, one of your days—To gas Number One Port Tiger,

two days — To dismantle, half a day. Say, three days from this coming sunset."

"Hum," said the President thoughtfully, "I'll see what I can do."

They went outside to the spaceabout together.

"Be with you in a minute," said the Captain and dived in through the airlock of his vessel, to return a moment later, carrying — he was obviously of inhuman strength — a rather thin, helpless-looking tiger.

"Mr. President," said the Captain. "May I present my Number One Port Tiger, second class."

The Tiger extended a paw.

"*This is indeed an honor,*" it telepathed feebly.

"Not at all, not at all," said the President gingerly shaking the animal's paw.

"The poor fella's worn out," said the Captain in an aside to the President as he laid the Number One Port Tiger on the White House lawn. "The last of his gas went while we were still a number of light-years short of your system and we went the last stretch on nerve alone. Pretty well took it out of him."

Looking at Number One Port lie on the grass, looking more like a cardboard cut-out of a tiger than the real item, the President was inclined to agree.

"You're going to set up your apparatus here?" he asked, somewhat nervously.

Bligh instantly comprehended the cause of his agitation. "Don't worry," he reassured. "I guarantee complete invisibility."

"Well, if you think so—" replied the President, rather doubtfully. "I'll leave you to that and see what I can do in this other matter."

THE President returned to his office and sat down at his desk, pressing a button as he did so. A few seconds later, his Special Secretary, Morion Stanchly, put in an appearance.

"Yes, Mr. President?" he said.

"Sit down, Morion," said the President. "I have something to discuss with you." And he waved his Special Secretary to a chair.

Morion Stanchly was a little administrative secret. He had been around the White House for forty years, inheriting the office from his father who had had it in turn from *his* father, and so on back to Preserved Stanchly, who had first been named to the post by General Washington, before the General became President. It was, of course, an unofficial post. Special Secretaries were always carried on the payroll under a different title and usually under a different name. Morion was, at the moment, down on the official books as a White House chauf-

feur named Joe Smith.

He would remain Joe Smith until some contingency required him to adopt another cover name and occupation. But he would not leave the White House; and the secret of his existence would be passed on by word of mouth as a strictly administrative secret from one President to the next. His duty was to do the impossible.

He was a tall, dark-browed capable-looking man in his early sixties and he nodded agreeably as he took his chair.

"Morion," said the President. "We have been contacted from outer space."

A true Stanchly, Morion merely raised one eyebrow quizzically. "Yes, sir?" he said. "And – "

The President told him the whole story. Morion got up and looked out the window onto the White House lawn. But, of course, he saw nothing.

"What would you like me to do, sir?" he said, returning to his seat.

"Three days," said the President. "I know it sounds ridiculous — but would there be any possible chance of arranging a meeting of the Four of us inside of three days?" Hardly were the words out of his mouth when he realized how incongruous they sounded. "No, no, of course not," he said. "I'm thrown a little off balance by this thing, Morion. Maybe — "

"Well, now, Mr. President," said Morion judiciously. "*All Four*. Well, now — "

The President looked at him with hope beginning to revive in his eyes.

"Morion!" he said. "You don't mean — "

"There is a certain possibility," said the Special Secretary. "Considering the gravity and urgency of the situation. Mark you — just a possibility. I'll have to swear you to secrecy, of course."

"Anything, Morion, anything!"

"Very well, then," said the Special Secretary.

HE ROSE from his chair and went to one wall of the room. He pushed aside a picture of a former President that was hanging there and revealed the front of a wall safe. His fingers spun the dial, the safe opened and he removed an old-fashioned wall-phone with a handcrank, from which a long cord led back into the depths of the safe. He carried the phone to the desk and set it down.

"Would you lock the door, Mr. President?" he asked courteously.

The President went to do so, hearing behind his back the shirring ring of the phone as Morion turned the bell crank for one long ring and three shorts. There was

a slight pause; and then the Special Secretary spoke into the antiquated mouthpiece.

"Hello? Boris? This is Morion . . . why, yes. A trifle chilly here. Yes, a head cold. No! You don't say. No! Is that a fact? Not really. No—" He paused, covered the mouthpiece with his hand and turned apologetically to the President.

"If you don't mind, Mr. President," he said. "Perhaps you'd better wait outside, after all."

Bowing his head, the President unlocked the office door and went out, closing it behind him. Outside, he lit a cigarette and paced up and down nervously.

After a short while, he returned to the office door and opened it a crack. The voice of Morion came to his ear, in conversation now with a man apparently named Cecil. The President went back to his pacing for another fifteen minutes and then ventured to open the door again. Morion waved him to come back inside.

"—that's right, Raoul," he was saying into the mouthpiece. "Here tomorrow at three o'clock local time, in the afternoon. Yes . . . Yes. You may bring your man in by the north underground entrance. Yes . . . Yes, indeed. The same to you and Félice. Good-by."

He hung up, returned the phone to the safe, closed the safe and replaced the picture.

"They'll be here tomorrow, sir," he told the President.

"Morion!" said the President, delightedly. "This is miraculous."

"Part of my duties, sir," replied Morion, immovably.

"It is a miracle!" said the President. "What would I do without you? Tell me, Morion—those other men you were talking to. They wouldn't by any chance be the Special Secretaries of —"

"Mr. President!" interrupted Morion, deeply shocked.

"Oh, sorry," said the President. "I didn't mean to pry."

"Such information is *absolutely* restricted."

"Sorry."

"Well, now," said Morion, the stern lines of his face relaxing. "No damage was done, fortunately. You understand, though, that the strictest security is necessary in my work."

"Oh, of course," said the President. "Where shall I meet the other—the visitors, Morion?"

"I would suggest right here in your office, Mr. President," said Morion. "Leave the details to me."

"Gladly," said the President. "And now," he added a trifle nervously, "perhaps I'd better go back outside and let Captain Bligh know."

"I would advise that, sir," said

Morion Stanchly, nodding soberly.

"I will be honored to attend your meeting," said Captain Bligh, waving a cheerful tentacle as he busily connected pieces of equipment together.

AT THREE o'clock the following day, Captain Bligh and the President were ensconced in the President's office, for the meeting that would start as soon as those others due to be present had arrived. They were talking golf. Or rather the President was talking golf, and the Captain, as befitted a being strongly sports-conscious, was listening.

" The fourteenth on that particular course is a dog-leg," the President was saying. "Three hundred and forty-five yards from tee to pin. I decided to take a chance —"

There was a discreet knock on the door and Morion appeared, ushering in, in that order, the Prime Minister of England, the President of France and the Secretary of a Certain Party in Russia.

The President of the United States rose to his feet.

"Gentlemen," he said warmly. "May I present Captain Bligh of the Galactic Confraternity of Intelligences —" and there was the usual bustle of hand and tentacle shaking and personal introductions, which ended with all four of the humans seated around the President's desk and Bligh standing facing them all.

"To start the ball rolling," said our President, "may I say that there is nothing official about this meeting. Just a little — er — get-together."

"Of course," said Great Britain.

"But certainly," said France.

"Maybe," said the Secretary of the Certain Party, looking suspiciously at Bligh.

"Well, at any rate," said the President, hurrying along, "since the meeting's to be informal, I suggest we get right down to business. I assume that you have all been informed of the reasons for Captain Bligh's presence on Earth and his willingness to carry to the Confraternity Earth's wish to join the rest of the Galaxy in that great organization to which he belongs. The question in my mind, and I'm sure in yours, is why it would or would not be feasible for us to do so. Captain Bligh has offered to cast some light on this question for us by explaining something of what life is like as a member of the Confraternity and afterward answering any questions we may wish to put him. Captain Bligh?"

HE SAT DOWN, leaving the floor to the Captain, who waved a tentacle modestly.

"Well, now," he said. "I'll see

what I can do to satisfy you people about the Galaxy. As you know, there's nothing official about my visit or myself and there are many octillions of beings who could describe the situation much better than I — you'll meet some of them if you decide to join the Confraternity. But I'll do my best as an amateur and a sports-being to pinch hit for them.

"I don't happen to know the figures on how many races and inhabited worlds there are in the Confraternity. Let's just say that there are enough of both to make their exact counting a thing of merely academic interest. As for why you haven't been visited before — a question my host here asked me on the first day of my arrival — you know how it is. Most of the Galaxy has been explored; and, without any offense, you are in kind of an out-of-the-way corner here. I'd say it was inevitable that someone should come along sooner or later and find you; but not so surprising that it hasn't happened before this, though for all I know, you may have been noted down in some ship's logbook a few thousand years ago —"

"Look here," interrupted the Prime Minister, "if something like that happened, wouldn't the Confraternity have taken some measures to acquaint us with their existence? Now *wouldn't* they?"

"Well — I suppose they might have," said Bligh, a trifle embarrassed. "But a few thousand years ago, I don't imagine you would have been too much interested in interstellar travel. Plenty to keep you occupied here, then, you know. Not too much point in making a big to-do about establishing contact. Of course, I don't *know* if that's what might have happened, it's only a reasonable guess."

"Grumpf!" said the Prime Minister.

"How about these flying saucers?" demanded the President of France.

"Pardon me?" asked Bligh.

The President of France explained.

"Oh," said Bligh. "Chlorophyll-sniffers. Perfectly harmless, but a slight menace to low-flying aircraft. Every planet has them flitting in occasionally. A few billion tons of soap bubbles released in your upper atmosphere will scare them off."

THE PRESIDENT of France looked uncertain, but made a note of Bligh's answer.

"You're supposed to be telepathic," said the Prime Minister, returning to the attack. "Aren't there some telepaths in this Confraternity that would have received our — er — thought what-

chamacallits? *Wouldn't* there?"

"Well, yes," said Bligh. "Bound to be, I suppose. There's some races that can hear an electron scratch its nose in the next spiral nebula. Still, maybe they didn't think it important to mention it. Different people, different ways, you know. It takes all kinds to make a universe."

"Well, dammit!" said the Prime Minister. "Isn't there any organization with the job of finding new cultures?"

"Oh, yes — Exploration," replied Bligh. "But they're mostly a bunch of hobbyists in actual fact, you understand. I mean — no great purpose in finding another new culture when there's so many around to begin with. They might be poking around here; and then they might decide to poke around there. Lots of places, you know, where a new race might pop up."

This announcement seemed to throw the meeting temporarily into silence. Then the Secretary of the Certain Party leaned over and whispered in the ear of the President of the United States, who drew the other two into a huddle, which ended with them all resuming their places and the President facing Bligh again.

"I ask for all of us," said the President, "whether you are truly representative of the intelligence and culture of the normal member of the Confraternity?"

"Not at all, not at all," Bligh hurried to assure him. "There's every conceivable kind of intelligence and culture in the Confraternity. All kinds of life-forms. All kinds and types of intelligences."

There was a moment's silence.

"Then what —" demanded the Secretary, speaking up unexpectedly and gutturally on his own, "do they have in common between them?"

"Love," replied Bligh blissfully. "Their mutual love and affection."

There was another short silence.

"Love each other, eh?" grunted the Prime Minister.

"Yes," said Bligh, "just as they will love you humans if you become a part of the Confraternity."

ALL FOUR national representatives withdrew into another conference. Little telepathic snatches of conversation reached the mind of Captain Bligh — "The U.N., of course — but the circumstances — decadent capitalistic emotion — now, my dear fellow, be reasonable —" but he very politely ignored them.

The President broke from the huddle and once more approached Bligh.

"Naturally," he said, "none of us here disparage love as a desirable acquisition, where one

people are concerned with others. But — er — there is the practical side to any alliance — a question of tangibles —"

"Tangibles? Why, of course!" cried Bligh. "It's with tangibles that the United Peoples of the Confraternity will wish to express their love toward you. Grants-in-aid and rehabilitation funds from the Galactic Treasury — donations of up-to-date equipment and supplies. Technical assistance, of course."

"Of course?" said four voices at once.

"For little things. Merely to raise your standard of living to average Confraternity level," said Captain Bligh. "Electronic power plants — am I correct in assuming you have not yet cracked the electron? — force shields, weather control units, drugs to conquer all your diseases and reverse the process of aging — all these little home comforts will be donated to you as a matter of course."

The four humans looked at each other.

"And —" continued Bligh, "you will want to hook on to the absolutely free Galaxy-wide transportation system. A terminal will be set up on your Moon immediately. You will find," said Captain Bligh with a roguish telepathic twinkle, "many pleasant vacation spots in the Galaxy with all conveniences furnished free of charge by the local life-form."

He stopped speaking. For a moment, nobody said anything. Then the President cleared his throat and spoke.

"And what kind of tangibles," he said, "would the Confraternity expect us to express our love with?"

"Tangibles? From you? My dear human!" cried Bligh. "What are material things compared to the pure emotion of love? Tangibles can't buy happiness. After all, it's love that makes the Universe go around." He telepathed a quick shake of the head. "No. No. You people will give in return only the rare quality of your affection."

THE FOUR men looked doubtful.

"Believe me," went on Captain Bligh, earnestly, "out in the Universe, material things are nothing and less than nothing. With so many differing races, how could a material standard be set up common to all? Useless and less than useless. That is why, among the stars, the common currency is love and a people are rated on the quantity and quality of their capability for affection." He beamed at them. "Permit me to say that you people strike me as having great capabilities along that line. I've only had a chance to glance at things here, but judg-

ing from your movies, your books and magazines —"

"Ahem!" said the President, clearing his throat abruptly. "Well, now, I must admit you paint an attractive picture, Captain. If you'll excuse us again for a minute —"

Captain Bligh waved a gracefully assenting tentacle, and the four humans withdrew into another huddle. After a few moments of animated conversation, they returned to Bligh.

"I have been deputed to say, for all of us," said the President of the United States, "that while, as I have mentioned before, there is nothing official about this little meeting or ourselves, certainly there seems to be no conceivable reason why we humans should not respond with affection to affection freely given by others."

"My dear sir!" cried Bligh, delighted. "How well you put it. I was sure you would agree." His gaze took in them all. "It was inevitable. While I'm not a particularly perceptive being, as beings go, it seemed to me that I could see Love and Affection hovering around you all like an aura. How right I was. Gentlemen, the Universe is yours, just as soon as you make your adjustment."

"Adjustment?" said the Prime Minister.

"Of course. But a mere bagatelle. A nothing," said Captain Bligh. "A mere matter of love extended logically to include all living creatures. A moment's adjustment by a metabolic ordinator, completely painless. Click-snap and it's over and you are all energy eaters."

"Eaters of what?" said the President of France.

"Energy. My dear sirs," said Captain Bligh. "You surely would not wish to continue with your present diets. How could you eat something you love? And love, like charity, begins at home. Moreover —" he went on — "how could you expect the rest of the Universe to accept you otherwise? Consider the similarity of shapes. For example, what a Red-eyed Inchos would think on arriving to set up a modern weather control system for your planet, if he should see one of you sitting down to —" the Captain shuddered — "a roast turkey, except for a slight difference in size, the exact image of himself. Similarly with a Lullar and a barbecued pig, or a Brvandig and a baked sturgeon."

AFTER A moment, the President of the United States cleared his throat.

"Perhaps —" he suggested, "a strictly vegetarian —"

"Mr. President," said Bligh, interrupting with dignity, "I am myself only one of uncounted

myriads, but some of my best friends are plants." He fixed the President with a stern eye. "I hate to think what a Snurlop would say if he happened to see a loaf of your bread and imagined a child of his own being harvested, threshed, ground and even *baked!*"

"But now —" interposed the President of France hastily, "certainly liquids such as wine —"

"Please!" choked Bligh, turning green. He staggered and leaned against the desk beside him. Hastily the President of the United States fanned the Captain's face with a major-general's appointment that happened to be lying close at hand. Slowly, the color returned to Bligh's gums.

"Please," he repeated feebly, "amputation, crushing, fermentation — horrible." He shook his head. "No — no liquids."

"Water," said the Prime Minister.

Bligh looked at him. "Think," he said, "just think of the minute organisms that must die, either through being boiled alive, poisoned with chlorine, or digested living, to provide you with ordinary drinking water. Why, the Fellibriks of —"

"Yes, yes," interrupted the President hastily, "I'm sure your little friends would be shocked. If you will excuse us just once more —"

"Certainly," replied Bligh, faintly, sagging against the desk.

Stout sports-being as he was, the images just conjured up by the recent conversation had turned him pale inside (he was incapable of turning pale outside). As he breathed heavily and tried to recover, little bits of conversation reached him.

"Borscht — civet de lapin — rare steak — roast beef and Yorkshire pudding — sacrifice — solidarity —"

Slowly, but with the look of men who have been through the fire and emerged triumphant, the four representatives of humanity turned back to the representative of the Galactic Confederation of Races.

SO THAT IS how peace has come to the world. We are united at last as we have never before been in history, united as one people behind what has come to be known as the UnBligh Doctrine, and which is now emblazoned in letters of gold over the front doors of the U.N. Building.

No government or individual or collection of individuals shall have the power at any time to come between any other individual and the due and lawful exercise of his appetite.

Let the Galactic Confederation of Races beware!

— GORDON R. DICKSON

TSYLANA

By JAMES E. GUNN

To find a thief in a society where crime does not exist, there is only one answer —manufacture a thief to catch the thief!

AT 2:30 P.M. on Monday, October 21, 2055, I became a deviant — I left my job half an hour early.

I called my Department Director and told him I wasn't feeling well. It wasn't exactly a lie or I couldn't have told it, but it was so close to one that I fidgeted nervously in my chair, facing the screen.

I wasn't feeling well, true — but it was all in my head.

The Director looked at me shrewdly. His name was Foreman: he had a dark face and black,

Illustrated by ASHMAN

bristling eyebrows that almost met over his nose. He had been Director for only a year. If there had been such a thing as dislike, I would have disliked him. As it was, he made my back stiffen and my throat tighten, which was a strange talent in an executive.

But he had a talent for character analysis, which was why he was Director instead of a Statistician 1st Class like me, and he asked, "How long has it been since you've seen your analyst?"

"Five years," I replied.

"That's too long, Norm," he

said, taking a kindly interest. "This might be psychosomatic."

"I resent that," I snapped, feeling my circulation speed up and my face grow warm. "My childhood was just as scientific as yours."

He had used a nasty word and he knew it. I realized immediately that he had used it deliberately for its shock value and my reaction had confirmed his snap diagnosis.

"Of course, Norm," he soothed. "Everyone's was. Just call me a cautious old fool and see an analyst for my sake. Okay?"

That was different. It was an order and I naturally would obey it. "Okay," I said quickly, not giving him a chance to specify what analyst and when.

I WAITED in the privacy of my office until the publicroom registered empty and walked through quickly to the publicdoor. Automatically, I punched the time clock. My premature departure would show up in the statistics, but for the first time in my life I didn't care.

"Norm has departed from the norm," I thought, and chuckled. I hadn't laughed like that since I was a child, and I stopped suddenly. It was a bad sign. The basis of humor is surprise and disappointed expectation; neither of them have any place in a well-run world or a well-ordered personality.

I crossed the publichall to the elevator that was waiting and stopped, shocked. There was already someone in the elevator — a small, round, middle-aged stranger with a silvery thatch of hair cut short. His astonishment at my careless intrusion on his privacy was obvious, but he recovered quickly.

As I was stepping back, mumbling my apologies, he said gently, "Wait, brother." I waited. "You've got troubles, brother," he went on with impersonal kindness. "See an analyst! Don't wait another twenty-four hours! Meanwhile, be my guest."

Overwhelmed by his benevolence, I accepted his offer and rode with him to the publicfloor in silence. As we parted he handed me a yellowed piece of stiff paper and said cryptically, "If life ain't dandy, see Andy."

After his silvery head had disappeared in the crowd outside, I looked at the paper. It said:

ANDREW Q. REDNIK
Freelance Analyst
and
Public Headshrinker

I shrugged, crumpled it in my hand and looked around for a

publican. I couldn't find any. I stuck it in my pocket and forgot about it; I had more important worries.

I put on my publicface and merged with the crowd moving past Statistical Center. The street, of course, is common and there is no right of privacy there. In the street, we are anonymous.

I maneuvered myself into the subway stream and rode home in the proper manner, my arms folded across my chest, my eyes, behind their one-way glasses, fixed on a spot just above the head of the farthest person. My thoughts were torment.

I was a Statistician 1st Class. It was a good thing to be and I was contented with it. Naturally. The annual Examinations had tested me, classified me and placed me, as they had everyone. Statistician 1st Class was the ideal position for a person with my intelligence and psychological profile.

AN almost forgotten economic theory had an excellent aphorism: *From everyone according to his ability — to everyone according to his need.* It hadn't worked for those almost forgotten economists; it wasn't an economic theory — it was a psychological concept and they had no means whatever of determining a person's ability or his need.

That was before Kinder made psychology a science and produced a society that worked. Everyone had a job that suited his talents and his psychological needs, and everyone was happy because his needs were satisfied.

Children were raised scientifically and, when they were grown, they were treated as human beings, with certain inalienable rights. A society so built could not help but be happy.

For one hundred years, the world had rocked along on an even keel. It did not go anywhere or want to; it already was there. Everybody was happy instead of swinging back and forth from gloom to ecstasy.

Ecstasy is a dangerous emotion. As a statistician, I knew that all things balance out. Ecstasy must be paid for in misery. And it is the extremes that really rock the boat and threaten society.

So I worked with the things I loved — the Computer, numbers, graphs — in a reasonably happy world and everything was rosy and private.

Until a week ago. Then it was still private but bleak.

Because I was what I was, I noticed it. Because I was what I was, I knew what it meant and I kept it to myself.

Now, because I was what I was, I had to do something about it.

My home was a conventional side-by-side duplex. I entered the common and went into my quarters and sat down at my desk. I waited long enough for my wife to notice that I was home — in case she was entertaining a lover — and then I punched for companionship.

Ordinarily a wife is the last person a man would choose, but I had to talk to somebody.

In a moment, the screen brightened. My wife's face appeared in it.

It seemed concerned; at another time, I would have worried about causing it. Naida was a good wife, mated to me intellectually and emotionally, and beautiful in my eyes.

"Norm!" she exclaimed. "What's the matter? You're home twenty-five minutes early."

"If you aren't occupied," I said formally, "I'd like the pleasure of your company."

"So early?" she asked, her eyes wide and startled.

"If it is congenial," I said stiffly.

"Of course," she said hurriedly. "It's just — I mean — five minutes?"

ONLY three minutes later, she swept into the common in her laciest negligee, looking unusually beautiful and desirable, but my mind was too troubled to be drawn off on a tangent.

"I've just uncovered a crime wave," I said miserably.

Disappointment wiped her smile away and then her features assumed a proper expression of tender attention. "What's crime?" she asked.

I was ready; I had asked the Computer. "An action that threatens the structure of society and is condemned by law."

"Like invasion of privacy?" she said brightly.

"Worse, Naida," I groaned. "Much worse."

"What could be worse than invasion of privacy?"

"Theft," I said in a low, harsh voice.

"Theft?"

"Taking something that doesn't belong to you."

"But I don't see how that could be worse than invasion of pri —"

"Invasion of privacy," I interrupted with inexcusable impatience, "can be thoughtless or accidental. Theft demands intent; it indicates a basic perversion of character."

It had been such a small thing at the start. Only a statistician would have seen it; only a statistician would have found it meaningful. A statistician works with figures day after day. There is a rhythm to statistics that sings to his inner ear, sweetly, soothingly; a dissonance is a frightful thing.

Statistical analysis was *the* vital job of my world. Everyone felt that way about his work, of course, but in the case of statistical analysis it was true. The duty of every society is to establish a norm and to correct marked deviations from it. In my world, statistical analysis established the norm and the analysts did the correction — what there was of it.

Last Monday, I had been scanning the Computer's daily summary. Everything had been going smoothly: *1,173,476 gal. water purified/1,173,476 gal. water consumed; 9,328 births/9,328 deaths* . . .

And finally, at the bottom of the sheet: *1 candy reward taken from baby.*

"Without consent?" Naida asked.

"How could the child consent? It couldn't even talk!"

"But that wasn't in the summary."

"No, I got the details from the nursery. The foster-mother had just given the reward to the child for compassionate behavior and had left him to enjoy it in privacy. His angry wails brought her back. The reward was gone. Someone walking past had snatched it from the baby's hands. The child was furious; his social development received a setback that will take years to overcome. Although he could not describe the thief, the child exhibited a sharp and unwarranted suspicion of the nursery analyst. Presumably the thief was a man."

"How awful!" Naida shuddered. "It might have been one of our children."

I FROWNED at her. "Not *ours,* Naida. Society's children. We have no right to make emotional claims on them — no right, therefore, even to know which of them is ours. All children are our children; all men are our brothers."

"Yes, Norm," she said dutifully. "Norm," she went off on her own tangent, "could we have another? Child, I mean?"

I sighed heavily; it was a familiar question. "Our request is in, Naida. What else can I do? All right," I added hastily, "I'll ask again about the quota for our genetic bracket."

"Norm," Naida said distantly, "I think I'll apply for nursery duty."

I sighed again. "Yes, dear." Every month she applied, and every month she was turned down. She had the wrong psycholcgical profile for the nursery; she couldn't help smothering the children with sticky, indiscriminate mother love and creating all sorts of fixations and complexes in them. The analysts would

sooner have admitted a hooded cobra.

"Candy from a baby!" she said, switching back with mercurial ease. "That's terrible! But it doesn't seem so *very* serious."

I massed my thoughts for a frontal assault on the fortress of her understanding. "Society is a delicately balanced mechanism. Societies in motion can absorb and dampen harmful vibrations, but our society is at rest. One anti-social act makes it quiver; one anti-social individual can throw the whole thing out of alignment.

"We aren't organized to handle crime. We haven't had a theft for seventy-five years — I asked the Computer. There aren't even any laws against it. Incipient criminals are nipped in the nursery. We're like a long-isolated community coming in contact with an infectious disease for which we have lost our immunity. The way the Polynesians did, we may succumb to measles and smallpox."

Naida's eyes opened wide in an expression I had always found tremendously attractive; now it irritated me. "Goodness!" she exclaimed. "We aren't in danger of that, too?"

"No, no! It was just a comparison."

I stopped to gather together my scattered thoughts. "That was last Monday. The next day, a child's walker was stolen from a nursery on the other side of town. Wednesday, a sack of marbles disappeared from the East Side. Thursday, a football was left overnight on a playing field; it wasn't there in the morning. On Friday, it was a teen-ager's convertible; on Saturday, the virginity of a girl who was strolling through Central Park."

"But that's silly! All he had to do was ask!"

"Of course. But that wouldn't have satisfied him."

Naida frowned thoughtfully. "It sounds exactly as if the thief were growing up."

"Sunday, he grew up," I groaned. "He stole ten million dollars from the First National Bank."

NAIDA sank back in the loveseat, shocked. "How could he do that?"

"No human tellers were present to check on the computer at the bank. When a routine series of drafts on the city's general fund, signed with signatures identical with those of the City Treasurer, were presented at a public cash booth, the money, in small, untraceable bills, was delivered without question. The discrepancy was discovered this morning."

"How do you know it wasn't

the Treasurer's real signature?"

"They were identical. Real signatures always have minor variations." I hesitated. "Or so the Computer said."

"What's being done about it?"

"Nothing. I tell you, Naida, we aren't equipped to handle something like this. They're passing it off at City Hall as a clerical error. They think the money will turn up in another account."

Naida looked at me steadily with her large, violet eyes. "And you know better."

She said it firmly, but I had to justify myself all the same. "Don't you see? It's because I'm a statistician. Computers don't make mistakes; only people do. Figures don't lie. And statistics predict the future automatically. With me, extrapolation is second nature; I follow the curve to the next intersection and I know what's coming.

"Somewhere in this city is a man who will wreck our society thoroughly and permanently on the jagged rocks of his frustrations. No one but me can see it. If I don't do something, this world of ours is gone. I've *got* to do something! Social consciousness is bred in me! I must protect society!"

"Norm!" she said, some of my panic finally reaching her. "What are you going to do?"

"That's what's bothering me," I confessed. "I can't track down a criminal; it's not in my psychological profile. The bloodhound has been bred out of the human race, like all the rest of the socially destructive impulses. Imagine the frustration of a detective with nothing to detect!"

Naida wrinkled her forehead. "Isn't there an old saying: *It takes a thief to catch a thief?*"

I looked at her, startled. "Darling!" I said, and caught her up in my arms. "That's it. That's the answer."

She looked surprised, then pleased. The afternoon ended pretty much the way she had expected, after all.

THE SIGN on the door was an old one. The gilt had peeled away long ago, leaving only a black outline that read:

ANDREW Q. REDNIK
Freelance Analyst
and
Public Headshrinker

The building was old, too, a relic of pre-analytic days, a green-glass-and-aluminum eyesore, very pigeon-specked.

As far as I could tell, Andrew Q. Rednik was the only tenant left in the towering monstrosity. Why he had an office on the thirty-seventh floor, I couldn't understand.

The elevators were all sealed and hung with tattered signs: OUT OF ORDER. I had climbed all thirty-seven flights of stairs and I wheezed in front of the door, not feeling well — not feeling well at all.

A small sign by an old-fashioned door knob said: *Grin and come in.* I went in, but I didn't grin. The waiting room was peeling chrome and split plastic.

Faded signs were tacked all over the walls:

DON'T KID WITH YOUR ID!

EVEN MOSES HAD NEUROSES

I would have turned right around and gone back down those thirty-seven flights of stairs, but Rednik was the only freelance analyst listed in the directory. That was the disadvantage of nonconformity. It was also the advantage, I reflected with scrupulous fairness. Without Rednik, I would have been helpless; no other analyst would risk the uncertainties and inevitable frustrations of freelance existence.

There was an inner door. It was closed. There was a sign on it, too: *Sit down and consider your symptoms. The analyst will be with you in a moment.*

I started searching for the chair with the fewest splits in the bottom. Before I had it picked out, the inner door opened and Rednik stuck his head out, looking wise and benevolent like an extinct, snow-capped volcano.

"Rednik?" I asked.

"It ain't Santa Claus, brother."

"Who?"

"Never mind," he said. "You wouldn't remember."

IN HIS office, he had an antique steel-and-plastic desk and a traditional red-leather couch. On second glance, the couch seemed more original than traditional. On the ceiling above it, where the eyes of the recumbent patient would naturally rest, was still another sign: *Don't second-guess the analyst!*

"Now, boy, what's the trouble?" Rednik inquired paternally.

I sank into the ancient chair opposite the desk. "I've got to do something," I said desperately, "and it isn't in my profile."

"Naturally."

"What's natural about it?"

"Why else would you come to me? If it were in your profile, it would be done and forgotten." He sighed. "That's the one trouble with this world: there's no one capable of handling the unexpected. But then, if there were, it wouldn't be this kind of world at all."

"Are you saying that there's an advantage in being unadjusted?"

"That depends on what you mean by advantage. If you mean happiness — no. If you mean power — there's always an advantage in being different, if you can handle it. In the country of the normal, the neurotic man is king." He squinted at me shrewdly. "You want to be king?"

"Of course not!" I protested, offended. "I'm happy the way things are — except for one little problem. I don't want to change anything; I want to keep things from *being* changed. But I've got to find somebody, and when I find him, I've got to be able to do whatever is necessary."

"Ah!" Rednik said wisely. "The rabbit wants to become a tiger."

"A *what?*"

"A manhunter!"

"Oh. Yes."

His stubby fingers beat out a nervous rhythm on the desk. "You know what you're asking me to do. This is against all the analytic regulations. It would mean my license if anyone found out."

"If you don't do it," I said somberly, "it may mean the end of the world."

He frowned at me speculatively. "As bad as that?"

"Every bit."

He slapped the desk decisively. "I'll do it."

"Why?" I asked bluntly, surprising myself. Already my psychological profile must have changed under the frustrations of the resolved situation, for my question was a glaring invasion of privacy.

BUT Rednik took no offense. He waggled a roguish finger at me. "Ah-ah!" he chided. "Now you are trying to analyze me. Be patient." He chuckled suddenly. "Get it? Don't be an analyst! Be a patient!"

I didn't think it was the least bit funny.

He chuckled again. "You'll get your chance. But if you must have a reason, let us say for now that I'm bored."

"Bored? Then you aren't in the right job."

"Or perhaps I've been in the right job too long."

I glanced nervously at my watch. "Well, let's get started. I've got only two hours for lunch."

"We've started already. Don't you feel repressions lifting their

snaky heads in your subconscious?"

"Well, maybe," I admitted reluctantly. "But you haven't *done* anything!"

He sighed. "So we must be active about it, eh?" He got up from the desk and settled himself comfortably on the couch. Folding his hands across his chest, he said, "Walk around back there where I can't see you."

"But I'm the one who's supposed to lie on the couch!"

"That's analysis, when you get your repressions *removed!*" he snapped, raising up on one elbow to scowl at me. "This is *reverse* analysis. Now walk around back there!"

Annoyed, I went behind the couch while he got comfortable.

"The first thing I can remember," he began in a distant, reminiscing voice, "was when I was four years old. I saw my father kissing my mother and I ran over to them and hit my father. I kept yelling, 'Let her go! You're hurting her! I hate you! I hate you!' After that, relations between my father and me were a little strained — "

"Your father!" I exclaimed. "Your mother! What are you talking about? You were living with them? What a nasty situation!"

He turned and glared at me. "You aren't very good at this sort of thing, are you? You're supposed to listen, not comment."

I clamped my lips shut on an irritated retort.

"When I was twenty-seven," he went on easily, "I perfected analysis and revolutionized society — "

"What are you talking about?" I demanded indignantly. "Kinder perfected analysis a hundred years ago."

Wordlessly, he motioned toward the sign on the ceiling: *Don't second-guess the analyst!*

"I'm beginning to dislike you," I growled.

He beamed at me. "Fine. Soon it will blossom into loathing."

On the way back to Statistical Center, I followed a lone pigeon for two blocks. It finally got alarmed and flew away.

THE sessions continued daily. Every day for a week, Rednik lay comfortably on his red-leather couch, rambling incoherently over an implausibly long and eventful existence, incident by incident, in disgusting detail, while I paced the floor behind him, longing to impart confidences of my own. He kept cutting me off.

Every day my repressions grew stronger and my disposition more touchy. I lost weight; I couldn't sleep; illogical impulses swept over me periodically.

I kept up my search for the

thief, poring over the daily summaries in spite of a growing distaste for the Computer, numbers and graphs. But I couldn't find another isolated statistic; the thief held his hand.

I repeatedly asked myself a question that had no answer: *What is there to steal when a a man has stolen ten million dollars?*

Was I wrong? I wondered. *Was the thief satisfied, his compulsion worked out? Was all my torment in vain?*

There were no answers to these, either.

At home, I became brusque and tyrannical. I broke in on Naida unexpectedly with the tormented hope of finding her with a lover; when I was disappointed, as I always was, I stormed at her jealously anyway. When she was gone, I switched a couple of wires in her intercom so that it transmitted continuously, whether the receiver was turned on or not. After that, I sat for hours watching her move about her quarters unaware.

I found myself growing passionately in love with my own wife.

It was a vastly unsettling experience.

When I was at work, I called her several times a day. When I was home, I summoned her curtly at all hours.

Finally I became completely anti-social: I moved her and her belongings into my own quarters and sealed up her half of the duplex.

Oddly enough, Naida seemed to bloom under this boorish treatment. She smiled constantly. Often, as she went about her daily tasks, pushing buttons, selecting menus, she would laugh and sing.

Women are inexplicable.

At the same time, I began developing strange interests in other women. The first time, I saw a girl on the street and obeyed an impulse to follow her. I followed her halfway across town before she turned and asked pleasantly, "What is you want?"

"You," I said bluntly.

She was too well raised, of course, to frustrate a fellow human being. Only much later did I realize that I hadn't even learned her name.

FROM a man who was satisfied with little, I became a tortured creature dissatisfied with abundance. Often I was unhappy. Sometimes I was miserable. And once or twice I felt the poignant stab of an ecstasy I had never dreamed.

My only consolation was that I was sacrificing myself for my world. *It had better be worth it,* I thought bitterly.

Still the thief did not strike.

The annual Examinations were upon me suddenly. In three days, I would submit my personality to their prodding and prying and precise judgments. I would do poorly. It would mean my job.

Brooding, unhappy, I returned to Rednik and his horrid revelations once more. I forced myself to open the door, my breath rasping in my throat. I closed it behind me and stared at it blindly for a moment, bracing myself for the ordeal that waited on the red-leather couch.

My blurred eyes focused. I saw something I should have seen seven days before.

The letters on the door spelled:

KINDER Q. WERDNA
tsylanA ecnaleerF
dna
reknirhsdaeH cilbuP

I pronounced each word slowly. They made a kind of sense, like an ancient root language — like reverse analysis. A reverse analyst, of course, is a *tsylana*. A *tsylana ecnaleerf*.

I shuddered.

It made even more sense than that. *Rednik — Kinder. Kinder — Rednik.* It was the sort of thing a man would do who would put "Don't Kid with Your Id!" on his waiting room wall.

I burst through the inner door and said accusingly: "You're Kinder!"

"That's what I told you the first day," he said blandly.

"Because you didn't expect me to believe you."

He shrugged carelessly. "It was a matter of indifference whether you believed me or not."

"Everything you told me was true," I said with a shaky, horrified voice. "All that fantastic assemblage of enormities and atrocities."

"Perhaps. And, again, perhaps not."

His smile was infuriating.

I SHIVERED with the chill fury of my inability to pin him down. If there had been a weapon handy, I would have killed him without hesitation and without remorse. "I hate you!" I said violently. "Why? Why? Why make rules and then shatter them?"

"Let me tell you a story," he began.

"Not that again!"

"This is a different kind of story," he went on, unperturbed. "Once upon a time, there was a Creator. He made a man and a woman, and He created a perfect place for them to live in. He called it Paradise. Every day, He looked out on Paradise and saw the same stupid, happy people, not wanting anything because everything was available, not going anywhere because there was

nowhere to go, unchanging because there was no reason for change.

"Finally He was tempted to create a little sin and therewith He gave his creatures change, misery, ecstasy and free will. For without sin, there is no free will; without evil, there is no choice."

I stared at him vacantly. I couldn't stop thinking about a man named Kinder. "It's a lie," I said. "That would make you about a hundred and thirty years old. Nobody lives that long."

Rednik sighed. "One hundred and twenty-seven, boy. You didn't listen good. And that isn't unusual in this era of the integrated personality. Lots of people will live that long. Doctors used to be familiar with diseases they called psychosomatic. Today it works the other way around: the mind makes the body well instead of sick. Well, boy, good-by," he said abruptly. "The treatment is over."

"You mean I'm finished?" I exclaimed.

"No. *I'm* finished. *You've* just begun. You have frustrations enough. Frustrations are like rabbits, you know. From now on, they will breed themselves."

"But — "I began, and the next moment he was gone.

Only it wasn't the next moment. Two hours had passed in the flicker of a thought. I was late getting back to the office and Foreman spoke sharply to me.

It was completely frustrating.

AGAIN and again, I went back to Rednik's office, climbing the thirty-seven flights of stairs with painful persistence, but the place was as deserted as the rest of the building. The only change was a slowly deepening layer of dust on the signs, the desk and the red-leather couch.

It was a constant irritation.

But soon there was no time for that. The annual Examinations were at hand. For three nights, I did not sleep. I twisted in my pneumatic crib, trying to think of something I could do, but all I could think of was a foolish phrase that kept running through my mind on anapestic feet: *In the country of the normal, the neurotic man is king.*

But I wasn't a king. I was so far from being king that I was going to lose my job, such as it was. I couldn't even find the thief I had set out upon this cruel road to catch, for whom all this torment had been necessary.

And then, the night before the Examinations, I sat up straight in my crib and shouted: "That's it!"

A few days before, I would have hurried to the analyst if I had started talking to myself.

"That's what?" mumbled Naida, startled out of her sleep, sitting up beside me looking quite beautiful.

But my eyes were filled with another vision. "Shhh!" I said. "Go back to sleep!"

"Yes, dear," she said meekly.

I got up, dressed quickly and hurried to the office. It was ghostly at that time of night, but I soon forgot my environment. I was too busy formulating a question for the Computer.

The Computer was, actually, Statistical Center, and the offices in it were little cavities scooped out of the giant brain. Statistics is the common denominator of all phenomena and the Computer knew everything — including the questions asked in previous Examinations and the weighting of the answers.

It could compare the questions and answers of earlier Examinations, graph their evolution and extrapolate the questions that would be asked this year and the answers I needed. My job was to phrase that order in Computer language.

It took me until dawn.

The moment I set it in, the Computer started chattering. A sheaf of papers began piling up on my desk.

It was a shock: the Computer was fast, but not that fast. There had to be another answer, a two-part answer: (1) this was no extrapolation; the questions and answer for this year's Examinations were already on file; and (2) someone had already asked for them.

LIFE HAD become very confusing lately. For a society planned from womb to tomb, where there was a place for everyone and everyone was in his place, it was presenting me with a lot of surprises.

I picked up the sheaf of papers, folded them and stuffed them into my blouse. A man could have any position in the world, I thought. All he had to do was to ask the Computer.

No normal person would, of course. That would be cheating. And no normal person would want a position for which he was not suited.

But, then, my thief was not normal.

Neither was I.

I assumed my publicface and moved with the growing crowd to the giant, sprawling Examinations building. I submitted my profile card to a scanner. It clucked out a cubicle assignment. I would quickly become lost, trying to find it, but loudspeakers called out directions constantly: "ONE-A TURN RIGHT; ONE-B TURN LEFT. IF YOU HAVE A RED CARD, YOU ARE IN THE WRONG WING;

TURN AROUND AND GO BACK TO THE FIRST CORRIDOR PAINTED RED AND FOLLOW IT TO THE END."

I sank wearily into the cubicle's padded chair. It was lucky I had the answers; I was in no condition to figure them out for myself.

There was a slot for my profile card. As soon as I had pushed the card into it, the Examinations began. On the screen in front of me, the following question appeared:

There are many types of pleasure and we do not all like the same things. Of the following activities, choose the one which would please you the most:

1) *Eating a delicious meal*
2) *Finishing a difficult job*
2) *Supervising a large operation*
4) *Bringing pleasure to a friend*
5) *Making love to a beautiful woman*

I stared at the choices blankly, unable to decide which of them I would really prefer, unable even to determine which of them I *should* prefer. I slipped the sheaf of papers out of my blouse and found the first question. The right choice was 4.

I SIGHED and punched the fourth button on the panel under the screen and had a horrid thought: *Had the Computer understood me?*

There was one outcome of the Examinations that nobody talked about: elimination. It was a sort of artificial selection of desired characteristics.

I shuddered and forced myself to go on. The next question had appeared and I had to answer it.

So it went, question after question, for three days, eight hours a day. After a few hours, the brain became so numb that the instinctive response was the only one possible.

But I had the answers — the right answers, I prayed. After a while, I stopped reading the questions and checked off numbers.

I slipped once. I waited nervously in my office after the Examinations were finished and finally my new profile was delivered with a pneumatic *thunk*. I ripped open the cardboard container and read:

The enclosed card has a magnetic reproduction of your new psychological profile and will become part of your permanent records. It indicates that you have a high altruism index and that your proper position is political leadership, 99.98% certain. There was only one higher index in the Examinations.

A new position, therefore, has been created for you. Beginning

tomorrow, you will fill the position of Deputy Mayor.

A cold elation filled my emotional centers. I let it spill over freely, because I had done what I set out to do. I had found the thief.

Symbolic thefts had not been enough for him. He had stolen, finally, the most significant thing available in this political subdivision: power.

Tomorrow, justice would catch up with the criminal.

Today, I would be busy. Just before quitting time, I located my new office in City Hall and put in a call to the Mayor. A little blonde secretary with an interestingly full lower lip answered.

"Is the new Mayor in?" I inquired cautiously.

"He's been here, sir, and gone. Will you leave a message?"

"No. I'll see him in the morning." *I would, too,* I thought grimly.

I went over the Mayor's office inch by inch and drawer by drawer. Next morning, I returned before ten and had plenty of time to do what was necessary before anyone arrived.

WHEN the Mayor's summons arrived, I was ready. I walked steadily down the narrow private corridor to his office, feeling a little breathless but under remarkable control for the circumstances. I knocked at his door. A moment later, it slid aside.

"You!" I cried.

The new Mayor was Foreman. His black eyebrows knitted themselves together over his nose as he said, almost simultaneously, "What are you doing here?"

I recovered first. "I'm the new Deputy Mayor."

"Fantastic!"

"No more fantastic than you jumping to head of my department and then Mayor of the city."

"I've always been an executive. You're a statistician."

"I *was* a statistician."

I watched the statement soak in through several layers of preconceptions. His eyes were suddenly startled. "So! The old screwball sent somebody after me. I should have got rid of him when I had a chance."

"Rednik?"

His hand was below desk level. "Who else?" He raised his hand; in it was something blue, complicated and metallic. "And you just walk right in and announce yourself!"

"What's that?" I asked sharply.

"The card in the museum case called it a pistol. It propels explosive pellets by expansion of gases."

"Once a thief, always a thief," I sneered.

"Exactly. And now I'm going

to commit the ultimate theft — I'm going to steal your life."

"You can't get away with it."

"Of course I can. Who would question me if I said you suddenly went mad and blew yourself up?" He grinned suddenly. "In the country of the normal, the neurotic man is king."

"I don't understand," I said. "How did you slip through? You're what happened to me. What happened to you?"

"Who knows? Rednik said it was an unstable genetic pattern collapsing under the psychic

stresses of approaching middle age, but he was full of it up to his neck. Whatever it was, it made me cheat the Examinations into giving me a job I couldn't handle. I looked up Rednik. Every afternoon, he came to my office. I hated him!"

"Even then you were stealing time."

HE GRINNED. "Don't think you can make me forget what I'm going to do. You're going to get it. Now." His hand tightened on the gun.

"You can't do it," I said. "You're a thief, not a murderer. Your conditioning is too strong for you to defy."

"Don't bet on it!" he got out between clenched teeth. He put his left hand on the pistol to help the right hand squeeze.

I watched him interestedly. "It's no use anyway." I said casually. "I came in early this morning and packed the barrel full of quick-setting plastic cement."

"Now I know you're lying. I'm not going to look at it and give you a chance to jump me." He squeezed the trigger.

I dived to the floor as the fragments flew over my head.

He had a strangely peaceful expression on his face when he died. Rednik had taught me this: the truth can be more deceptive than a lie.

The office was suddenly filled with people, forgetful of manners and propriety. "What happened? What happened?" asked the little blonde secretary. And then, more politely, "I beg your pardon for this intrusion, sir, but there was a loud noise in here."

I stared at her for a moment, speechless, struck by a sudden vision of the future. It was not at all what I had once imagined, but it would be interesting. The secretary would help me make it so, I was sure.

"A very sad thing," I said gravely. "The Mayor was demonstrating an ancient weapon and it exploded."

"He's dead?" she gasped and looked at me with wide blue eyes. "Then you'll be Mayor!"

"Why," I exclaimed in mock surprise, "so I will!"

IT WAS almost quitting time before the mess was cleaned up and I could relax behind the Mayor's desk.

Mayor! The word had a good sound to it. Governor sounded better, though. And President was best of all.

But they would have to wait their turn.

I chuckled. *In the country of the normal, the neurotic man is king.*

But for some obscure reason, I couldn't relax. I couldn't under-

stand why. I had found my thief and punished him. I had power and the promise of more power. What more could a neurotic want?

What about Rednik-Kinder? I thought. *What was he doing? Was he lying on a couch somewhere, working his twisted magic on some new patient? Was he creating another neurotic to come after me?*

I flipped open the switch of the office communicator. "Attention, everyone. In view of the emergency, office hours will be until four o'clock today." I called Personnel. "I want two strong men with quick reflexes and high loyalty indexes. And I want all public records searched for a freelance analyst named Rednik or Kinder. Or any freelance analyst at all."

There, I thought, *that should do it!*

But I still couldn't relax. I twisted in my pneumatic crib that night until Naida snuggled up to me and said, "What's the matter, darling? Can't you sleep?"

I pushed her away roughly. "No!"

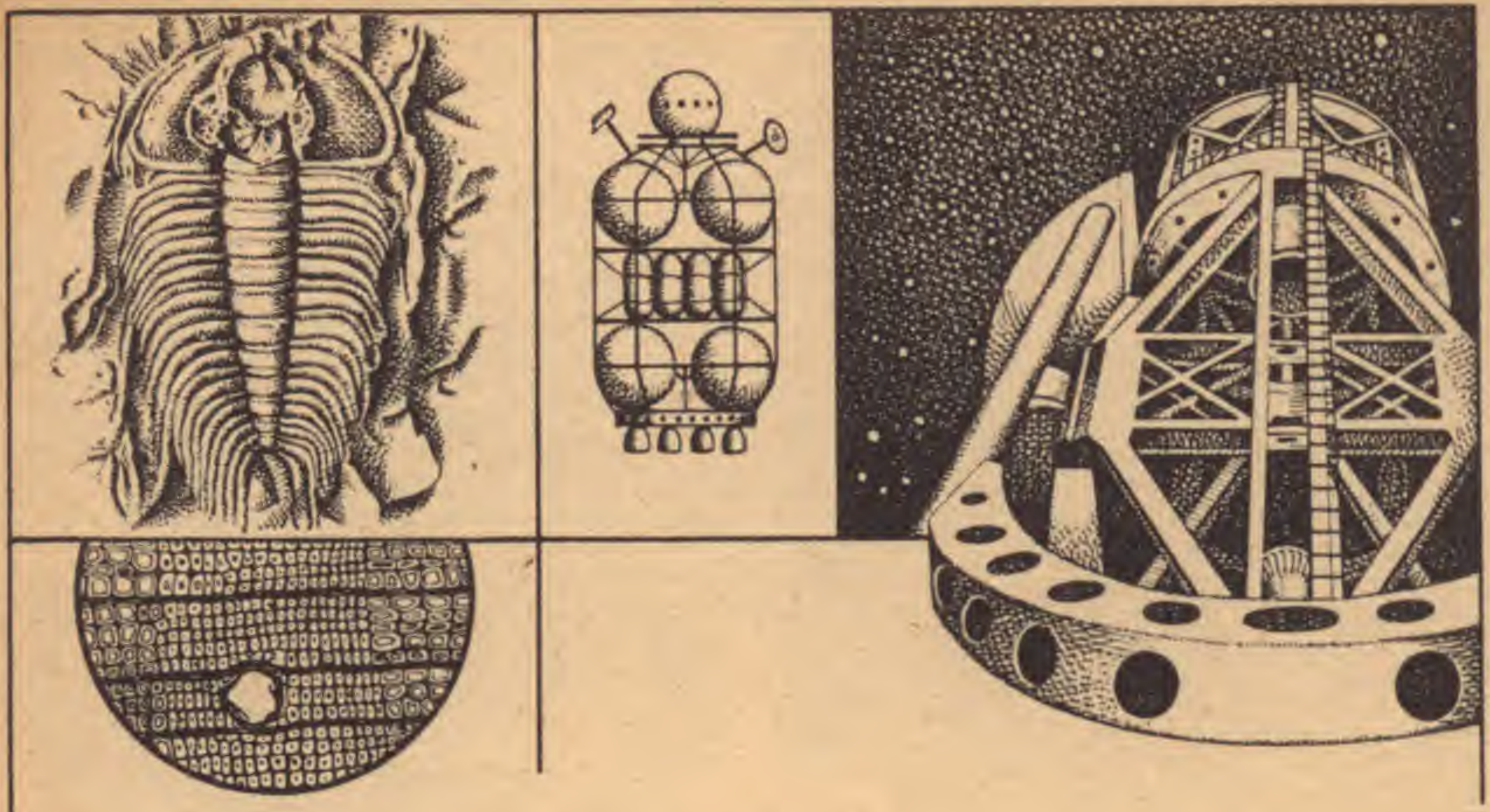
I knew what I lacked: security. There was no security for a neurotic. If he had security, he would not be a neurotic.

Even if I found Rednik-Kinder and got rid of him somehow, it woudn't do me any good. The measures I had taken to find him and to protect myself would create imbalances which would lead inevitably to my destruction.

My world was no longer the country of the normal. Society was on the move again, picking up speed before the winds of passion, blowing across unknown seas toward some unknown destination.

There was one saying Rednik-Kinder had forgotten to tell me: *Uneasy lies the head that wears the crown.*

— JAMES E. GUNN



for your information

By WILLY LEY

THE HOLLOW EARTH

ABOUT two years ago, I received in the mails an envelope postmarked Lindau, which I knew to be a town near Lake Constance. It was adorned with two rubber stamps: one was simply the name and address of the sender; the other said (in German, of course), "Do not throw away. Please pass this on." Inside were two small pamphlets, one in German and one in English, both substantially the same, advertising matter for three books written by one Karl Neupert.

Below Mr. Neupert's picture

was added in ink: "Died February 8, 1949." The books I was supposed to buy and the new *Weltanschauung* to which I was to be converted were something that really was no longer news to me.

I had made their acquaintance around 1925, when bookstores were supplied with posters that promised to show the Earth and the Universe — yes, that's right, the Earth *and* the Universe — as it "really" was. The just-discovered secret of creation was that both were the same.

The Earth, Mr. Neupert said, was actually hollow and, while its diameter was about 7950 miles as geographers have asserted for quite some time, we lived on the inside of this hollow Earth. And the hollow Earth also contained the Universe.

In the center of the hollow Earth there floated a sphere, a thousand miles or so in diameter, which was either black or very dark blue. Luminous points representing the constellations and the Milky Way were attached to this sphere and around it moved the Sun and the planets, all of them much smaller than astronomers thought.

When the Sun was on one side of this sphere, the opposite half of the Earth had night, since the sphere was material and cast a shadow. Then, in the course of 12 hours, the Sun moved around the central sphere — called "Phantom Universe" — and naturally the other half of the "Inner Earth" had daylight.

I don't recall whether it was stated or not just what the "Phantom Universe" consisted of, but I do recall that it was forbidden to ask what was outside the "world egg," to use Mr. Neupert's own term for the whole. He modestly said that even he could not answer that question.

THE English-language pamphlet began with the words: "The Heavens? Illusion! The Immense Universe: Absurdity! The Earth is a Cosmic Cell, Universe Inside. We live on the Inside Surface." The illustration was the same as that on the German pamphlet, with only one minor

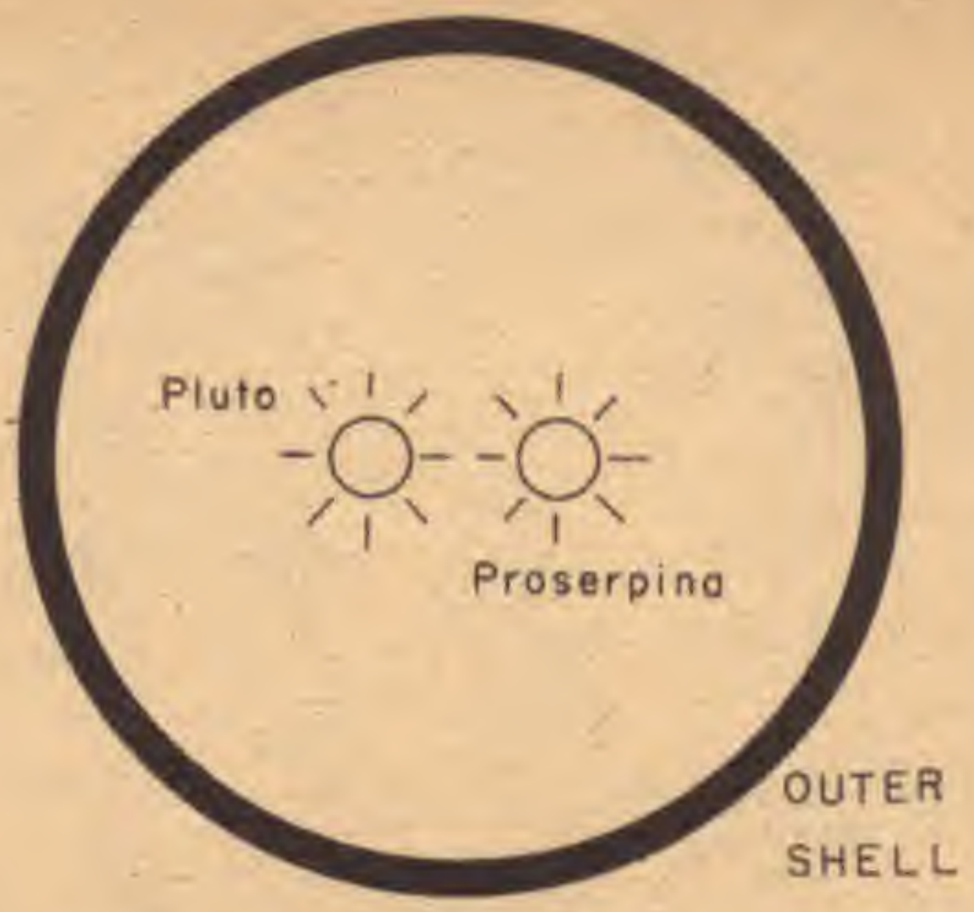
The hollow Earth as conceived by Dr. Edmond Halley.

change: in the German pamphlet, Europe had daylight; in the English pamphlet, the Americas had daylight, a fine point from which I concluded that the publisher did not expect many sales in Great Britain.

Herr Karl Neupert had changed to Mr. Charles E. Neupert and there was another interesting inked addition. The printed pamphlet said that all this had been "discovered by Charles E. Neupert." This was revised to read: "Discovered by Prof. U. G. Morrow, Chicago 1897, developed by Charles E. Neupert." Presumably because I had never heard of Professor U. G. Morrow, there was still no sale.

The episode came to mind again a few weeks ago, when I received a letter from an Air Force officer who wanted to know whether it was really true that somebody once said that the Earth was hollow, with an internal sun as well as an external sun, and that there was a hole near the pole large enough to fly an airplane inside.

The answer to the query is that somebody had actually said so, except that he wanted to sail "inside" with a ship and carry the airplanes for exploration of the Inner World—at the time, airplanes did not have ranges of more than a few hundred miles. Actually the man who said so, a



The hollow Earth as imagined by Sir John Leslie.

Mr. Marshall B. Gardner, was only the last of a long but somewhat disconnected line of hollow Earth advocates.

In fact, the concept began with two men of science who are still known to science as pioneers in many fields. One was the Scottish mathematician and physicist Sir John Leslie, who lived from 1766 to 1832 and who wrote on "Natural Philosophy" and worked out experiments to explore "the Nature and Properties of Heat."

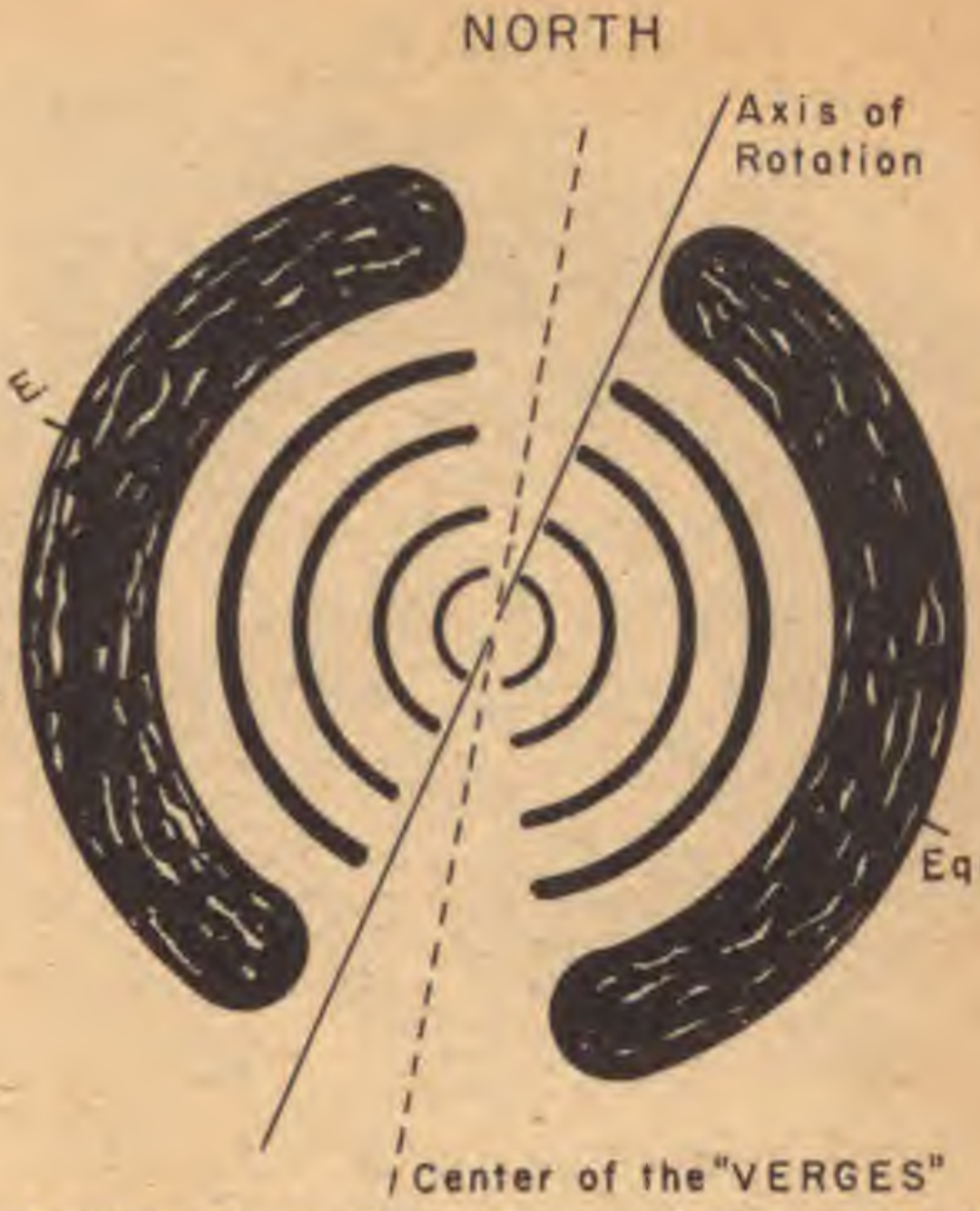
The other man, who lived just about one century earlier, is even more famous. He was Dr. Edmond Halley, the first man to predict the return of the comet named after him, and also the first to state in so many words that the Earth's atmosphere must have an upper limit. Edmond Halley must have formed his idea about the internal constitution of the Earth at about the time he be-

came editor of the *Philosophical Transactions* of the Royal Society (in 1685); his own paper appeared in the *Transactions* in 1692.

AMONG the many things which interested Halley were the vagaries of the Earth's magnetic field. If you put all the reports together—and Halley excelled in assembling reports from all sources and drawing conclusions from them—it seemed as if the Earth's magnetic poles did not stay put in one place. Trying to explain this strange behavior, Halley produced charts of the deviations of the compass needle and then said that these deviations might well be based on the internal structure of the Earth.

If the Earth consisted of three concentric shells, the observed facts might be explained by assuming that the three shells rotated with minute differences in speed. It was probably only a matter of seconds, or even fractions of a second, per day, but these differences caused the observed "misreadings" of the compass needle.

Since the innermost shell of the three was still a hollow shell, one had to assume an empty space at the center, but Halley did not want to believe that it was completely empty. So he postulated that at the center of the



Captain John Cleve Symmes' hollow Earth.

whole there was a sphere of glowing hot matter, a kind of miniature sun. Nobody would ever be able to see it because the three shells were unbroken and hundreds of miles in thickness.

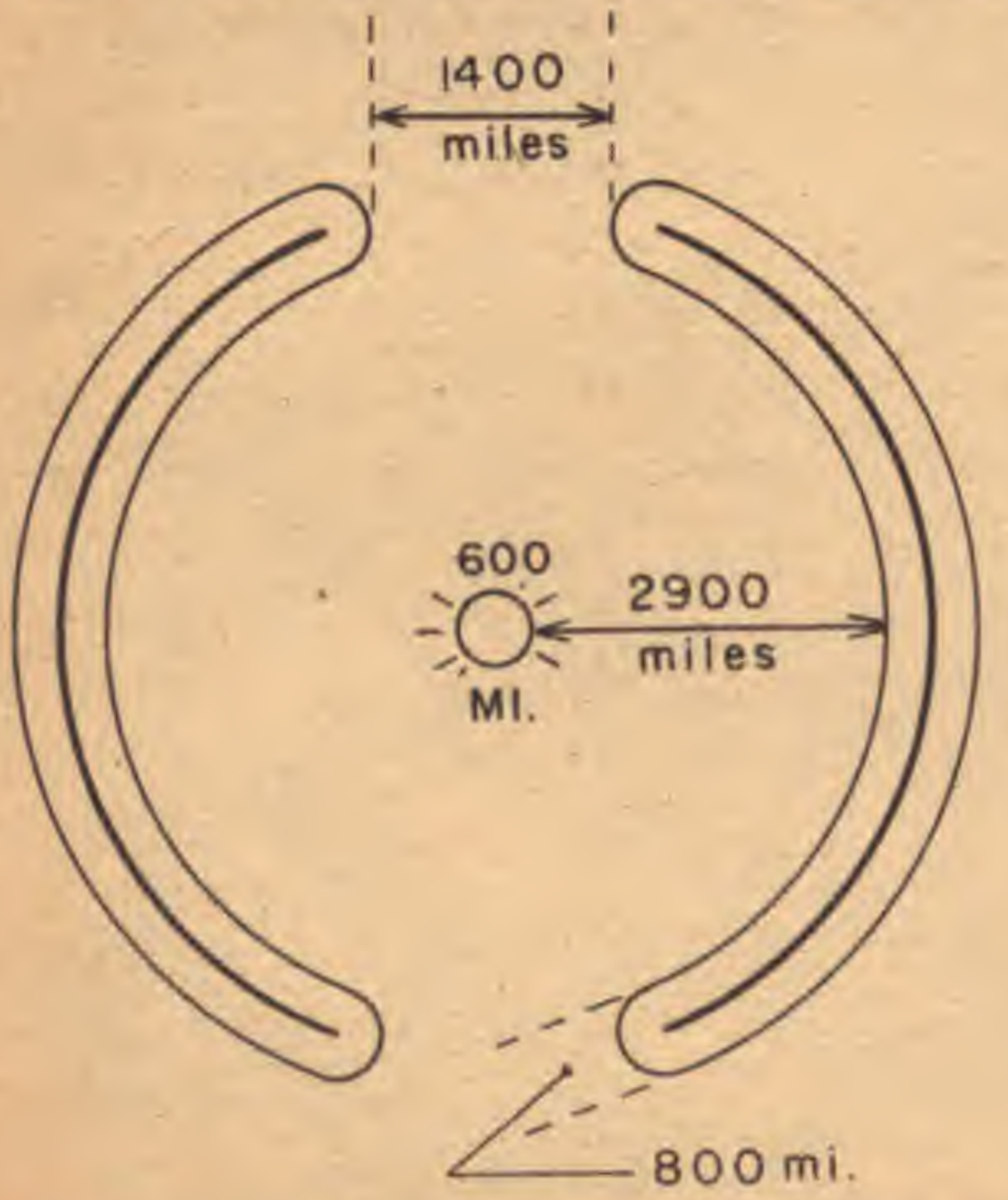
As far as one can tell, Halley's contemporaries were not very much impressed with the whole idea, though they welcomed the chart of the magnetic deviations. The matter more or less lapsed in the course of the ensuing decades and finally was not remembered any more by anybody but a few historians of science.

At much later dates, Halley's concept often came to be mentioned in the same breath with Sir John Leslie's, as if they were alike, or as if Leslie had simply revived Halley's ideas some three-

quarters of a century later. Actually there was a fundamental difference.

Halley had supposed three concentric spheres. Leslie simply thought that the Earth was hollow, a thick-shelled bubble, as it were. But he also thought that the hollow Earth could not be completely empty inside and he also supposed an internal miniature sun — or, rather, two of them. The two glowing bodies were supposed to move around each other as the binary stars far out in space do—the motion of the binaries had just been discovered and reported by Sir William Herschel.

Sir John Leslie even gave names to his two internal suns; classical mythology provided two that did fit well under the assumed circumstances: Pluto and Proserpina.



Marshall B. Gardner's hollow Earth, the last proposal of its kind.

A THIRD hollow Earth theorizer of about the same period was the founder of the calculus of variations and inventor of the binary logarithms, the Swiss mathematician and physicist Leonhard Euler. Euler, for whose services there was a heated competition between Frederick the Great of Prussia and Catherine the Great of Russia—both wanted him for their respective newly founded Academies of Sciences and both got him, first Catherine, then Frederick and then Catherine again—held a concept which really can be lumped with Leslie's. The only difference was that Euler supposed only one internal sun in the center, just as Halley had done.

Some thirty years after Euler's death — Leslie was still alive — the idea of a hollow Earth erupted with a great deal of noise and really became popular for a few decades, at least in America.

What happened and how it happened is comparatively easy to find out, but to say how the new prophet of an old idea, John Cleves Symmes, fitted into the sequence of hollow Earth theorizers is considerably more difficult.

He claimed repeatedly that his "theory" originated with him and

that he had the first flash of it one night when he looked at Jupiter. But on one occasion, when asked point blank whether he acknowledged the priority of Euler and Halley, he admitted that he knew of their ideas, but brushed the question aside by saying that they had taught something entirely different.

Actually, Symmes' ideas were just a modification of Halley's. Instead of three concentric spheres, Symmes had five. There was no central sun. And all five shells had large holes near their poles and each shell rotated at a different speed.

There is a rather tenuous literary thread connecting Halley and Symmes. The uncle of the theorist Captain John Cleves Symmes (he had held an Army commission and had fought with distinction in two engagements of the war of 1812) was a then well-known judge who once wrote his nephew as follows:

"In the reign of James VI of Scotland, who was the same person with James I of England, about the year 1620, a Protestant dissenting clergyman by the name of Symmes came over from England with a company of pious adventurers . . . Mr. Symmes afterward went from Plymouth with a part of the first settlers and built Charlestown, where he presided as pastor over a Presbyterian congregation. . . ."

The Symmes family, then, reached America in the form of a Protestant clergyman, and Captain Symmes once said that there had been a number of clergymen in his family. One may safely presume that they owned religious books; one such book, *The Christian Philosopher* by the famous Cotton Mather, contained an approving description of Halley's concept.

I am willing to concede that Symmes might have forgotten what he read as a boy, but Halley's idea must have stuck in his mind somehow, for their concepts are too similar to be pure accident.

FROM one point of view, Symmes was perfectly justified in dismissing Halley and Euler as predecessors. With them, the concept of a hollow Earth had been one theory among many others, and if confronted with proof to the contrary, they would probably have discarded it with small regrets. To Symmes, it was not a theory, even though he used this word: it was a credo, an overwhelming obsession which he would have been unable to shed even if somebody could have bundled him into an airplane and flown him to the poles. In the succession of hollow Earth theorizers, Symmes was the first crank.

His entrance on the public scene was peculiar enough. He mailed out five hundred printed letters, to all members of Congress, the presidents of universities and learned societies in the United States, and to a number of learned men in Europe. Attached to the letter were: (A) a printed "postscript" on a separate sheet and (B) *a certificate of sanity!* I have not been able to ascertain the wording of that certificate, but the letter and the postscript read as follows:

St. Louis, Missouri Territory
North America
April 10, A.D. 1818

To All the World:

I declare the earth is hollow and habitable within; containing a number of solid, concentrick spheres; one within the other, and it is open at the poles twelve or sixteen degrees. I pledge my life in support of this truth, and am ready to explore the hollow, if the World will support and aid me in the undertaking.

Jno. Cleves Symmes,

Of Ohio, late Captain of Infantry

P.S. I have ready for the press a treatise on the principles of matter, wherein I show proof of the above positions, account for various phenomena, and disclose Dr. Darwin's "Golden Secret."

My terms are the patronage of This and the New Worlds.

I dedicate to my wife and her ten children.

I select Dr. S. L. Mitchell, Sir H. Davy, and Baron Alexander von Humboldt as my protectors.

I ask one hundred brave companions, well equipped, to start from Siberia, in the fall season, with reindeer and sleighs, on the ice of the frozen sea; I engage we find a warm and rich land, stocked with thrifty vegetables and animals, if not men, on reaching one degree northward of latitude 82; we will return in the succeeding spring.

J. C. S.

IT GOES without saying that Dr. Mitchell, Sir Humphrey Davy and the Baron von Humboldt had no idea of the honor conferred upon them, unless they, as is likely, were on the mailing list for the letter and learned about it after the event. It also goes without saying that the promised treatise never appeared, so that the world still does not know what Dr. Erasmus Darwin's (grandfather of the famous naturalist) Golden Secret was supposed to have been.

In fact, Symmes never wrote a book about his own theory. One pamphlet about it was written by a disciple during Symmes' lifetime and Symmes himself said that he had not been properly presented. Another pamphlet was written after his death by his son Americus Vespuccius Symmes and, of course, we can't tell what his father would have said about it. What Symmes did write were a few Memoirs in succession, but they, too, were mere one-page statements, if that is the word to use.

To let my readers decide for themselves which word should or might be used, I'll quote Memoir No. II in full:

With dividers describe a circle on a plane of matter of loose texture, and in the centre add a very small circle; then draw a line through the centre. It is evident (as matter gravitates matter in proportion to quantity and distance) that either half of the inner circle, being almost equal surrounded by matter, must be a very little gravitated centrewise; so being suspended, only a rotary motion is needed to throw it compactly toward the outer circle. This being admitted, it follows that halfway from the outer to the inner side of this circle of matter so thrown out, a like rarity, suspension, or balance of gravity should prevail, and hence a disposition to concentric circles; therefore it follows that successive similar subdivisions should exist, gradually lessening in force or quantity. By applying this principle to the earth, I found the necessity of hollow concentric spheres. A decision of schoolmen on these lines should be followed by additional positions, further explaining my new principles of hollow spheres, open at the poles, declared in a circular letter of the 10th of April, 1818.

John Cleves Symmes,
of Ohio, late Captain of Infantry

The French Academy, after reading the communications and presumably after making certain that their difficulties were not merely linguistic, produced some choice expressions of ridicule. Symmes was deeply hurt, because he apparently had been convinced that one of the members of the Academy would applaud him.

This member was Pierre Simon, the Marquis de Laplace. The reason: Laplace had published his own ideas about the poles. Condensed, they amounted to about this: The Earth has an equatorial bulge, caused by its rotation. The formation of the equatorial bulge may well have been accompanied by the formation of polar depressions, so that explorers, once they got that far, should find warm and ice-free polar seas, warmed by the internal heat of the Earth.

TO Symmes' mind, this had been a step in the right direction and he felt that Laplace had just not gone far enough. Since Symmes had gone further, Laplace was supposed to applaud — but Laplace did not want to go any further.

Because Symmes' teachings have to be reconstructed from endless interviews he gave to newspaper reporters, from reports about his many lectures and from letters he wrote to the editors, there is no way of arriving at a definite picture. The figures he gave were not always the same and crucial points often are not mentioned.

At any event, the outermost Earth shell had a thickness of about 1000 miles. The circular opening — popularly called "Symmes Hole" — in the north had a diameter of about 2000 miles; the one in the south was somewhat larger. The rims of these openings — Symmes called them "verges" — were open seas, beyond the "icy hoops" that had

been insufficiently penetrated by explorers and whalers.

While the verges were perfectly circular, they were not centered on the poles. The axis of rotation formed an angle of between 12 and 14 degrees with the center line of the verges. What the relative positions of axis of rotation and of the verges of the inner shells were supposed to be was not made clear. Symmes' son later assumed that all verges were lined up along the same center line.

All these shells were "habitable without and within upon my word of honor" and, in addition to all this surface space, there was more room by far because in the stony shell were numerous and enormous caves with a native life of their own. This assertion was made mostly about the outermost shell. I don't know whether there were big caves in the inner shells, too.

As for the southern verge, some ships must have come close to it, for their captains and crews had seen the light reflected from the icy hoop across the verge. They had called them the Magellanic Clouds. In the north, the verge was highest in latitude to the north of Europe, but the Svalbard Archipelago was close to it. Its northermost island, now called Northeast Land, might possibly be in the verge. This position necessitated that the verge ate a considerable chunk out of northern Siberia, which was practically unknown at the time.

Symmes, while conducting his lecture tours like a political campaign, petitioned Congress twice for an expedition to the verge, starting off from the West Coast and working its way up to Siberia. Congress managed to bury both petitions — their dates were 1822 and 1823 — by means of tricks with which Congressmen have a lot of experience.

The French Academy stood firm.

But the Russians actually nibbled at the bait.

SYMMES claimed to have received a personal letter from the Czar, which is unlikely, but there *was* correspondence with the Czar's representatives. The Russians, remember, owned all of Siberia *and* Alaska, but very little was known about this territory It was considered an accomplishment to know that there was no land bridge between Siberia and Alaska.

The Czar's government had been toying with the idea of a more thorough exploration of Siberia all along. If this exploration might open a gateway to the Inner World, they were ready — or at least willing — to find out and annex what could be found.

Symmes was invited to come to Russia and assist in organizing the expedition. It was taken for granted that he would go along as one of the leaders, in 1827. He declined because of poor health. Two years later, on May 29, 1829, he died at the age of not quite 49 years.

Although the newspapers had been quite excited about his theory and the public had flocked to his lectures, Symmes apparently had had mainly nothing more than curiosity value even to his admirers. Soon after his death, it was all over. A few major articles in magazines — Harper's for example — appeared later, but were considered "historical articles" by the readers. They did not influence anybody.

However, hollow Earth ideas, now solidly in the hands of cranks, still persisted. During the latter part of the nineteenth century, one Cyrus Reed Teed, writing mostly under the name of Koresh, was the first to anticipate Herr Neupert. Teed also said that we live on the inside of the Earth, but he was far less definite about astronomical facts to be explained away than Neupert at a later date.

In 1868, one W. F. Lyons, who called himself Professor, published a book with the title *A Hollow Globe*, which was simply a copy of Symmes, who, however, was not even mentioned. "Professor" Lyons, if somebody questioned him about that oversight, probably replied that his theory was entirely different — he did not have any additional hollow spheres inside the Earth.

IN fiction, the hollow Earth idea has been given a quite thorough workout. The earliest, written during Symmes' lifetime, was a satirical treatment called *The Journal of Capt. Adam Seaborn: Symzonia*, published in 1822. As you'll notice, Symmes' name is worked into the title.

But from that point on, though the number of books increases considerably, he gets less mention. For example, Poe's *The Narrative of Arthur Gordon Pym* (about 1850) merely is similar to the good captain's name.

Then comes Verne's *The Voyage to the Center of the Earth* (1864). In 1892, William R. Bradshaw's *The Goddess of Atvatabar/Being the History of the Discovery of the Interior World* created a bit of a stir.

Science fiction readers are most familiar, of course, with the Pellucidar series of Edgar Rice Burroughs, which began in 1922 with *At the Earth's Core*.

Those are the outstanding items. There have been others and undoubtedly there will be more, even though the concept has been

so wholly exploded. Ideas die hard, you know, and false ones often appear to be especially enduring.

The Marshall B. Gardner who was mentioned earlier in the article was really the latest and presumably last of the proponents of a hollow Earth of what might be called the "classical" type. In 1914, he published a small volume with the title *A Journey to the Earth's Interior, Or, Have the Poles Really Been Discovered?* His model of the hollow Earth was almost precisely that of Euler, a thick shell with a miniature sun in the center, but with two verges concentric to the poles added.

Gardner's argument was that there was still some doubt that anybody had actually reached the poles and that the explorers themselves would be bound to be confused, since they did not expect to find themselves in a verge. The aurora was explained by Gardner as the reflection of the light from the inner sun, shining through the verge, on the outer atmosphere.

A second and much enlarged edition of the book appeared in 1920. Gardner rejected with utter indignation any comparison between his idea and "Symmes' nonsense." Reading his book is a strange experience; it is full of the most obvious flaws in logic and the most amateurish misinterpretation of scientific facts taken from books of popular science. Coupled with this is an obvious desire for absolute honesty — in pursuit of falsity.

Well, the poles now are discovered and at least one airline is flying commercially over the area where Laplace expected a large depression and a warm sea and where others dreamed of verges opening a pathway to a fabulous inner world.

—WILLY LEY

All Ronnie wanted was to go back to his beautiful valley — but where on Earth was it?

Little Red Schoolhouse

By ROBERT F. YOUNG

RONNIE avoided the towns. Whenever he came to one, he made a wide detour, coming back to the tracks miles beyond it. He knew that none of the towns was the village he was looking for. The towns were bright and new, with white streets and brisk cars and big factories, while the village in the valley was old and quiet, with rustic houses and shaded streets and a little red schoolhouse.

Just before you came to the village, there was a grove of friendly maples with a brook winding through them. Ronnie remembered the brook best of all. In summer, he had waded in it many times, and he had skated on it in winter; in autumn, he had watched the fallen leaves, like Lilliputian ships, sail down it to the sea.

Ronnie had been sure that he could find the valley, but the tracks went on and on, through fields and hills and forests, and no familiar valley apeared. After a while, he began to wonder if he had chosen the right tracks, if the shining rails he followed day af-

Illustrated by JOHNS

ter day were really the rails along which the stork train had borne him to the city and to his parents.

He kept telling himself that he wasn't truly running away from home, that the aseptic three-room apartment in which he had lived for a month wasn't his home at all, any more than the pallid man and woman who had met him at the bustling terminal were his mother and father.

His real home was in the valley, in the old rambling house at the outskirts of the village; and his real parents were Nora and Jim, who had cared for him throughout his boyhood. True, they had never claimed to be his parents, but they were just the same, even if they put him on the stork train when he was asleep and sent him to the city to live with the pallid people who pretended to be his parents.

Nights, when the shadows came too close around his campfire, he thought of Nora and Jim and the village. But most of all, he thought of Miss Smith, the teacher in the little red schoolhouse. Thinking of Miss Smith made him brave and he lay back in the summer grass beneath the summer stars and he wasn't scared at all.

ON THE fourth morning, he ate the last of the condensed food tablets he had stolen from his parents' apartment. He knew that he had to find the valley soon and he walked faster along the tracks, staring eagerly ahead for the first familiar landmark — a remembered tree or a nostalgic hilltop, the silvery twinkle of a winding brook. The trip on the stork train had been his first trip into the outside world, so he was not certain how the valley would look, coming into it from the surrounding countryside; nevertheless, he was sure he would recognize it quickly.

His legs were stronger now than they had been when he had first stepped off the stork train and his dizzy spells were becoming less and less frequent. The Sun no longer bothered his eyes and he could look for long moments at the blue sky and the bright land with no painful afterimages.

Toward evening, he heard a high-pitched whistle and his heart began to pound. He knew at last that he had the right tracks and that he couldn't be very far from the valley, for the whistle was the shrill lullaby of a stork train.

Ronnie hid in the weeds that lined the embankment and watched the train pass. He saw the children reclining on their chairbeds, staring curiously through the little windows, and he remembered how he had stared, too, on his trip to the city, how surprised — and frightened —

he had been, upon awakening, to see the strange new land unrolling before his aching eyes.

He wondered if his face had been as white as those he was seeing now, as white and as peaked and as sickly, and he guessed that probably it had been, that living in the valley affected your complexion some way, made your eyes sensitive to light and your legs weak.

But that couldn't be the answer. His legs had never been weak when he had lived in the valley, he remembered, and his eyes had never bothered him. He'd never had trouble seeing the lessons on the blackboard in the little red schoolhouse and he'd read all the printed words in the schoolbooks without the slightest difficulty. In fact, he'd done so well with his reading lessons that Miss Smith had patted him on the back, more times than he could remember, and told him that he was her star pupil.

SUDDENLY he realized how eager he was to see Miss Smith again, to walk into the little classroom and have her say, "*Good* morning, Ronnie," and see her sitting reassuringly behind her desk, her yellow hair parted neatly in the middle and her round cheeks pink in the morning light. For the first time, it occurred to him that he was in love with Miss Smith and he recognized his real reason for returning to the valley.

The other reasons were still valid, though. He wanted to wade in the brook again, and feel the cool tree shadows all around him, and after that he wanted to meander through the maples, picking a slow way homeward, and finally he wanted to wander down the lazy village street to the house and have Nora scold him for being late for supper.

The stork train was still passing. Ronnie couldn't get over how long it was. Where did all the children come from? He didn't recognize a single one of them, yet he had lived in the valley all his life. He hadn't recognized any of the children on his own stork train, either, for that matter. He shook his head. The whole thing was bewildering, far beyond his understanding.

When the last of the cars had passed, he climbed back up the embankment to the tracks. Dusk was seeping in over the land and soon, he knew, the first star would appear. If only he could find the valley before night came! He wouldn't even pause to wade in the brook; he would run through the maples and down the street to the house. Nora and Jim would be delighted to see him again and Nora would fix a fine supper; and perhaps Miss Smith would come

over during the evening, as she sometimes did, and discuss his schoolwork, and he would walk to the gate with her, when she was ready to go, and say good night, and see the starlight on her face as she stood goddess-tall beside him . . .

He hurried along the tracks, staring hungrily ahead for some sign of the valley. The shadows deepened around him and the damp breath of night crept down from the hills. Insects awoke in the tall meadow grass, katydids and crickets, and frogs began singing in ponds.

After a while, the first star came out.

HE WAS surprised when he came to the big broad-shouldered building. He did not recall having seen it during his ride on the stork train. That was odd, because he had never left the window once during the whole trip.

He paused on the tracks, gazing at the towering brick facade with its tiers and tiers of small barred windows. Most of the upper windows were dark, but all of the first-floor windows were ablaze with light. The first-floor windows were different in other respects, too, he noticed. There were no bars on them and they were much larger than the higher ones. Ronnie wondered why that should be.

And then he noticed something else. The tracks stretched right up to the imposing facade and entered the building through a lofty archway. Ronnie gasped. The building must be a terminal, like the one in the city, where his parents had met him. But why hadn't he seen it when the stork train had passed through it?

Then he remembered that he'd been put on the train when he was asleep and could have missed the first part of the journey. He'd assumed, when he awoke, that the train was just pulling out of the valley, but perhaps it had pulled out some time before—a long time, even—and had passed through the terminal while he was sleeping.

It was a logical explanation, but Ronnie was reluctant to accept it. If it was true, then the valley was still a long way off, and he wanted the valley to be close, close enough for him to reach it tonight. He was so hungry, he could hardly stand it, and he was terribly tired.

He looked miserably at the big hulking building, wondering what to do.

"Hello, Ronnie."

Ronnie almost collapsed with fright on the tracks. He peered around him into the shadows. At first he saw no one, but after a while he made out the figure of a tall man in a gray uniform stand-

ing in a grove of locusts bordering the tracks. The man's uniform matched the shadows and Ronnie realized with a start that he had been standing there all along.

"You *are* Ronnie Meadows, aren't you?"

"Yes—yes, sir," Ronnie said. He wanted to turn and run, but he knew it wouldn't do any good. He was so tired and weak that the tall man could catch him easily.

"I've been waiting for you, Ronnie," the tall man said, a note of warmth in his voice. He left the tree shadows and walked over to the tracks. "I've been worried about you."

"Worried?"

"Why, of course. Worrying about boys who leave the valley is my job. You see, I'm the truant officer."

RONNIE'S eyes got big. "Oh, but I didn't want to leave the valley, sir," he said. "Nora and Jim waited until I went to sleep one night, and then they put me on the stork train, and when I woke up, I was already on my way to the city. I *want* to go back to the valley, sir. I—I ran away from home."

"I understand," the truant officer said, "and I'm going to take you back to the valley—back to the little red schoolhouse." He reached down and took Ronnie's hand.

"Oh, will you, sir?" Ronnie could hardly contain the sudden happiness that coursed through him. "I want to go back in the worst way!"

"Of course I will. It's my job." The truant officer started walking toward the big building and Ronnie hurried along beside him. "But first I've got to take you to the principal."

Ronnie drew back. He became aware then of what a tight grip the truant officer had on his weak-feeling hand.

"Come on," the truant officer said, making the grip even tighter. "The principal won't hurt you."

"I—I never knew there was a principal," Ronnie said, hanging back. "Miss Smith never said anything about him."

"Naturally there's a principal; there has to be. And he wants to talk to you before you go back. Come on now, like a good boy, and don't make it necessary for me to turn in a bad report about you. Miss Smith wouldn't like that at all, would she?"

"No, I guess she wouldn't," Ronnie said, suddenly contrite. "All right, sir, I'll go."

Ronnie had learned about principals in school, but he had never seen one. He had always assumed that the little red schoolhouse was too small to need one and he still couldn't understand why it should. Miss Smith was per-

fectly capable of conducting the school all by herself. But most of all, he couldn't understand why the principal should live in a place like the terminal — if it was a terminal — and not in the valley.

However, he accompanied the truant officer dutifully, telling himself that he had a great deal to learn about the world and that an interview with a principal was bound to teach him a lot.

THEY entered the building through an entrance to the left of the archway and walked down a long bright corridor lined with all green cabinets to a frosted glass door at the farther end. The lettering on the glass said: EDUCATIONAL CENTER 16, H. D. CURTIN, PRINCIPAL.

The door opened at the truant officer's touch and they stepped into a small white-walled room even more brightly illumined than the corridor. Opposite the door was a desk with a girl sitting behind it, and behind the girl was another frosted glass door. The lettering said: PRIVATE.

The girl looked up as the truant officer and Ronnie entered. She was young and pretty — almost as pretty as Miss Smith.

"Tell the old man the Meadows kid finally showed up," the truant officer said.

The girl's eyes touched Ronnie's, then dropped quickly to a little box on her desk. Ronnie felt funny. There had been a strange look in the girl's eyes — a sort of sadness. It was as though she was sorry that the truant officer had found him.

She told the little box: "Mr. Curtin, Andrews just brought in Ronnie Meadows."

"Good," the box said. "Send the boy in and notify his parents."

"Yes, sir."

The principal's office was unlike anything Ronnie had ever seen before. Its hugeness made him uncomfortable and the brightness of its fluorescent lights hurt his eyes. All the lights seemed to be shining right in his face and he could hardly see the man behind the desk.

But he could see him well enough to make out some of his features: the high white forehead and receding hairline, the thin cheeks, the almost lipless mouth.

For some reason, the man's face frightened Ronnie and he wished that the interview were over.

"I have only a few questions to ask you," the principal said, "and then you can be on your way back to the valley."

"Yes, sir," Ronnie said, some of his fear leaving him.

"Were your mother and father unkind to you? Your *real* mother and father, I mean."

"No, sir. They were very good to me. I'm sorry I had to run away from them, but I just had to go back to the valley."

"Were you lonesome for Nora and Jim?"

Ronnie wondered how the principal knew their names. "Yes, sir."

"And Miss Smith – were you lonesome for her?"

"Oh, yes, sir!"

HE FELT the principal's eyes upon him and he shifted uncomfortably. He was so tired, he wished the principal would ask him to sit down. But the principal didn't and the lights seemed to get brighter and brighter.

"Are you in love with Miss Smith?"

The question startled Ronnie, not so much because he hadn't expected it, but because of the tone in which it was uttered. There was unmistakable loathing in the principal's voice. Ronnie felt his neck grow hot, and then his face, and he was too ashamed to meet the principal's eyes, no matter how hard he tried. But the strange part of it was, he didn't understand *why* he was ashamed.

The question came again, the loathing more pronounced than before: "Are you in love with Miss Smith?"

"Yes, sir," Ronnie said.

Silence came and sat in the room. Ronnie kept his eyes down, fearfully awaiting the next question.

But there were no more questions and presently he became aware that the door behind him had opened and that the truant officer was standing over him. He heard the principal's voice: "Level Six. Tell the tech on duty to try Variant 24-C on him."

"Yes, sir," the truant officer said. He took Ronnie's hand. "Come on, Ronnie."

"Where're we going?"

"Why, back to the valley, of course. Back to the little red schoolhouse."

Ronnie followed the truant officer out of the office, his heart singing. It seemed almost too easy, almost too good to be true.

Ronnie didn't understand why they had to take the elevator to get to the valley. But perhaps they were going to the roof of the building and board a 'copter, so he didn't say anything till the elevator stopped on the sixth floor and they stepped out into a long, long corridor lined with hundreds of horizontal doors so close together that they almost seemed to touch.

Then he said: "But this isn't the way to the valley, sir. Where are you taking me?"

"Back to school," the truant officer said, the warmth gone from his voice. "Come along now!"

RONNIE tried to hold back, but it wasn't any use. The truant officer was big and strong and he dragged Ronnie down the long antiseptic corridor to a recess in which a gaunt woman in a white uniform was sitting behind a metal desk.

"Here's the Meadows kid," he said. "The old man says to change the plot to 24-C."

The gaunt woman got up wearily. Ronnie was crying by then and she selected an ampoule from a glass cabinet beside the desk, came over and rolled up his sleeve and, despite his squirming, expertly jabbed the needle into his arm.

"Save your tears till later," she said. "You'll need them." She turned to the truant officer. "Curtin's guilt complex must be getting the best of him. This is the third 24-C he's prescribed this month."

"The old man knows what he's doing."

"He only thinks he knows what he's doing. First thing you know, we'll have a whole world full of Curtins. It's about time someone on the Board of Education took a course in psychology and found out what mother love is all about!"

"The old man's a graduate psychologist," the truant officer said.

"You mean a graduate psychopath!"

"You shouldn't talk like that."

"I'll talk the way I please," the gaunt woman said. "You don't hear them crying, but I do. C-24 belongs back in the twentieth century and should have been thrown out of the curriculum long ago!"

She took Ronnie's arm and led him away. The truant officer shrugged and returned to the elevator. Ronnie heard the metal doors breathe shut. The corridor was very quiet and he followed the woman as though in a dream. He could hardly feel his arms and legs, and his brain had grown fuzzy.

The gaunt woman turned off into another corridor and then into another. Finally they came to an open door. The woman stopped before it.

"Recognize the old homestead?" she asked bitterly.

But Ronnie hardly heard her. He could barely keep his eyes open. There was a bed in the shelflike cubicle beyond the horizontal door, a strange bed with all sorts of wires and dials and screens and tubes around it. But it was a bed, and for the moment that was all he cared about, and he climbed upon it gratefully. He lay his head back on the pillow and closed his eyes.

"That's a good boy," he heard the woman say just before he dropped off. "And now back to the little red schoolhouse."

THE pillow purred and the screens lit up and the tapes went into action.

"Ronnie!"

Ronnie stirred beneath the covers, fighting the dream. It had been a horrible dream, filled with stork trains and strange people and unfamiliar places. And the worst part of it was, it could be true. Nora had told him many times that some morning, when he awoke, he would be on the stork train, bound for the city and his parents.

He fought harder and harder, kicking at the covers and trying to open his eyes.

"Ronnie," Nora called again. "Hurry up or you'll be late for school!"

His eyes opened then, of their own accord, and instantly he knew that everything was all right. There was the bright morning sunlight streaming into his attic bedroom, and there were the nostalgic branches of the backyard maple gently brushing his window.

"Coming!" He threw back the covers and leaped out of bed and dressed, standing in a warm puddle of sunlight. Then he washed and ran downstairs.

"It"s about time," Nora said sharply when he came into the kitchen. "You're getting lazier and lazier every day!"

Ronnie stared at her. She must be feeling ill, he thought. She had never spoken to him like that before. Then Jim came in. He hadn't shaved and his eyes were bloodshot.

"For Pete's sake," he said, "isn't breakfast ready yet?"

"In a minute, in a minute," Nora snapped back. "I've been trying to get this lazy brat out of bed for the last half hour."

Bewildered, Ronnie sat down at the table. He ate in silence, wondering what could have happened in the brief span of a single night to change Nora and Jim so. Breakfast was pancakes and sausage, his favorite dish, but the pancakes were soggy and the sausage was half raw.

He excused himself after his second pancake and went into the living room and got his books. The living room was untidy and had a moldy smell. When he left the house, Jim and Nora were arguing loudly in the kitchen.

Ronnie frowned. What had happened? He was sure that things hadn't been this way yesterday. Nora had been kind then, Jim soft-spoken and immaculate, and the house neat.

What had changed everything?

HE SHRUGGED. In a moment, he would be in school and see Miss Smith's smiling face and everything would be all right again. He hurried down the bright

street, past the rustic houses, and the laughing children on their way to school. Miss Smith, his heart sang. Beautiful Miss Smith.

The Sun was in her hair when he walked in the door and the little bun at the back of her neck was like a golden pomegranate. Her cheeks were like roses after a morning shower and her voice was a soft summer wind.

"Good morning, Ronnie," she said.

"Good morning, Miss Smith." He walked on clouds to his seat.

The lessons began — arithmetic, spelling, social studies, reading. Ronnie wasn't called upon to recite till reading class, when Miss Smith told him to read aloud from the little red primary reader.

He stood up proudly. The story was about Achilles and Hector. Ronnie got the first sentence off fine. He didn't begin to stumble till the middle of the second. The words seemed to blur and he couldn't make them out. He held the primer closer to his eyes, but still he couldn't read the words. It was as though the page had turned to water and the words were swimming beneath the surface. He tried with all his might to see them, but his voice stumbled worse than ever.

Then he became aware that Miss Smith had walked down the aisle and was standing over him. She was carrying a ruler and her face was strange, sort of pinched and ugly. She snatched the book from his hands and slammed it on the desk. She seized his right hand and flattened it out in her own. The ruler came down on his palm with stinging force. His hand tingled and the pain shot up his arm and went all through him. Miss Smith raised the ruler, brought it down again —

And again and again and again.

Ronnie began to cry.

THE principal had had a long hard day and he didn't feel much like talking to Mr. and Mrs. Meadows. He wanted to go home and take a relaxing bath and then tune in on a good telempathic program and forget his troubles. But it was part of his job to placate frustrated parents, so he couldn't very well turn them away. If he'd known they were going to come 'coptering out to the educational center, he would have put off notifying them till morning, but it was too late to think of that now.

"Send them in," he said wearily into the intercom.

Mr. and Mrs. Meadows were a small, shy couple — production-line workers, according to Ronnie's dossier. The principal had little use for production-line workers, particularly when they spawned — as they so frequently did — emotionally unstable chil-

dren. He was tempted to slant the interrogation lights into their faces, but he thought better of it.

"You were notified that your son was all right," he said disapprovingly, when they had seated themselves. "There was no need for you to come out here."

"We – we were worried, sir," Mr. Meadows said.

"Why were you worried? I told you when you first reported your son missing that he'd try to return to his empathic existence and that we'd pick him up here as soon as he showed up. His type always wants to return, but unfortunately we can't classify our charges prior to placing them on the delivery train, since doing so would require dispelling the empathic illusion at an inopportune time. Dispelling the illusion is the parents' job, anyway, once the child is integrated in reality. Consequently we can't deal with our potential misfits till they've proven themselves to *be* misfits by running away."

"Ronnie isn't a misfit!" Mrs. Meadows protested, her pale eyes flashing briefly. "He's just a highly sensitive child."

"Your son, Mrs. Meadows," the principal said icily, "has a pronounced Oedipus complex. He bestowed the love he ordinarily would have felt for you upon his fictitious teacher. It is one of those deplorable anomalies which we cannot foresee, but which, I assure you, we are capable of correcting, once it reveals itself. The next time your son is reborn and sent to you, I *promise* you he won't run away!"

"The corrective treatment, sir," Mr. Meadows said. "Is it painful?"

"Of course it isn't painful! Not in the sense of objective reality."

HE WAS trying to keep his mounting anger out of his voice, but it was difficult to do so. His right hand had begun to twitch and that made his anger all the worse, for he knew that the twitching meant another spell. And it was all Mr. and Mrs. Meadows' fault!

These production-line imbeciles! These electrical-appliance accumulators! It was not enough to free them from the burden of bringing up their children! Their piddling questions had to be answered, too!

"Look," he said, getting up and walking around the desk, trying to keep his mind off his hand, "this is a civilized educational system. We employ civilized methods. We are going to cure your son of his complex and make it possible for him to come and live with you as a normal red-blooded American boy. To cure him of his complex, all we need to do is to make him hate his

teacher instead of love her. Isn't that simple enough?

"The moment he begins to hate her, the valley will lose its abnormal fascination and he will think of it as normal children think of it – as the halcyon place where he attended elementary school. It will be a pleasant memory in his mind, as it's intended to be, but he won't have any overwhelming urge to return to it."

"But," Mr. Meadows said hesitantly, "won't your interfering with his love for his teacher have some bad effect upon him? I've done a little reading in psychology," he added apologetically, "and I was under the impression that interfering with a child's natural love for its parent – even when that love has been transferred – can leave, well, to put it figuratively, scar tissue."

The principal knew that his face had gone livid. There was a throbbing in his temple, too, and his hand was no longer merely twitching; it was tingling. There was no doubt about it – he was in for a spell, and a bad one.

"SOMETIMES I wonder," he said. "Sometimes I can't *help* but wonder what you people expect of an educational system. We relieve you of your offspring from the day of their birth, enabling both parents to work full time so that they can afford and enjoy all of the luxuries civilized beings are entitled to. We give your offspring the best of care: We employ the most advanced total identification techniques to give them not only an induced elementary education but an emphatic background as well, a background that combines the best elements of *Tom Sawyer*, *Rebecca of Sunnybrook Farm*, and *A Child's Garden of Verses*.

"We employ the most advanced automatic equipment to develop and maintain unconscious oral feeding and to stimulate the growth of healthy tissue. In short, we employ the finest educational incubators available. Call them mechanized extensions of the womb if you will, as some of our detractors insist upon doing, but no matter what you call them, there is no gainsaying the fact that they provide a practical and efficient method of dealing with the plethora of children in the country today, and of preparing those children for home-high school and correspondence-college.

"We perform all of these services for you to the best of our ability and yet you, Mr. Meadows, have the arrogance to express doubt of our competence! Why, you people don't realize how lucky you are! How would you like to be living in the middle of the twentieth century, before the

invention of the educational incubator? How would you like to have to send your son to some rundown firetrap of a public school and have him suffocate all day long in an overcrowded classroom? How would you like *that*, Mr. Meadows?"

"But I only said —" Mr. Meadows began.

The principal ignored him. He was shouting now and both Mr. and Mrs. Meadows had risen to their feet in alarm. "You simply don't appreciate your good fortune! Why, if it weren't for the invention of the educational incubator, you wouldn't be able to send your son to school at all! Imagine a government appropriating enough money to build enough old-style schools and playgrounds and to educate and pay enough teachers to accommodate all the children in the country today! It would cost more than a war! And yet, when a workable substitute is employed, you object, you criticize. You went to the little red schoolhouse yourself, Mr. Meadows. So did I. Tell me, did our methods leave *you* with any scar tissue?"

Mr. Meadows shook his head. "No, sir. But I didn't fall in love with my teacher."

"*Shut up!*" The principal gripped the edge of the desk with his right hand, trying to stop the almost unbearable tingling. Then, with a tremendous effort, he brought his voice back to normal. "Your son will probably be on the next delivery train," he said. "And now, if you will please leave —"

HE FLICKED on the intercom. "Show Mr. and Mrs. Meadows out," he said to his secretary. "And bring me a sedative."

"Yes, sir."

Mr. and Mrs. Meadows seemed glad to go. The principal was glad to see them leave. The tingling in his hand had worked all the way up his arm to his shoulder and it was more than a mere tingling now. It was a rhythmic pain reaching forty years back in time to the little red schoolhouse and beautiful, cruel Miss Smith.

The principal sat down behind his desk and closed his right hand tightly and covered it protectively with his left. But it wasn't any good. The ruler kept rising and falling, anyway, making a sharp *thwack* each time it struck his flattened palm.

When his secretary came in with the sedative, he was trembling like a little child and there were tears in his bleak blue eyes.

—ROBERT F. YOUNG

GALAXY'S

5 Star Shelf

THE OCTOBER COUNTRY by Ray Bradbury. Ballantine Books, Inc., $3.50

IT'S BEEN over two years since the last collection of Bradbury shorts appeared and that's much too long. Here we have nineteen of them, lots of rich reading. I have no way of telling which are from where and when, since I am doing this review from galleys.

I remember having read the zany "Watchful Poker Chip of H. Matisse," the story of the transformation of a brutal bore into a fascinating *bon vivant*. "The Small Assassin," guaranteed to frighten pregnant women out of two full months, is another I recall from a previous anthology, as is "The Crowd," a chiller that kept me a pedestrian on a holiday weekend. These can certainly stand repetition.

The quality of the other stories is somewhat uneven. There are wonderfully evocative mood tales such as "The Lake," "The Wind" and "The Emissary." I don't think there's anyone writing fantasy today who can send me back to my boyhood with such ease

and credibility, and people the world with fresh wonder or horror. Then there's a cutie, Auntie Tildy, who is strictly Anti-Death in "There Was An Old Woman."

"The Next in Line" I found disappointing because of a terrific buildup to a big letdown. "Jack-in-the-box" was routine.

But that's still quite an average.

ANOTHER KIND by Chad Oliver, Ballantine Books, 35c

I haven't been able to figure out just what Oliver means by his title, but that didn't stop me from enjoying most of this collection of his. There are seven stories, two of them new. Six are pure science-fiction; "Transformer," from *Fantasy & Science Fiction,* is straight fantasy — a story of the unhappy and vengeful townspeople of a model railroad belonging to a sadistic young boy.

Several of the other stories are anthropological studies. Two of them, "Rite of Passage" and "Scientific Method," both deal with the initial contact of Man with alien races. The problems differ, however.

In the former story, reminiscent of John Campbell's "Forgetfulness," the difficulties stem from the difference in level of the two civilizations, while the latter deals amusingly with the similarity of approach of two comparably civilized races to the problem.

"Artifact" is an interesting and plausible exposition of the adaptability of the human animal under seemingly impossible conditions and "A Star Above It" is a time travel story that conjectures what might-have-been if the Aztecs had had horses when Cortez began throwing his weight around.

Altogether, a worthwhile 35c worth, with only one poor story in the lot, and that a shortie.

THE LONG TOMORROW by Leigh Brackett. Doubleday & Co., Inc. $2.95

ACCORDING to the jacket, Miss Brackett has a list of radio and screen credits as well as stories in many fields. But my previous knowledge of her work has been limited to *The Starmen, Enchantress of Venus,* etc., space opera from the old school, enjoyable enough, but frankly escapist. Imagine my surprise and delight, then, when from the pen of the wife of Edmond Hamilton and the author of the above works comes this powerful and sensitive opus.

The time is about fifty years or so after The Destruction. The survivors of the holocaust have caused a new amendment to the Constitution to be written, forbidding concentration of population in excess of one thousand, or

more than eight hundred buildings per square mile. Due to their knowledge of handicrafts and their lack of dependence on so-called luxuries, the Mennonites and Amish survived with hardly any difficulty and numbered millions of converts two generations later.

Two Mennonite youths, cousins cursed with imagination and curiosity, disobey their fathers' edicts and attend a religious revival, to see a trader stoned to death because he is supposedly from "Bartorstown," a legendary stronghold of evil pre-Destruction knowledge.

After stealing the dead man's radio, they are torn between an understanding of the need to stay Man's destructive nature by maintaining artificial curbs on dangerous information and the realization that stagnation is death. Their quest for "Bartorstown" and knowledge makes for a story of true stature.

THE WHOOPING CRANE by H. C. Kreisheimer. Pageant Press, $2.50

THIS slender volume somehow became overlooked during this column's transition period. I was under the impression that Groff Conklin had written it up, so that accounts for this review of an item published last June.

According to publicity, Mrs. Kreisheimer is the widowed mother of four sons and two daughters. That makes it painful for me to say that I admire her for her effort, but cannot cheer its result.

The author envisages a not-too-distant future world in which "Mazuria," patently America, is the most powerful nation on Earth. The President's personal secretary, a nice career girl, is very obviously cultivated by a suave, handsome, wealthy airline official whose company has blossomed from a very recent beginning to the largest in the country.

He obtains easy access to the President, but unfortunately begins to fall in love with Miss Secretary, who doesn't suspect that he is a complete dupe, or dope, of the Communists.

The Communists are refreshingly original in their plans to hamstring the various nations of the world, but they would require the unwitting help of a whole army of gullible career girls. I can't believe there are that many.

SECRET OF THE MARTIAN MOONS by Donald A. Wollheim. The John C. Winston Co., $2.00

ANOTHER in the Winston series of juveniles, this continues Wollheim's personal "Secret" series. Does he have science

fiction *True Confessions* in mind?

Mars has been colonized for a century without any progress being made toward discovering the manner of entrance into the sealed closets, tunnels and caverns of the native Martians. Seems as if they left behind them perfect cities that the Earth colonists have been using, somewhat like an aborigine tenting in a split-level, but no way has been found to power any of the obviously superior appliances.

Young Nelson Parr, born on Mars, is returning home after studying on Earth. Someone breaks into his room and leaves a weird three-fingered, feathery handprint on his mirror. Why should anyone do this? Well, after a hundred years, Earth is abandoning Mars, ostensibly because of logistical reasons, but actually because of pressure from higher up. Someone or something wants Earthmen off Mars. The young reader will be surprised to learn who and why.

Wollheim has some interesting theories on the origin of Deimos and Phobos and also of the human species. There's a slackening of ingenuity midway through, but Wollheim can be forgiven because he exerted himself so imaginatively fore and aft.

"SOUND BARRIER" by Neville Duke and Edward Lanchbery. Philosophical Library, $4.75

THE title is in quotes since the authors of this text explain that the speed of sound, contrary to popular belief, does not constitute an actual barrier through which a pilot has to crash his plane. This is the least of the information that the authors impart. I had no difficulty following their explanations, although I wouldn't go so far as to say that the book is written in a breezy style.

The contents include a comprehensive section on various wing designs; the physiological effects of high-speed, high-altitude flying; piston, jet, turbo-jet and rocket engines, and an interesting section on theoretical and practical design.

Liberally spotted throughout the book as well are very sharp photographs of jets and rockets, some of which seem straight from the drawing boards of H. Wesso and Elliot Dold of the mid-thirties, the days of mechanical science fiction.

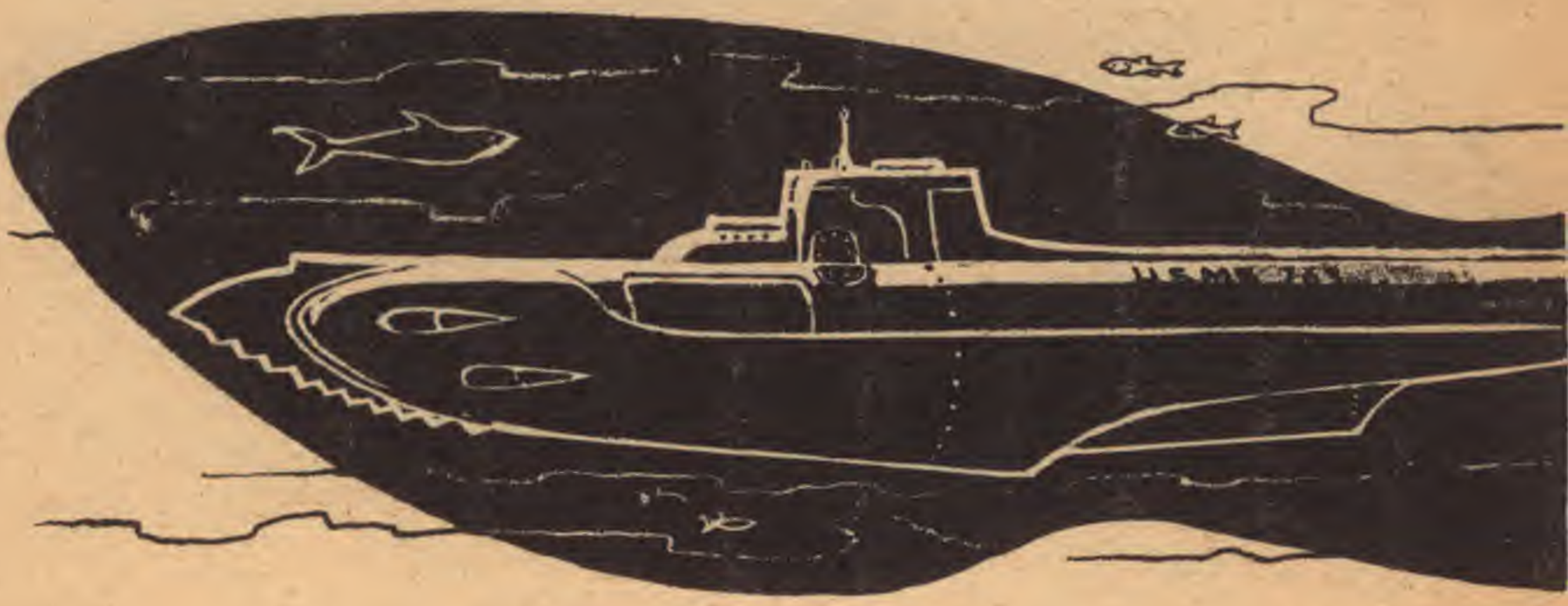
The authors—British, you know—apologize to their readers for having used so many airplanes of American design. Claim we have a tendency to blab more about our secret aircraft. Golly, *do* we?

—FLOYD C. GALE

SLAVE SHIP

By FREDERIK POHL

Some assignment for a man who wanted to help win the war that wasn't a war! What did cows have to do with the Cow-dye enemy?



Illustrated by EMSH

Part 1 of a 3-Part Serial

WE HAD had a guided-missile scare on the flight down from Montauk, but it turned out to be one of our own. It came screaming hungrily in at us, clearly visible through the windows of the transport plane, and you could hear forty people taking a deep breath at once. But its IFF radar recognized us at the last moment. It veered off, spun around and nosed away, hunting a Caodai — not that there was much chance

of finding any over the American coast there. Outside of that, the flight to Boca Raton was most relaxing.

I helped the girl I had been talking to down from the jet transport. She was only a rating, but very attractive. She thanked me and offered me a lift.

"Negative, Madam," I said. "I'll be met."

She extended her hand and, after a second, I shook it. "It's been fun, Lieutenant. Perhaps we'll meet again, if you're going to be stationed in the area."

I said, "Of course." It was ambiguous, but I meant to be. Perhaps it would not have mattered for me to mention how long I expected to be in the area. But perhaps it would.

In any case, there was the fact of her being an enlisted woman.

And there was also my wife.

There wasn't any helicopter waiting. I took my orders out and phoned the number they gave. A voice at the other end guessed — rather offhandedly, I thought — that they would get someone down to meet me pretty soon, and for a moment I considered taking his name and rank. But I hung up instead. I claimed my baggage and went into the coffee shop at the airport.

WHILE the corporal behind the counter was bringing my coffee, I noticed a coin-in-the-slot typewriter standing idle. So I arranged with the Wac T/5 at the stationery stand for paper and three sheets of carbon and, when I had finished the coffee, got busy with my compliance letter. I typed:

PROJECT MAKO
(Adv. Res. Unit 8-86)
6th June, File No.
X-SaT-32880515

From: Lieutenant (j.g.) Logan Warren MOELLER (SaT) D. USN-S (R).
To: Officer in Charge, Project MAKO (Adv. Res. Unit 8-86).
Via: Direct.
Subject: Compliance with orders. Reporting for duty.
Reference: (a) COMINCH - B63 - Pers, X-SaT, dated 3d June.

1. In compliance with orders, I am reporting for duty.
(s) Logan Warren Moeller.

It always pays to get a little bit ahead in the Navy, I have found. I returned the sheets of carbon, clipped one copy of the compliance letter into my personal file folder and folded the other three into an envelope — on which, with some pleasure, I lettered the words *crash priority*.

Then I sat back and waited for what might happen. And still no helicopter.

"You'll have to move, Lieutenant," said a stocky marine with a Shore Patrol armband. "Prisoners coming through."

I got out of the way. A transport had landed and a file of short, wiry-looking Caodais was coming down the ramp, hands clasped atop their heads, armed SP guards covering them. I looked at them curiously. It was the first time I had seen the enemy in the flesh and they didn't look much like the posters in the heads at training camp. These were a little too dark, I thought, to be from Indochina; perhaps from the satellite states in the Near East.

"How'd you like to come up against those babies in a fight?" asked an Air Force captain standing by my side.

"I often have," I said, and went back to the telephone booth. I felt a little ashamed of myself for snubbing him. Still, it was true enough — we had our share of engagements aboard *Spruance*

and these Stateside heroes give me a pain.

Project Mako's operations room was surprised. "You mean they didn't pick you up, Lieutenant?" a man's voice said. "Hold on."

I held on, and after a while the voice returned. "Sorry, Lieutenant," it said breathlessly. "The pilot fouled up. Give him fifteen minutes."

THE WAITING ROOM was jammed with prisoners now, maybe a hundred of them. They were a quiet lot, for prisoners. There was roughly one tommy-gun-carrying SP for every three unarmed Caodais, but it still gave me a creepy feeling to be so close to them. Even in action, the nearest I had ever been to a living Caodai aboard *Spruance* was a thousand yards of hundred-fathom water.

The Air Force captain gave me an injured look from where he was gaping at the Caodais, so I walked in the other direction. It was the first time I had ever been in Florida, and from the observation deck of the airport, I could see a skyline of palm trees and hibiscus, just as the travel booklets had promised — back in the days when there were travel booklets. Those were pretty remote days, I told myself, only three or four years, but I had been a civilian then, and so was my wife. The whole country was civilian then, barring eight or ten million cadres. It was hard to remember —

There was confusion and shouting behind me. "Grab him! No, stand back, you idiots! Give him a chance to breathe! He's hurt!"

I turned and reached for the sidearm that I wasn't carrying — it was pure reflex, because my first thought was that the prisoners were making a break.

But it wasn't the prisoners. It was my friend from the wild blue yonder and he was staggering and screaming, clutching his side. A couple of Navy men were trying to hold him, but he didn't even know they were there.

I started to run toward him, me and everybody else in sight. But it was a little late. He yelled something hoarse and loud, and fell over against the yeoman by his side, and you had only to look at him slumping to the floor to know that he was dead.

I stood there for a moment, staring at him. He had a dreamer's face, a kid not more than twenty or so, but he would never reach twenty-one.

In a moment, the field medics were there and they carried him into an office, and everybody in sight asked the man next to him: "What happened?"

The loudest of the theories was that one of the Caodais had

smuggled a gun in and potshot the captain, but the shore patrol was positive that was impossible. Impossible, first, that they could have had guns; even more impossible that any of them could have leaned past the guards at the waiting room doors and fired without the guard noticing it.

The only people who might have had any information — the Navy yeoman who had been beside him and the medical officer from the field — were closeted inside the office, and there was an S.P. guard outside the closed office door who obviously didn't know anything and wouldn't tell you if he did.

It was a pretty exciting introduction to Florida. It got even more exciting, in a way, a few moments later. There was a screeching siren outside and three Army officers wearing the Intelligence insigne came leaping up the steps two at a time. They disappeared into the closed office and stayed there.

That disposed of the faint possibility that it had been a natural death. Peculiar, I thought, that they should have got Intelligence there in such a hurry.

But I didn't know quite how peculiar it was.

THE HELICOPTER from Project Mako finally picked me up. The pilot, a short old CPO, was only moderately apologetic. "I forgot," he said cheerfully. "Say, what's all the excitement?"

I told him, overlooking the fact that he was in sloppy uniform and seemed a little extra careful not to breathe on me.

"Killed him, hey?" he exclaimed, impressed. "You don't say!"

But the 'copter looked shipshape enough, in its freshly painted Navy markings, and the chief seemed to know what he was doing as he took off.

We aimed at one of the towering cumulo-nimbus down the shore, a mountain of a cloud — boiling puffs of whipped cream piled over one another, the frayed thunderhead anvil teetering at the top.

The CPO pointed at it with his chin.

"Gonna have a storm, Lieutenant. We get one every afternoon about this time. But don't worry, Charlie'll beat it in."

"Good," I said crisply.

"Sure we will," he told me reassuringly. He took one hand off the steering column to scratch and peered at me, leaning slightly forward and cocking his head. "Say, Lieutenant," he said amiably, "do you ever go to the races?"

"I haven't had much opportunity lately. I've just come from a forward area." I was almost

certain the man had been drinking.

"Tsk, too bad." He was still leaning forward, still staring at me; his eyes were blinking in a slow, regular cycle. Then he scratched again and took a negligent look at his instruments and the sky. "Good track at Boca. Only greyhounds, of course. You have to go clear to Miami if you want horses. I did that last liberty and I won a hundred and eighty dollars."

"Good for you," I said.

He shrugged modestly. "Oh, I don't know. One of the other farmhands cleaned up a thousand right here in Boca on the dogs. He hit the double twice, betting quinellas."

I looked at him curiously. "Farmhands?" I repeated. Of course, the Navy knew what it was doing, and if it chose to pull me off a *Nimitz*-class cruiser in Caodai waters to send me to Florida, that was COMINCH's business, not mine.

He said, "Huh?"

"Did you say you were a farmhand?"

He guffawed. "Naw, Lieutenant, I'm a toe-dancer. Sure I'm a farmhand — what else would I be doing here?"

That time I caught a whiff of his breath. I had been pretty sure he had been either drinking or popping. The breath told me which; you could have put ice cubes in it and served it at a cocktail party.

IT WAS unfortunate that the first rating I had encountered from Mako was drunk on duty, or the next thing to it. One of the most difficult problems a junior officer faces is keeping to the right side of the thin borderline between an easy relationship with the enlisted men on one hand, and outright Asiatic lack of discipline on the other.

I didn't want to start out on my new base by putting a man on report. I let it go, with some doubt in my mind. But the new base was beginning to sound strange — farmhands! — and it seemed to me that I'd best get my bearings.

Anyway, drunk or sober, he was flying the helicopter well enough.

And he seemed a friendly type. He picked a battered pair of glasses off the floor and handed them to me. "Prison camp." He pointed below. "Take a look if you want to, Lieutenant."

They were good glasses and we were only a few hundred feet up. I could see, very clearly, the scattered compounds inside the barbed wire and the sentry towers all around. There seemed to be something going on inside the compound, a procession of some

kind, with paper dragons and enormous paper figures. I spotted a dragon with a man's head, a paper Oriental temple, easily eight feet high, and all sorts of Mardi Gras trimmings.

"What's the celebration?" I asked.

The chief took a quick look through the glasses and returned them to me. "Ah, who knows?" he said genially. "They go on like that a lot. Did you see old Victor Hugo?"

I stared. "Victor who?"

"Hugo. The paper dragon there, with Victor Hugo's head on it," he explained. "See it? Victor Hugo's one of their saints, like. Funny, isn't it, Lieutenant? The guards give them the cardboard to make those things. It keeps the Cow-dyes out of trouble, I guess."

Victor Hugo! I stared through the glasses until the camp was out of sight. There they were — the enemy — the members of the religious cult that had stormed out of old Vietnam and swept over most of three continents —

And appeared to be about ready to take on a couple more.

THE CPO leaned back and stared at the clouds. He was motionless for so long that I began to wonder if he was asleep. But at some unremarked sign below, he heeled the stick over and said:

"Here's your new home, Lieutenant."

I looked over the sill of the window. A cluster of buildings and what seemed to be pasture lands; groves of palm trees and more pasture.

"It looks like a dairy farm," I said.

"Right on the button, Lieutenant," he agred. But he winked. "Kind of a peculiar dairy farm, though. You'll find out."

He cut the switch at the edge of a plowed field. There was no suggestion of securing the machine. We jumped out and left it, bags and all.

"Come on, Lieutenant," he said. "I think the commander's in the milkshed."

Milkshed! But that's what it was; I could see for myself. The chief led that way toward a low, open-sided building. My feet were ankle-deep in black soil.

Three or four men in coveralls were putting a herd of cattle through a milking stall. My guide went up and spoke to one of them, a tall, rawboned redhead in ripped, soiled coveralls, while I looked around for the commander.

The redhead said, "Thanks, Charlie. Take his bags to the BOQ."

He came toward me, mopping

his face with a bandanna, and right at that point I got a considerable setback.

This hayseed cowhand, whose lantern jaw was a clear week behind a shave, wore pinned to the lapel of his dirty coveralls the gold leaf of a lieutenant commander in the U.N. Navy.

"Welcome aboard, Moeller," he said, sticking out his hand. "I'm Commander Lineback."

Well, I did the best I could, lacking an O.O.D. to report to, lacking colors to salute, lacking everything that made up the colorful ritual of Navy reporting for duty.

I asked myself a lot of questions in that milkshed while I was waiting at Commander Lineback's request for him to finish what he was doing. When finally he was done and he walked with me to his headquarters office, he said what the CPO had said on the 'copter: "This used to be a dairy farm, Moeller, and to a considerable extent it still is. But you'll find it's an unusual one."

And he went on to explain the operation of the dairy farm — how they planted forage for the cattle between rows of a cash crop, told the cattle what to eat and what to leave alone, how the cattle were far from bright and often had to be told a number of times before they understood.

But, though I listened carefully, he never said what was unusual about that.

II

YOU HAVE to remember that I was fresh from the big-ship Navy. *Spruance* was a twelve-thousand-tonner, a heavy undersea cruiser with a complement of nine hundred officers and ratings, and you could shave in your reflection from its brightwork. Project Mako was . . . a dairy farm. And I was an officer of the line.

Take the way Lineback had said: "Glad to have you aboard." There wasn't anything wrong with the words, but he smiled and it was the wrong kind of smile, as though he were kidding the Navy.

In three years, I had learned that you do not — repeat: *do not* — kid the Navy. It isn't a matter of flag-waving patriotism or anything like that; it's just good sense. The Navy was doing a man-sized job with the Caodais. If it hadn't been for the Navy, nothing in the world would have stopped them from opening up a beachhead somewhere along the coast of Guatemala, say, or Ecuador.

They were used to jungles. Like the Japanese at Singapore, where the defending guns were firmly emplaced to face the only "possible" attack, from the sea —

and the Japs had struck from the blind land side and won — once the Cow-dyes got a toehold anywhere in the Americas, they would plow their way right up and down the hemisphere. The jungle wouldn't stop them, and by then it would be a little late for the fusion bombs.

But the Navy stopped them, by doing things the Navy way. And you don't kid an outfit that's doing the job for you.

Commander Lineback shoved me off on his exec, a full lieutenant named Kedrick. He was a pot-bellied little man, obviously over-age in grade, but at least he seemed pretty Navy — in a harried, fussbudget sort of way. He logged in my arrival, complimented me on my arrival, and listened to my mild complaint about the helicopter pilot.

"Forgot to pick you up, eh? And drinking on duty, eh?" He sighed. "Well, Moeller, good men are hard to find." And he showed me to my quarters.

The B.O.Q. at Project Mako was what once had been a third-rate beachfront vacation hotel. The walls were paper and the rooms were made for midgets, but the plumbing was crystal and chrome. There was a magnificent view of the ocean.

I was admiring it when Kedrick said briskly: "Draw the curtains, man. It's getting dark!"

I LOOKED at him incredulously. "Blackout?" I asked. With radar and infravision, visible light made no particular difference to hostile vessels.

"Blackout," he said firmly. "Don't ask me why, but it's orders, something to do with the Glotch, I guess. Maybe they think the Caodais are sending it over by frogman — *they* need regular light."

"Excuse me, but what is the Glotch?"

"Good Lord, man, how would I know? All I know is, people drop down dead. They say it's a Caodai secret weapon and they call it the Glotch — heaven knows why. Is this the first you've heard of it?'

I hesitated. There hadn't been anything like that on *Spruance*, not even scuttlebutt. But it had a familiar sound. I told him about the Air Force captain at the airport.

He nodded. "Sounds like it. Now you know as much as anybody else." He was looking tense, even for him. "We haven't had it here — Mako's a small station. But it's happened right in Boca before. One of the guards at the stockade, a couple of weeks ago, and a transient before that." He shrugged. "Not my problem," he said, dismissing it.

He turned and paused in the doorway of my quarters, looking

like nothing so much as a bellboy waiting for his tip.

He said: "The commander won't have time to talk to you about your duties here for a while, Moeller. Matter of fact, I won't, either. We're expecting a new draft of officers and you'll all get briefed at once — as much as you'll *get* briefed, that is. Until then, you'll have to cool your heels for a while."

"That's all right, sir. It'll give me a chance to look around the station."

"The devil it will, Moeller!" he said sharply. "Everything on the project is classified Top Secret and Need-to-Know. You'll get the word, when the time comes, from the commander, not before." He scowled at me as though I were a suspected pacifist. "Meanwhile, you're restricted to the B.O.Q., the wardroom and the headquarters area. And make sure you stay there."

ORDERS were orders, so I stayed there. With nothing to do.

Back on the cruiser, there had been plenty to do. I was posted to *Spruance* as a computer officer, since I'd majored in cybernetics; but as long as I was in a forward area, I wanted to fight. They were glad to accommodate me. There is almost always a place for a man who wants to fight in a war, even a cold one.

I don't know why they called it a cold war, anyhow—it seemed hot enough on *Spruance*. While I was aboard, we had three confirmed Caodai kills — two merchantmen and a little surface corvette.

Of course, they weren't officially Caodais; officially, they were "unidentified vessels in interdicted area." But it was funny how the Caodai patrols never sank any "unidentified" Asian or African shipping, any more than the U.N. fleet bothered the American. I suppose that if either side had intercepted a European ship, it would have been quite a problem for the commander — if there had been any European ships for anybody to intercept.

They called it a cold war. But fourteen million of our men were hotting it up over in Europe, against twenty or so million of theirs. Our land casualties were comparatively low — in the low millions, that is.

And no state of war.

There was just this one little thing: Our troops were killing theirs all the way from the Pyrenees to the White Sea in local "police actions."

Well, it really wasn't a war, not in the old-fashioned sense. For one thing, it wasn't country against country, the way it used to be when things were simple.

It was confederation, the United Nations, against a Church Militant, the Caodais. They were a religion, not a nation; they happened to be a religion with troops and battlewagons and fusion bombs, but a religion all the same. And how can you declare war against a religion?

Our ambassadors still maintained an uneasy residence in Nguyen-Yat-Hugo's court. Every day or so, the ambassador would show up at Yat's giant Cambodian temple with a fresh note of protest over some fresh killing and the answer was always:

"Sorry, but you had better take that to the Iranian (or Pakistani or Saudi-Arabian or Vietnamese) authorities, not us." And diplomatic relations went limpingly on. And so did a certain amount of trade, so you could tell that it wasn't really a *war*.

But the best way to tell was that the fusion bombs stayed nicely tucked into their satellite launchers, theirs and ours. Silly? Not so very silly, no—the bomb was all too able to end the "war" overnight. By ending everything.

So everybody played the same game, we and the Caodais, because everybody had the same powerful desire to keep the fusion bombs right where they were. The rules were fairly simple: No landings in force on the enemy continents (but islands were fair game). No attacks on enemy shipping in "open" waters (but sink anyone you like in interdicted areas — and interdict any waters that suit your fancy). But it was never called war.

For some people, it was a pretty high-stakes game. Not so much for me, you understand, though *Spruance* had been in a forward area — we'd never come up against anything as big as we were. But it was a mighty rough police operation for the ones who saw water hammer in when the depth bomb connected, the ones who took a hunk of gelignite in the navel, the ones who lost a wing at thirty thousand feet and found the escape hatch buckled.

But not for me. Especially not at Project Mako.

THE NEXT morning, I waited hopefully at breakfast for someone to tell me to report for briefing.

Nobody did.

It was raining and everybody else seemed to have work to do, so I picked some books out of the shelf in the wardroom—Mahan and Jellicoe—and talked the mess boy out of some coffee. It never hurts to refresh yourself on classical tactics.

Commander Lineback came slouching through the wardroom just before lunch while I was

reading *The Grand Fleet.* He gave me a strange look.

"Glad to see you're improving your mind," he said. "Everything going all right?"

"Well, yes, sir," I said, "except —"

"Glad to hear it," he said, and was gone.

I was getting tired of being treated like an interloper.

I told myself that COMINCH didn't think I was an interloper; COMINCH, from the majesty of his five stars, had picked me out of *Spruance* and crash-prioritied me to this hole in the Florida swamp. Maybe Lieutenant-Commander Lineback didn't have time to bother with me, but I was a skilled and talented naval officer and not constitutionally fitted for being a bum.

I had thirty-five sweeps to my own credit — ranging up to a hundred miles from *Spruance* in my little battery-powered scout torp — and though I didn't have any kills, I had an official assist on the corvette. I'd flushed it right into *Spruance's* jaws.

After lunch, everybody disappeared again and I was tired of the wardroom. I put on my oilskins and wandered around the headquarters area, watching the big, warm drops smash the bougainville blooms. It was kind of pretty, Florida was; I thought about maybe some day, my wife and I, coming here for a second honeymoon . . .

If I ever saw her again.

Maybe, I thought to myself urgently, walking a little faster, maybe if I put it to the commander right, he'd let me go into town and I could have a few drinks, even pop a couple.

But it wouldn't do any good. I'd tried drinking and it didn't let me forget that my wife was a long, long way away. I kicked at the watery hibiscus morosely. It's tough enough to go to war and leave the girls behind you.

But what about when they don't stay behind you?

"Moo-oo."

I looked up, startled.

I HAD been thinking, not watching where I was going. I had wandered along a shell-bordered walk, past a truck garden the enlisted men kept on the side, into a grove of coconut palms. And on the other side of the palms was a shack, and in the shack a cow was monotonously lowing.

The question was: was I still in the headquarters area?

I looked around me. Nobody had told me exactly what the headquarters area was, I reminded myself defensively. It wasn't my fault if I was outside it.

The shack had one curious feature, considering that a cow was

lowing inside it — it had only a regular human-sized door. There were windows, but I couldn't see through them. I could hear all right, though.

That cow sounded unhappy — sick, perhaps, or wanting to be milked, though it was only the middle of the afternoon. "Mooo-oo," it went, and then, in a lower key with a sort of grunt at the end: "Moo-oo-oo!" Then the first one again, and the second, in an alternation too regular to be believed.

Well, what could be more natural than to hear cattle lowing on a dairy farm? But the regularity bothered me and so did the door. I walked closer.

And the door opened in my face.

Lieutenant Kedrick was standing there, turned away, talking to a hawk-faced j.g. whom I had seen at lunch. The j.g. was gesturing with a spool of recording tape; he saw me over Kedrick's shoulder and his expression changed.

Kedrick turned around.

"Moeller," he said.

I cleared my throat. "Aye-aye, sir."

He stepped closer to me angrily. Rain was splattering off his slicker, but he hardly noticed. He raged: "Curse it, Moeller, you were restricted to the area! Report to my quarters right now!"

"Sir, I —"

"On the double!"

I saluted, said crisply: "Aye-aye, sir!" I left.

TWO HOURS later, Kedrick showed up in his two-room suite and he wasn't in a very good frame of mind. I leaped to attention as he came dripping in the door.

He said furiously, "At ease, Moeller!" He peeled off his slicker and threw it on the tiled floor of his private bath. "Moeller," he said, taking his wet shoes off, "you were restricted to headquarters area. I don't make the rules on this base; that wasn't *my* idea. Get it through your head, Moeller! This place is hot!"

I said, "Yes, sir. I —"

"The hottest installation in the Navy," he went on. "Now ask me why the hottest installation in the Navy has fifteen hundred PWs in a stockade on its doorstep. I don't know. Ask me how I'm supposed to keep security when they send me idiots from the forward areas, with no briefing and no brains. I don't know."

He kicked the second shoe into a corner and sat down. "First it's activating this place," he continued, not even looking at me now, "trying to make a shipshape installation out of a *dairy* farm, for God's sake. Then it's the Glotch. Then it's the ratings going Asia-

tic. What next?"

"Sir, I was only —"

"Forget it," he said morosely. "I talked to Commander Lineback about you and those are his orders. Forget it."

"Forget it, sir?" I repeated after a moment.

"Commander Lineback," he said heavily, "has been in the Navy exactly seven months. He tells me, 'Moeller's new here. Give him a chance.' He says, 'What's the difference? Let him roam around the base all he wants. After he sees everything there is to see, I'll brief him.' He says, 'When it comes right down to that, there's nothing to see, anyway — not until Moeller and the rest of them *make* something to see.' That's what Commander Lineback says. Commander Lineback thinks COMSOLANT exaggerates the need for security at the present stage of this installation's development."

"He thinks COMSOLANT exaggerates it, sir?" I asked, shocked.

"He's only been in the Navy seven months," repeated Lieutenant Kedrick, staring suicidally at the wall.

III

"OSWIAK, sir, reporting to the lieutenant to give him the de-luxe tour, like Lieutenant Kedrick ordered," the man said.

"Carry on," I said automatically, rubbing the sleep out of my eyes.

"Oh, I wasn't at attention, Lieutenant," he said cheerfully.

I looked at him more carefully. It was Charlie, the helicopter pilot. "Give me five minutes," I said. It was enough for a shower and dressing; according to my watch, I had already missed breakfast.

I suppose that everyone is familiar with dairy farms, and that's about all there was to see on Project Mako. I'd already seen enough to last me a lifetime. I had spent part of my teens doing summer work in upstate New York, where you can't throw a rock between Albany and Syracuse without hitting somebody's Holstein.

Of course, Southern cattle aren't Holsteins, but they all operate about the same. Those at Project Mako (Oswiak informed me it had been the Volusia County Dairymen's Co-op Center) were divided in two herds, one purebred Santa Gertrudis, the other Brahman-Friesian crossbreds.

But the husbandry was no different. The milksheds were the same; the forage was the same; the cattle themselves lowed and ate and were milked the same.

Project Mako's number two

crop happened to be hybrid teosinte, the Mexican bush corn. Back in Cayuga County, we mostly used potatoes for the secondary crop, but it didn't matter: You plant your potatoes, or corn, or anything you like in rows; you show the cattle your specimens of the money crop in its various stages of growth; and you turn them loose. The cattle eat the weeds and leave the crop. They fertilize the pasture and the "weeds" make milk for you.

They tell me the old folks used to do the same thing with geese and cotton. But it was just luck that geese didn't like the taste of cotton stalks. With cows, by speaking their language, you could *tell* them what to eat and what to leave alone.

"They aren't really weeds, Lieutenant," the chief said. "They're hay, like."

"Sure," I said. I knew more about it than he did. Naturally you don't want your cattle eating real weeds; best practice in Cayuga County was to sow a cover crop of one of the ladino grasses or hybrid clover — something that will stand up under heavy grazing. Naturally you don't want it to look too much like your money crop, either — cows aren't bright.

"So this is Project Mako," I said.

"All of it," said Oswiak, grinning. "Ain't it a beaut, Lieutenant?"

AFTER TALKING the steward out of some coffee, I rested my feet in the wardroom.

Oswiak was right: Project Mako was a beaut — that is, it was a beautiful dairy farm.

But what was top secret about it? There was, it was true, one largish building that was next to empty, and all Oswiak knew about it was that equipment was due to arrive. There were two or three smaller buildings — the one where Lieutenant Kedrick had caught me out of bounds, for instance — that seemed a little ambiguous on a dairy farm. One was full of records of animal noises; another held cages — empty ones, the kind that you might keep white rats or monkeys in, if you were going to run a research laboratory. Oswiak didn't know what they were for, either, except that they had something to do with animals.

I had already figured that out.

I stretched out and read a newspaper.

The hawk-faced j.g. who had been with Kedrick came in and nodded. His name, I had found, was Hoglund. I offered him the paper and picked up a magazine; it was getting close to lunch time.

"Look at that!" exclaimed Hoglund, his hawk face wrathful.

"The lousy, stinking rats!"

I looked at the front page he was holding. His thumb was resting on a piece headed: *UMP July Call Put at 800,000; Manicurists, Bakers, Morticians Face Early Draft.*

I said: "They'll get the whole country mobilized before long. I hear —"

"I'm not talking about the draft," he corrected severely. "They got Winkler.'-

I'd read the story. It said: "General Sir Allardis Winkler, Military Attache of the United Kingdom Government in Exile, died at his home in Takoma Park, Maryland, last night of undetermined causes. General Winkler's body was discovered by a member of his family when —"

I looked at Hoglund wonderingly. "Friend of yours?"

"Man, don't you know what that is? That's the *Glotch!* They got Winkler, just the way they got Senator Irvine last spring. Who's next? That's what I want to know. Those damn Cow-dyes can pick us off, one by one, and we don't know dirt from dandruff how to stop them."

I SAID: "Lieutenant, it doesn't say anything here about the — ah — Glotch."

"Sure it doesn't. Where've you been, man? Can't you tell when they're covering something up?"

"I've been out of touch."

Hoglund snapped his fingers. "You're the one from sea duty. You mean they didn't have the Glotch there?"

"Not that I ever heard of."

"You were lucky," he said. "I bet if there's been one, there's been fifty cases in the paper in the last six months. General Winkler dies of undetermined causes. Senator Irvine found dead in bed. District Mobilization Director Grossinger dead of stroke. 'Stroke,' they say — sure, the Cow-dyes strike them dead. And not just big shots, but all kinds of people. Why —"

"I saw an Air Force captain —"

"Why, I bet there's been *thousands* killed that we don't even hear about." He shook his head. "That guard at the stockade a while back, he never got in the papers. They —"

"This Air Force captain probably —"

"They don't tell us about it. You know why? Because they don't know what to do. The big brass is scared witless. They're trying blackouts, they're trying this, they're trying that. But they aren't getting anywhere, believe me."

He might have gone on forever, but the stewards appeared. "Chow, gentlemen."

I had spent three hours minutely examining a top secret

Navy installation and I had listened to an impassioned harangue on an enemy secret weapon.

But I couldn't honestly say that I'd learned a single thing about either one.

I found Commander Lineback in the milkshed after lunch and I said just about that to him.

He said: "You'll get briefed, Moeller. I told you. We're waiting for the rest of your draft to arrive."

"Can I ask when that will be, sir?"

HE SIGHED. "Ask the Navy Department. The word is it might be a week."

"Commander Lineback, can't you just give me an idea of what all this is about? You did let me look over the whole project, you know."

"And you saw everything there is to see."

"But it's just a farm!"

"Right," he agreed. "Absolutely right." One of the ratings saluted and asked if it was okay to start bringing the cows in and Lineback nodded. He said, talking to me but keeping his eyes on the cattle being run in to the milking stalls: "Maybe you know as much as I do already, Moeller. Seven months ago, I was assistant professor of agronomy at Eau Claire. They called me up. They picked me right out of a classroom and

gave me a two-week indoctrination course and sent me down here to activate this station. Did they tell me why?"

"I don't know, sir, but surely you have some idea —"

"Oh, maybe I have," he admitted. "Maybe a couple of the other officers do, too. But until I'm told to pass on my ideas to you, I'll keep them inside my own head where they belong. I'll tell you this much — it has somethings or other to do with animals."

"I figured that out for myself, sir," I said bitterly, just as I had to Oswiak.

"And we've got a lot of equipment coming — including some kind of electronic gizmo for you."

"That's nice, sir. I get a millibank computer to help you figure out the price of butter."

He looked at me thoughtfully, but he didn't say anything for a moment. Then: "Look," he said, "I don't want to say anything against you, boy, but you're getting to be a pain in the neck. We've got some stuff to be picked up in Miami at COMSOLANT in three days. Want to go down and pick it up?"

I GRUMBLED, "Sure, that's what I need, a vacation from doing nothing."

"Yes or no, Moeller!" All of a sudden, he was a superior officer again.

"Why — why, yes, sir." I automatically snapped to.

He nodded. "Kedrick'll fix up your orders." He grinned. "You can leave this afternoon. They tell me Miami's quite a place."

I said, "Sir, I — I'm sorry if I was out of line."

"Forget it."

"It's just that — well, *Spruance* was more my kind of war." He seemed like a human being. I

said hesitantly: "You see, sir, as long as I was in Caodai waters, there was always the chance of bagging a commando raid. And I have a special reason for wanting to go to Zanzibar."

He looked at me alertly. "Zanzibar? Nothing much there."

"Depends on how you look at it, sir."

I could see the moment when his expression changed as he remembered. It was in my personnel file, after all. "Oh. Your wife."

"That's right, sir. She's been interned in the big camp on Zanzibar for two years."

He patted the brown neck of a cow absently. "Tough. Well, you didn't have much chance of making it."

"Not much, sir. Now it's not any."

He flicked the cow on the rump and she bumped stiffly over to the milking stall. A seaman in dungarees and tee-shirt hitched the plastic cups to her teats and, through yards of transparent tubing, the milk pulsed to the settling tank.

"Well," Commmander Lineback said, "have a nice time in Miami. What did you say your wife's name was?"

"Thank you, sir."

He looked at me curiously. "Moeller?" he said, like a man who suspects his phone connection has gone dead.

"Yes, sir?"

"Nothing. I just asked you what your wife's name was."

I stood at attention.

"Elsie, sir." I saluted and left, quickly.

IV

I SIGNED the register and presented my orders.

The room clerk said: "Glad to have you here, Lieutenant; hope you'll have a good time. Front!" He clapped his hands sharply.

I mentioned: "I'm here on official busines." He smiled knowingly.

The corporal who came over to pick up my Val-Pak must have been the bell captain. He waited embarrassingly. In spite of Navy regulations regarding cash gratuities to military personnel, I gave him a quarter. He didn't give it back. Maybe the Army regulations were different.

My room was thirty stories up, overlooking the ocean and the Gulf Stream. You could almost see the Stream — in fact, I'm not sure but what I did see it, a paler blue in the blue-violet of the inshore waters. You could see quite a lot from my window. You could even see the sooty high-water mark along the white beaches, where the oil from sneak-raid torpedoed tankers had washed ashore.

I changed into my dress greens, left my room key with the tech sergeant at the desk and headed for the headquarters of Commander, South Atlantic Theater.

SPs in white leggings opened the door of my cab and saluted smartly. It was a hotel that made mine look like an outhouse; over its hibiscus-framed front doorway was the stainless-steel legend: COMSOLANT. The word was repeated on the white life-preservers that hung from the railings of the walks, on the caps of the elevator operators and the arm-patches of the SPs, and was even picked out in pastel tile on the deck around the swimming pool where I had been instructed to report.

A petty officer read my orders skeptically, scratched his head and sent one of the SPs to the end of the pool. A hairy-bodied man in green trunks came back with the SP, toweling himself furiously. "Can't I have even a lunch break, Farragut?" he demanded. "What the devil is it now?"

He read the orders and looked at me irritatedly. "Mako, Mako," he repeated. "What's Mako?"

I looked quickly at the petty officer. "Classified, sir," I whispered.

He barked, "What the devil isn't?" But he picked up a hush-phone from the petty officer's desk and spoke into it for a moment.

HE HUNG up and said: "You're early, Lieutenant. Your commander was distinctly told that the issue wouldn't be ready until Thursday."

"Sorry, sir," I apologized.

"Oh, not your fault." He gave me back my orders — limp and blurry where he'd dripped on them. "Come back Thursday."

"What shall I do until then, sir?"

He looked at me unbelievingly. "This is *Miami*. Just be back here Thursday, that's all." And he dived wallowingly into the pool.

So there I was, on my own in Miami.

It had been, I counted, seventeen months since I had walked the streets of an American city with time to kill.

On *Spruance*, you didn't take your leave, because where were you going to go? The whole thing about a nuclear-power submarine cruiser, after all, is that it doesn't need to get back to home base very often. *Spruance* had been cruising for a year when I joined her, was still cruising now.

There had been a couple of times when, for a day or so, we had touched at Bordeaux or Cork on some strategic errand, and some of us got to stretch our legs ashore. But have you ever

spent a festive evening in a heap of rubble?

Neither has anyone else.

Miami Beach, though, was festive enough to make up for all. My hotel was bright and shiny, even though in the rundown district around Lincoln Road. The wonderful thing about spending a couple of days at the Beach is the pretty girls, for a wise providence — perhaps a wise COMSOLANT — had put the Waaf hostess-training center right next door in Coral Gables. Biscayne Boulevard was lined with them, seven days a week, all the weeks of the year.

Lord knows when the girls found time to study — or perhaps their social life at Biscayne Boulevard was a kind of extension course at the training center, because what else does an airline hostess have to know?

At any rate, they were there — as many as the reminiscing boys on *Spruance* had said, and as pretty. They were the sweetest-looking, gayest-laughing, homiest-seeming things I had seen in seventeen months; and four out of ten of them, seen from a distance, had the same waved brownish hair and carefree walk of Elsie.

Elsie. It was more than two years since we had our last leave together. I stopped under a palm tree and looked, as inconspicuously as I could, at the picture in my wallet. She was almost a stranger. It hadn't been so bad on *Spruance*, where there were few women and there had always been the faint chance of commandoing Zanzibar.

But here in Miami, where everyone but me walked two-by-two, it was bad. I was lonesome.

HER AND HER cursed volunteering! I had told her and told her, long before her number came up: "When they get you, don't volunteer for *anything*."

So naturally she had signed on the courier flight to Nhatrang in Indo-China, where the Caodai headquarters were, and naturally the courier had wandered off course over Yemen, and naturally the Caodais niked him down.

It wasn't Elsie they were interested in; the game they were after was the air marshal in whose staff she was a yeoman. He'd be a valuable hostage in some future exchange. And they nabbed him. She was lucky she got out in time — and twice as lucky that they'd eventually shipped her to the big internment camp on Zanzibar, along with the marshal.

But me, I was hardly lucky at all.

I had a large glass of fresh orange juice at a sidewalk cafe and talked with a Waaf at the

next table. She was a very attractive blonde; she would have been fun to take out — if she had been Elsie.

I walked two blocks and had a guanábana sherbet at another sidewalk cafe, and talked with a Waaf sitting next to me at the counter. She was a very attractive brunette, but she wasn't Elsie either.

I considered a third sidewalk cafe featuring fresh papaya-pineapple drinks. But there is a limit to the amount of liquid I can stand sloshing around in me.

Glamorous Miami! I was prepared to sell it short, that hot afternoon. It wasn't that Miami wasn't very nice. It was too nice for a lonely man. I was battling a sort of perverse inanimate conspiracy against me on the part of the Sun, the sky, the weather. If Elsie had been with me, I would have been happy.

But she wasn't.

There was only one thing to do.

I had been resisting doing it ever since I'd landed at Montauk, en route to Project Mako. I couldn't resist it any more.

I found a phone booth, and the Classified book had what I wanted: Hartshorne & Giordano, F.C.C. Licensees, at an address near the Venetian Causeway.

The heading was *Telepathists & Espers.*

THE GIRL at the desk was an enlisted Wave. It surprised me, for the last time I had used an esper, the whole outfit was aggressively civilian.

She said doubtfully, "Zanzibar? That's Caodai territory."

"I know it is," I said patiently. "My wife is interned there."

She looked at me as though I were a pacifist or something, but she kept on filling out the forms. I gave her all the information she asked for, and she said:

"You're lucky. They say that all esp communication will be pre-empted for military use the first of the month. Now would you like this guaranteed or not?"

"Non-guaranteed," I said. The difference in the rate was considerable; besides, I'd had half a dozen previous rapports with Elsie. There wasn't any doubt in my mind that I'd get through. That is, if she was still —

Never mind *that*, I told myself quickly, and listened to the Wave. She was mumbling figures from a rate book and making marks on a pad.

"Eleven dollars and ninety-five cents, including tax," she said at last. "That's for three minutes." She spoke into an intercom and nodded to me. "Mr. Giordano will see you now."

Giordano was a beady-eyed little old man with curly white hair. "Six previous rapports," he

said approvingly, studying my chart. "Well, ten cc ought to be enough for you. Will you roll up your sleeve, please?"

I looked away as the needle bit into my arm. It tingled; the hormone solution you take before an esper rapport seems to be distilled from wasp venom.

"Thank you," he said, and I rolled down my sleeve as he sat down at his desk. He wasn't much like the last esper I'd gone to, back in Providence, when Elsie was first interned. That one had worn a white tunic with a side-buttoned collar like a surgeon's, and he had been a phony from the word go. Oh, he put me in touch with Elsie all right, but there had been a gauzy shapelessness about the contact that had left me more unsatisfied when I left than when I came in.

This one had a fine business-like air about him. He wore an ordinary Navy undress uniform with a chief warrant's pin in his collar. That's a more important factor in esping than most people realize. The Providence hookup had been the one real failure I had had with Elsie.

"MAY I have the node, Lieutenant?" he asked.

The "node" was the photograph of Elsie from my wallet. He studied it approvingly. Why is it that the photograph one carries of a girl is always in a bathing suit? Is it that the more you can see of a subject, the more vividly the image brings her back? Or just that one usually carries a camera to the beach?

"Very nice," he said. "Now how about your nodal experience?"

"Well," I said hesitantly, "just before the picture was taken, we had lunch on a terrace overlooking the beach. There was a band and we danced."

"And you remember the tune the band was playing?" I nodded. "Good. One other thing, Lieutenant. Do you know what time it is in Zanzibar now?"

I snapped my fingers. "Oh, damn. She'll be asleep?"

He glanced at a chart and nodded. "It's around two in the morning there. Of course you can get rapport even if she's asleep, you know, but she may not remember it in the morning. Or she may think it's a dream."

"We'll try it." I could always try again the next day, I told myself; the money didn't matter.

"Lean back," he said gently, and the lights went out, all but a tiny, indirect one that softened the shadows but left nothing for the mind to fix on.

I felt the esper come into my mind. I know that some people find that an ordeal, like the dentist's pick prying into the bicuspid. For me, it has always been

a warming, protecting sort of coming together. Perhaps it is because I've never esped anyone but Elsie and it hasn't been a matter of exchanging data but of moods. Those who try to use espers for business calls, trying to pinpoint details in a cloudy contact, must find the whole process exasperating.

I heard, in the back of my mind, the slow whisper of the music and I saw the beach-umbrellaed terrace where Elsie and I had danced. The esper was finding the range.

Elsie? I formed the name in my mind.

She was asleep, all right. But her voice from far away, foggy yet real: *Darling.*

In succesSsion, I formed the thoughts: *I'm well. I'm lonesome. I love you.*

And her answers: *I'm well, but tired. I love you, too. I want to see you . . .*

Three minutes went very fast.

WHAT had I accomplished? Nothing, perhaps. Nothing, certainly, that could have been put on a progress report. I didn't know why Elsie was tired, I didn't know what she had had for dinner or what the weather was in Zanzibar. I didn't even have a phrase or a gesture or a look to treasure; nothing had been that clear. Esping is a form of communication, yes, but of emotions rather than concepts. One speaks with sighs instead of syllables, and I don't know any answer to give to those who say you can get the same effect staring into the bubbles in your beer.

For a moment, I had been with Elsie in my mind. I couldn't touch her; I couldn't hear her or see her, but she was there. Was that worth slightly more than six cents a second, tax included?

It was worth anything in the world.

I paid the girl at the desk dreamily and drifted out. I was halfway across the street before I heard her calling after me.

"Hey, Lieutenant! You forgot your hat." I took it from her, blinking. She said: "I hope things work out for you and your wife."

I thanked her and caught a bus back along the palm-lined boulevards.

All the depression was gone. All right, I hadn't touched Elsie — but I had been with her. How many times, after all, in our short married life together had I waked in the night and known, only known, that she was asleep beside me? I didn't have to wake her, or talk to her, or turn on the light and look at her; I knew she was there.

I got off the bus at Lincoln Road, still dreaming. It was dark, or nearly, before I came to and

realized I had walked far past my hotel and that I was hungry.

I looked around for a place to eat, but I was in an area of solid brass. COMSOLANT was only a block away and the two nearest restaurants bore the discreet legend: *Flag Officers Only.*

I turned around and walked back toward my own area.

I WONDERED why it was so dark and then realized that Miami Beach, like Project Mako, was blacked out. But it seemed blacker than a blackout could account for, and not in any understandable way.

The lights were there, hidden behind their canvas shields from the possible enemy eyes at sea. The narrow slits in the shields over the street lamps cast enough light on the pavement for me to see where my feet were going. The cars that moved along the boulevards had their marker lights, dim and downward-cast but clear. And yet I was finding it hard to get my bearings.

Something was sawing at my mind.

It was the hormone shots, I thought, with a feeling of relief. I was still a little sensitive, perhaps, from the esping. What I needed was a good meal and to sit down for a while. It would make me as good as new.

But where was a restaurant?

Someone slid a burning pine splinter into the base of my neck. It *hurt!*

I must have yelled, because figures came running toward me. I couldn't see them very clearly, and not only because of the darkness, and I couldn't quite hear what they said, because something was whining and droning in my ears, or in my mind.

There was another stab at the base of my head and one in my shoulders, like hot knives. I felt myself falling; something smacked across my face and I knew it was the pavement. But that pain was numbed, nothing compared to the fire stabbing into my neck and shoulders.

Someone was tugging at my arm and roaring. I heard a police whistle and wondered why. And then I didn't wonder anything at all.

The world was black and silent. Even the pain was gone.

V

"STILL ALIVE, for God's sake! Suppose we ought to let him sleep it off?"

I blocked someone's slapping hands away from my cheeks and opened one eye.

Ringed around me were half a dozen faces, looking down — a couple of nurses, a doctor or two, and a j.g. with a thin black mus-

tache and an O.O.D. band on his arm.

"Well," said the Officer of the Deck, "welcome back."

I tasted something awful in my mouth. "Wha — happened?"

The faces were grave. "You got burned."

Apparently being burned was no laughing matter. I groggily made sense of what they were telling me.

Like the Air Force captain at the Boca Raton field, like the other mysterious victims I had heard whispers about, I had been burned. And it was true enough; they showed me a bright mirror above and I could see the burns. My shoulders, the base of my neck, a thin line down my back — they were all brilliant scarlet, like a bad sunburn, and they hurt.

Something clicked in my fuzzy brain. "Oh," I said, "the Glotch."

But they had never heard of "the Glotch." Evidently the Boca Raton name for it was purely local, but the thing was the same, all right. They called it "getting burned." The O.O.D., whose name was Barney Savidge, had heard it called "The Caodai horrors." But it was all the same thing and all bad.

"You're a lucky kid," said Lieutenant Savidge. "We picked you up and it looked like you were as dead as the rest of them. After all, only one out of a thous —"

"Savidge!" one of the medics said sharply.

The O.O.D. looked quilty. "Sorry, sir. Anyway, Moeller, you're lucky."

They wouldn't tell me much; apparently the Glotch was as hush-hush in Miami as it was in Boca Raton.

But it appeared I would live. They brought me coffee after they finished dressing my burns. I was in COMCARIB's naval hospital and, although I had visions of being a celebrity for a day, the O.O.D. cut me down to size.

"It comes and goes," he said, looking apprehensively at the ship's surgeon out of earshot across the room. "It comes and goes, some days a whole bunch of casualties, some days none. Last night was one of the bad ones."

"You mean I wasn't the only one?"

"Hah! There were seven, Moeller — last I heard." He stared at me thoughtfully. "The only difference between you and the other six is, you're alive."

It was a cheerful thought. "Well," I said, "thanks for everything and I guess I'll be getting along —"

"I guess you won't," he said flatly. "Maybe in the morning. They want to look you over — you're supposed to be dead, you know. They want to find out how come you're not."

It wasn't so bad. They kept taking my temperature for a while, and feeling my pulse, and talking to each other in what doctors use for English. But Savidge, who didn't appear to be too overworked as O.O.D., dropped in every few minutes and we got fairly well acquainted. Along about three in the morning, they decided I could go to sleep.

So I did, but I wouldn't say I slept well.

THE HAIRY-BODIED officer at COMSOLANT was in uniform this time and he turned out to be a captain. "Moeller," he said crisply, "I told you your stuff wasn't ready yet. Are you trying to rush me? Speak up!"

"No, sir, but—"

"But go away, Moeller," he said. "Remember the famous motto of the Navy: 'Don't call us; we'll call you.' You're dismissed." And that was that.

I wandered down to COMCARIB and rousted Barney Savidge out of bed. He was bleary-eyed on three hours sleep after a night as Officer of the Deck, but he began to wake up with the third cup of wardroom coffee.

"I'll tell you what we do," he began to plan. "We'll pick up a couple of Waafs from the training center and run over to Tropical Park for the afternoon and—"

"I'm married, Barney."

He stared at me. "What?"

"I don't want to pick up a couple of Waafs."

He scratched his head. "Well, we'll go over to Tropical Park by ourselves and —"

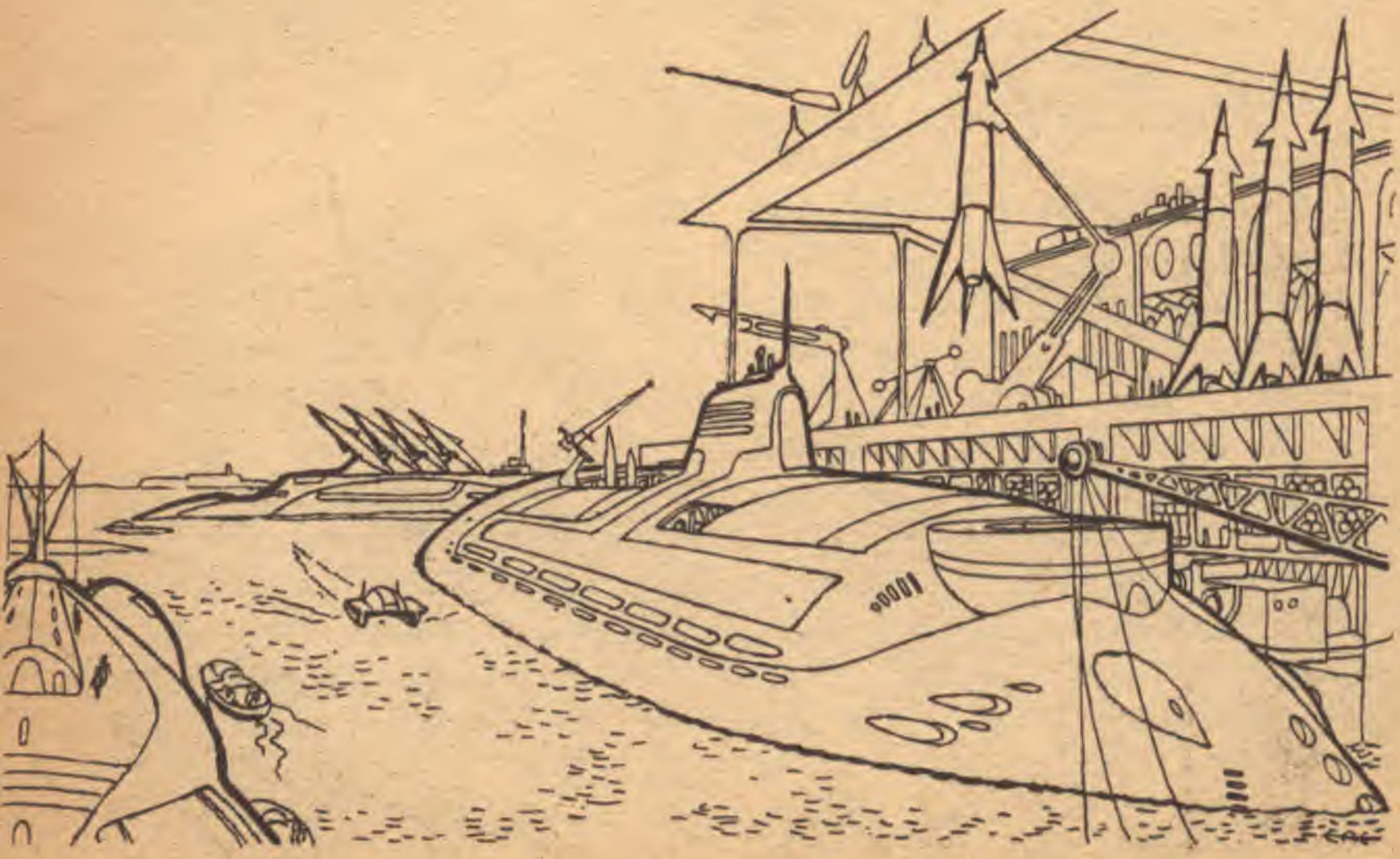
I said: "Barney, could we look around the base here? I've been out on a cow — that is," I corrected myself hurriedly, remembering those bright red Most Secret stamps on my travel orders, "I've been out of touch with the Navy. Let's take a look at the ships."

All he said was: "It takes all kinds."

COMCARIB is only a satellite of COMSOLANT, but the Caribbean fleet is big enough for anybody. There were forty men of war surfaced in Biscayne Bay, destroyers and carriers and a couple of *Nimitz*-class cruisers that brought a curious sensation to my throat.

"Busy out there," I said, staring hungrily at the fighting ships nursing from the tankers.

"It's getting busier all the time, Logan," Barney said soberly. "See that bucket beyond the breakwater?" He was pointing at an ancient monitor, a harbor-defense craft with plenty of punch but no range to speak of. Work barges were lashed to its sides and welders were slicing into a twisted, scarred mass of metal on its forward deck.



"Looks like it tangled with a can opener," I said.

"A Caodai can opener. That's *Hadley* and it was down off the Keys when a Caodai sneak raid took a potshot at it. It got back; there were two last month that didn't."

I said uneasily: "Barney, have things been hotting up while I was at sea? All this business of getting burned and sneak raids right off our coast — it sounds bad."

BARNEY shrugged morosely. "Who knows? There isn't any war on."

"Come on," I insisted. "What's the score?"

"Who knows?" he repeated. "You can see for yourself, things are happening. Up until last year, COMCARIB had never lost a capital ship in coastal waters. Since then — well, never mind how many, but we've lost some. Are things getting worse all over or is it just local? I don't know. We send out a squad of scout torpedoes three times a day and I guess we average twenty contacts a week.

"By the time the big boys get to where the torpedoes have made a contact, there's nothing there, usually. Sometimes not even the scout. But you look in the papers and you find nothing about it, of course. Once in a while, maybe, there's a story about 'Unidentified vessel sighted off Miami Beach' — that's when you can see them from the top-floor windows of the hotels. But that's all."

He flicked his cigarette into the water and grinned at me. "Now do we go to Tropical Park?"

So we went and I succeeded in losing forty-five dollars. It wasn't hard — I just bet hunches. By the fourth race, the T/5 at the five-dollar window got to know me and shook his head sadly when I bought my tickets, but I didn't mind much, because what I was thinking of was not horses and parimutuel betting but war and Elsie.

I sat out the sixth race in a canteen under the grandstand and read a newspaper. I could hear the crowd screaming and stamping overhead, but the newspaper thundered louder than they, if only you read between the lines. *Eight-Year-Olds Face Student Draft.* How long had we been putting school kids in uniform? Had it started while I was on *Spruance?* The age limits had been lower and lower, that much I knew — but eight-year-olds?

Caodais Protest Ankara Looting, Threaten Reprisals Against Hostages. I read that one thoroughly. There had been trouble at the Caodai legation in Turkey

and the Caodais appeared to think it was deliberately fomented. That much was simple enough, but the bit about hostages gave me a bad time.

Because I couldn't help remembering that one of the hostages was no mere statistic, but the girl I had married.

The nature of the trouble in Ankara was far from clear; sometimes it seemed to me that there had been an arson attempt, sometimes a mere hit-and-run burglary. It was sloppy reporting and I read the item over a dozen times before I concluded that it didn't matter. If the Caodais were looking for a pretext to take their temper out on the hostages, anything at all would serve.

I found Barney in the crowd, right where I'd left him, and told him my burns were bothering me. It was true enough, at that — my whole neck was stiffening up. But what was bothering me most of all was life itself. I arranged to meet him again and caught the bus back to my hotel, so lost in my own ugly thoughts that I didn't pay any attention to the desk clerk's expression.

But what he handed me along with my room key jolted me out of my reverie. It was a mailgram from Project Mako: LEAVE CANCELED. RETURN PROJECT IMMEDIATELY. LINEBACK

VI

KEDRICK fussed over me like a furious kitten: "Curse it, Moeller, don't you know the first thing about military security? You've got your head crammed full of the top-classified information in the country — and you have to blather it all over the world with an *esper!*"

I swallowed and said nothing at all. In truth, I had almost forgotten going to the esper; the attack on the beach had just about wiped it out of my mind.

"Answer me!" demanded Kedrick.

I hadn't heard the question, but I could guess. "I'm sorry, sir," I said.

"Sorry!" Kedrick seemed to inflate with pent-up irritation. "If you're sorry now, what will you be when a court-martial gets hold of you?"

"But I — I didn't *say* anything, sir. I just sort of, well, wanted to know how my wife was. You don't *talk* when you esp. You just —"

"Knock it off," ordered Kedrick explosively. "You can tell all that to Commander Lineback. I can assure you, though, that he takes a dim view of you right at the moment."

"Yes, sir." I thought a moment and added: "Is that why I was recalled?"

"No." Kedrick shifted gears into savage irony. "You were recalled because the project would like you to do a little work for a change. New equipment and new officers are in. We're going to start to roll and you've got to attend a briefing at oh-eight-hundred tomorrow. As a matter of fact, Moeller, we didn't find out about your crazy trick with the esper until a mailgram came in from COMCARIB half an hour ago. There was a censor's gig-sheet on you and the commander hit the roof."

That was improbable, I thought, remembering Lineback. I appeared to be dismissed, so I started a rather stiff-armed salute. It attracted Kedrick's attention.

"What the devil's the matter with your neck?" he demanded.

I touched the bandages. "What you call the Glotch, sir," I said, and told him my adventure. It took a lot of passion out of him. He was staring pensively at nothing when I finished.

"Is that all, sir?" I asked positively, after a moment.

"What?" He roused himself. "Oh, I guess so, Moeller. This is a crazy business."

"Yes, sir," I agreed.

He seemed very tired all of a sudden. "You're dismissed. Go pop a couple with your girl and — "

"I don't have a girl, sir," I said.

"Well, take a couple of drinks and get a night's sleep." He shook his head wearily. "Trouble! The Glotch and the stockade getting set to explode and wet-nursed jaygees spilling their guts with espers — " He was talking to himself, not me.

I saluted and hit the sack. I hadn't fully understood the reference to the stockade, but I didn't let worry keep me awake. I dreamed very happily of Elsie until the messman tapped on my door at 0700.

THERE WERE fifteen of us officers at the briefing, six of them brand-new, arrived on the morning plane. Commander Lineback spoke only long enough to introduce a — civilian!

We all looked at him with considerable interest. His name was Schwende and he was at least fifty — well over the compulsory military training age, of course. But he was a civilian, and he was out of uniform, and Lineback referred to him as "doctor." He was quick and concise and he told us, at long last, what all of us were doing at Project Mako.

We are going to do research in animal communication.

There wasn't anything new about that, but we were going to add some new wrinkles. Dairy

farmers had given orders to their cows for decades. But we were going beyond cows and horses and pigs, beyond the order to lay off the cash crop and the one to return to the barn for milking. We were going to *talk* to them.

"You'll make guesses," said the doctor — of animal husbandry, not medicine. "That's your privilege. Guess your heads off about what the Navy's going to do with animals. *But keep your guesses to yourself.*"

And that was the end of that, barring handing out individual assignments. Mine was to run a computer.

We were dismissed and the new draft of officers reported to the dayroom to be assigned to quarters. All of the new ones were ensigns and j.g.s, except for the Russian. He was some kind of senior lieutenant, but just what that amounted to, I cannot say. It didn't matter in terms of command relationship, of course, because as a co-belligerent he was present only as a military observer. He was Red Army, not Navy, but he wore our naval undress whites, with only the Russian shoulder-boards to mark his rank.

And he was quartered with me.

A room to myself had been too good to last. I showed him to our room with silent regrets for the loss of my solitude. In hesitant but good English, he said: "Is very nice, Lieutenant. Which of the beds is yours?"

I offered him his choice, but he insisted on not disturbing my arrangements. "Both of them are splendid," he declared judiciously, and then he smiled. It was a good smile; with it, he came to rigid attention. "Timiyazev, Semyon Ilyitch," he proclaimed. "Please to call me Semyon."

I HELPED HIM unpack and we made ourselves acquainted. He knew more about Project Mako than I had before the briefing, but nothing that was very informative. He had been thoroughly briefed by his government-in-exile at their tiny legation in Washington, just next to the dome of the United Nations building.

He said: "They were very glad to be able to send me to this place. We have not so very many officers in the Free Russian Forces who are versed in animal psychology, do you see? Much less one who is the son of a colleague of Pavlov's."

"I didn't know it ran in the blood."

He looked at me appraisingly, then chuckled. "Oh, it does not. Surely not. But my mother was also my teacher. She was unhappy when my opportunity

came to attend the Suvorov Academy. She would have preferred, you see, a scientific life for me. But in a world of war, one is best as a soldier. And if one must be a soldier, why not attend the Academy and have perhaps the prospect of becoming a general?" He added pensively, "That was some years ago, of course, before the Orientals occupied us. Now — perhaps my mother knew best."

I made my excuses after a little while. Semyon made me a bit uncomfortable.

I know that the Russian business is all over and done with, and you don't hold a grudge against somebody who's down. And, in a way, it's our fault that the Russians are in the kind of shape they're in. If we hadn't pulverized them so hard in the Short War, they wouldn't have been so soft a touch ten years later for the Caodais coming up through Mongolia.

And if they had been able to hold on for a while then, long enough for us to get off the dime, the Caodais might have been stopped in their tracks right there, the way Hitler could have been at the Sudetenland. And universal conscription might not have been necessary, and Elsie might not have been so many thousand miles away . . .

And if wishes were horses, beggars would own the winners at Tropical Park.

"TAKE A LOOK, Lieutenant." Oswiak took his hands off the controls to point.

I clutched the sides of the 'copter seat and looked. "I never saw those buildings before."

"Sure you didn't," he agreed. "They wasn't any buildings there last week. The Seabees come in the day you took off for Miami, and more fuss and commotion you never heard in your life. But they got them up." He brought us down gently between two of the buildings we were talking about — three-story prefabs with the workmen still laying power lines around them. "Looks like we're getting busy, hey, Lieutenant?" he said with satisfaction.

It did indeed. Counting a couple of permanent buildings that had been standing idle, waiting for equipment, there were a good hundred thousand square feet of space in the new colony. A chunk of one floor in one of the prefabs was all mine. It was up to me to supervise the installation of my computers and get ready to go to work.

The computers were the equal of anything I had had to work with at I.B.M., back in the old civilian days. I looked at them and swallowed. Putting them in was a job, but I had a good crew

and the job was completed by bedtime. The night shift came on to test connections as I left. I stopped by my new roommate's quarters to see if he wanted a lift back to the B.O.Q.

He didn't. It was well on to midnight, but he was busy doing something with a collie.

From the door, I heard a clicking sound, like one of those tin gadgets from childhood called crickets. I looked and that was what it was — formed tin body, hardened, cupped tin plate fitted into it.

"What's doing?" I demanded.

Semyon looked up angrily. "Hush, Logan!" he ordered severely. "New dog, I must finish this trial. Stay right there where you are!"

The dog looked at me pleadingly. It was clearly confused. Its tongue was hanging, it was panting, its slightly raised foreleg was quivering. Semyon didn't say another word. We all waited and the dog got tired first.

It started toward me, looked at Semyon, hesitated, stopped. Semyon was as silent as old Stalin in his tomb. The dog turned tentatively to one side and *click* went the cricket in Semyon's fingers.

The dog walked slowly to a straight-backed chair. *Click.* The dog touched the chair with its nose. *Click, click.*

YES, I WAS puzzled. Semyon had called it a "trial," but all he was doing was clicking his little cricket. He didn't say a word; he hardly moved.

The dog was as puzzled as I, which was some consolation. It stopped and looked at Semyon. Semyon, blue eyes serene under his pale brows, looked calmly back. The dog took a hesitant step away from the chair and paused, waiting for a reaction.

Silence.

The dog whined worriedly and returned to the chair. *Click* went Semyon's cricket. The dog placed its forepaws on the seat. *Click, click.* The dog leaped into the seat and curled up, tail wagging madly. *Click, click, click* and then Semyon, grinning broadly, said:

"Fine dog. Oh, excellent dog! You may come in now, please, Logan." He walked over to the dog, talking to it in Russian, and scratched enthusiastically behind its ears.

"What the devil is it?" I demanded. "Were you sending Morse code?"

He beamed. "Not precisely the Morse, you understand, but a code. We were talking, the dog and I."

"Some Russian invention?"

He shrugged modestly. "Certainly a Russian invention. My own mother invented it herself;

you will find it described in Great Russian Encyclopedia. Of course," he added, to be fair, "she was assisted in inventing it by a man named Skinner in America, who invented it also, some years earlier. But my mother invented it in *Russia*, you see."

"Tell me," I invited.

Semyon was delighted to explain, but he was far from clear. It was a way of communicating with animals, only the animals couldn't talk back. It was a way of getting a dog to do what you wished, yet it wasn't training.

"Is it the same thing Lineback uses for cows?"

"No, no!" he said. "Radically different, Logan!"

"Different how?"

SEMYON gave me a queer look. I could see he was wondering how anyone so stupid had been assigned to Project Mako, but he was too polite to say so.

He said only: "You have heard the cattle language. It is only a matter of listening to the sounds the beasts make — we will dismiss, for the moment, the visual components. One discovers how one beast informs another that there is, shall we say, a patch of clover here or a stinging nettle there. Once you have learned the, shall we call it, ox-tongue — " he grinned at me — "you say it back to the beast.

"You make a stinging-nettle bleat for danger and pain; you say it to the beast, and you show him, perhaps, a clump of marigolds. Then perhaps he does not eat the marigolds. Of course, he perhaps slips some times, for he is quite stupid. He may take a nibble to see for himself. Then you beat him, and make the stinging-nettle bleat again, and he learns. Oh, he learns, surely; it is question of time and repetition."

He frowned at me and said argumentatively: "Is *training*, you see? The language in that method is only to expedite the training."

"I see. And what you were doing?"

"It is *language*." He smiled abruptly. "But I admit, Logan, it is a very tiny language. One word: 'Yes.' My dog here, Josip; if he does as I wish, I say 'yes' to him. If he does what I do not wish, I say nothing at all, and he understands 'no.' I snap this thing for yes; I do nothing for no. A very simple language, isn't it?"

"Too simple. How can it work?"

He shrugged. "See for yourself. What would you have Josip do?"

"Do?"

"Set a task for him, Logan. We shall see." I hesitated, and he flared up: "You think it is no

language, yes? I see. You think it is some kind of trick or game, like trained-dog acts in the fair. But see for yourself, Logan — give me an order and I will translate. Would you perhaps care to have Josip sit in your lap? Push the door you left ajar closed with his nose? Fetch you a book from the shelf?"

I SAID awkwardly: "I've seen trained dogs do some astonishing things — "

"Not trained!" he almost screamed. "Is absolutely untrained, this dog! Except for only one hour this afternoon, when I taught him the language. Nothing else. Is not training, Logan, you must understand that!" He cast about the room agitatedly. "No discussion!" he said peremptorily. "Look here, I choose a task. You see the cardboard cup on the floor? Once it had coffee in it. I drank the coffee; I forgot the cup. I shall require Josip to pick it up and put it in the wastebasket. Neatness is important, is it not? Even for a dog."

"I had a Scotty who carried newspapers — "

"Logan! I shall stand behind this folding screen, peeping at him with only my eyes. I shall say nothing, except in our tiny language. One word, remember! No, no — no discusion, only watch."

He huffed and went behind the screen, the dog watching him worriedly.

It was a sad little spectacle, in a way. My sympathies were all with the dog. He knew something was expected of him, but he clearly did not know what. There was silence from Semyon behind the screen. Then the dog took a tentative step toward Semyon. Silence still. The dog, forlorn, took a step away. *Click* from Semyon.

The dog brightened and, with assurance, took several more steps. *Click, click, click* and then the clicking stopped. The dog had veered away from the direction of the paper cup.

JOSIP was beginning to get the hang of it. He lolled his tongue worriedly for only a second, then tried another direction, at random. Silence. Then another, and this time it was straight for the cup. *Click, click* until the dog was standing right at the cup, touching it with his nose.

It might have taken three or four minutes in all, but, guided by Semyon's cricket-noises, the dog unarguably did exactly what Semyon had promised. He pushed the cup, touched it with his paw, rolled it with his nose. Eventually he picked it up, and eventually he carried it to the wastebasket. Like Shannon's mechan-

ical mouse, he made random motions until he found one that paid off (with a *click*) and continued with it purposefully until the payoff stopped.

It all went quite rapidly. The cup went into the wastebasket and Semyon came gleefully from behind the screen.

"Ah, Logan?" he asked. "Training? Or language?" I was getting sleepy. I left him and looked in on the last stages of checking my digital computers.

Well, I am no more stupid than most, but Man's mind is divided into compartments, leakproof and thought-tight. I had been polite with Semyon, but I had not been convinced.

Set aside the question of what it all had to do with the Navy or the Caodais — that was a separate problem. On its own merits, what Semyon was doing was interesting enough. And perhaps it was even important, in some way. But to call it language? Ridiculous. I had at least a nodding acquaintance with the theory of language. Language is a supple and evocative thing; how could you dignify a one-word vocabulary by that term? Imagine compressing information, any quantity whatsoever of information, into a simple yes-and-no code...

Thinking which, I checked the installation of my digital computers, capable of infinite subtle operations, packed with countless bits of knowledge and instruction.

All of it was transcribed, summarized and digested into what the mathematicians call the binary system, and reproduced in the computers by the off-or-on status of electronic cells.

Binary — yes or no — off or on.

VII

MAYBE I *was* stupid. But you have to admit that the idea of binary language is hard to take.

Animals, after all, are not electronic computers. They are flesh and blood like ourselves. I would have thought of talking to animals in a mathematical code about as soon as I would have thought of talking to my RAGNAROK in German.

And then I found out that, way back in the 'fifties, people had begun to do just that. I poked through the briefing documents in the project library until I found a resume of some trials that had taken place long ago, in England, on a computer called APEXC — heaven knows why. They set the computer the problem of translating German into English. The computer, no doubt, clicked and hummed and blew a couple of fuses, and then settled down to the job of squeezing the

sense of one language into the forms of another.

The resume didn't say just how well APEXC made out, but there were hints. In the first place, some mere human had to give APEXC a hand in the clinches — what they called post-editing, meaning the choice, from context, of several possible translations for a single word. But it worked.

So I read farther — on animal communication, this time. I found Semyon's mother's "invention" in the literature — also way back in the early 'fifties. I found sample vocabularies for cow, for dog, even for rabbit and duck.

Some of the "words" were kind of interesting. For crow, a B-natural whole note, two staccato A-sharp quarter notes and a scattering of grace notes. Translation: "Beat it, there's an eagle coming." Crow was one of the simpler vocabularies, only about fifty identified words; but it was astonishing what *corvus* conveyed to his friends with a few very simple caws.

And some of the beasts, nearly mute, got considerable meaning across without any sound at all. Take the duck's train-switching wiggle of the tail feathers, for instance. Translation: "I love very much, honey, let's get married."

I suspected, at about that point, that some of the early researchers were carried away by their sense of humor.

"Language?" I complained to Semyon in our quarters, while I was reading the briefing books and he was playing something he called a balalaika. "How can they call that language? If my mouth waters, that means I want to eat — but is mouth-watering a word? It's only a reflex action, Semyon!"

He didn't miss a chord. "Is better, Logan, that you consider instead the analogy of onomatopoeia!"

Well, that stopped me — until I looked it up — and then it stopped me in a different way. Onomatopoeia: the formation of words from instinctive or mimetic sounds, thought by some to be the essential origin of all language.

Well, suppose the supple English language really was nothing but a refined and codified collection of grunts and yelps and wheezes . . .

And suppose that animal barks and posturings were language as well . . .

What the devil did the Navy want of me, anyway?

IT WAS black night; the stars were bright — and the Project Mako alarm bell was ringing General Quarters.

I leaped out of bed like a grig on a griddle. It was the first GQ

I'd heard since I left *Spruance*, but the old habits didn't die. General Quarters meant get to your combat stations *now*. I was into my pants and on my way out the door before the springs on my bed stopped vibrating.

The only thing was — *what* combat stations?

By the time I was awake enough to ask myself that, I found that other people had the same question. Every officer on the Project was milling around the corridors, yelling at each other in confusion. Kedrick's tinny voice over the loud-hailer straightened us out, though. It blared: "All officers to the wardroom! On the double! All officers to the wardroom! On the double!"

WE pushed into the wardroom like the Golden Horde through Hungary—and just as unkempt. The mess attendants showed up, blinking and rubbing their eyes. Kedrick, standing on a table with a strange Army major next to him, snapped: "Coffee, you men! Get the lead out! We're pulling out of here in twenty minutes."

As the mess attendants were disappearing, he barked: "Shut up, everybody! Keep it down! The Cow-dyes are busting out of the stockade and we're going to shove 'em back in. Major Lansing will explain."

The exec bobbed his plump chin at the strange Army officer, who growled: "Now you know as much as I do, except for details. I'm security officer at Eighth Group, up the beach. About an hour ago, there was some ship-to-shore shelling, mostly flares and noisemakers, and then the damn Cow-dyes began boiling up. They swamped the guards, took our headquarters building, knocked out our radio, and kept on going. I've got six personnel-carrying 'copters outside — " I recognized then the fluttering rumble that had been subconsciously bothering me — "and you're the nearest effectives."

He glanced at us wryly, but let it go at that. "Your commander is already on his way there. Lieutenant Kedrick and I will command two columns to relieve the guards. If there are any guards left to relieve by the time we get there."

He moved aside as the messmen came in with the first pots of coffee.

"I'm sorry," he added, "to be going out of channels this way, but war is hell." He glanced at his watch. "We're taking off in five minutes. You want coffee, drink it. You want more clothes, go get them. Weapons will be issued at the 'copters."

And that was that. It was like being in the Navy again.

SEMYON appeared toward the end of the major's little talk, sleepy-eyed and wobbly, but he didn't have any trouble pulling himself together when he heard what the man had to say. He shouldered his way to me.

"Ah, Logan!" he exulted. "We shoot some Orientals, I hope. It will give me pleasure. Only — " he looked oddly shy — "a favor, Logan?"

I burned my lips on the coffee. I managed to say: "What favor?"

"Josip. Who knows what your Bureau of Supply will do with him if I end up in some unmarked grave? I do not suppose that a dog is a standard article to be furnished to ships and shore installations. Will you — "

I stared at him. "Sure," I managed to promise.

It was just cracking daylight as we came fluttering down into the mangroves. There was no sign of the ship-to-shore firing the major had talked about, but out over the pearl-skied Atlantic I could see the lights of hunter 'copters stabbing at the waves. If there were Caodai vessels out there, they would be wisest not to surface. It would be some time before marine vessels with any range could reach the scene, but the 'copters were there and I imagined I could see the skittering hydrofoils on the surface.

"Ssst!" hissed Semyon sharply as we banked and dipped. "Over there, Logan! Like beetles in barn dung!"

"What? *What?*" I was a little jumpy, I guess.

"The Orientals," gloated Semyon. And then, with an abrupt change of pace, utter dejection: "The fools! The fools! Why do we not hit them from above, eh? Bomb them, napalm them, shoot them — "

"They're prisoners, Semyon!" I said, shocked.

"A prisoner escaped is scarcely a prisoner, my friend. What is better — to shoot them from above, where they can scarcely do us much harm, or to sit in the bushes below and wait for them to come?"

I said uneasily: "The major looks like he knows what he's doing, Semyon."

He shrugged a large Russian shrug and that was all. But he carefully checked the clips on his T-gun.

The 'copters came down in a clearing and the major jumped on a stump to dispose us. "They're moving slow," he bellowed, "but they're moving. Soon as you see anything, shoot it! They've got some guns, captured from the guards. I don't know how many or whether this lot has them. There's upward of five thousand of them running around, so you'll have plenty of targets. Moeller!"

I jumped. Of all things I might have expected, being called out by name just then wasn't one of them.

"Front and center, Moeller,"

bawled the major. "The rest of you disperse and take cover."

BUT IT HAD an explanation. I saluted the major with more snap than I'd been able to put into a salute for weeks. He clipped: "Moeller? You the one checked out on a scout torp?"

"Checked out?" I started to blaze, but this wasn't the time for it. I said briskly: "Better than eight hundred hours in combat sweeps, with a confirmed — "

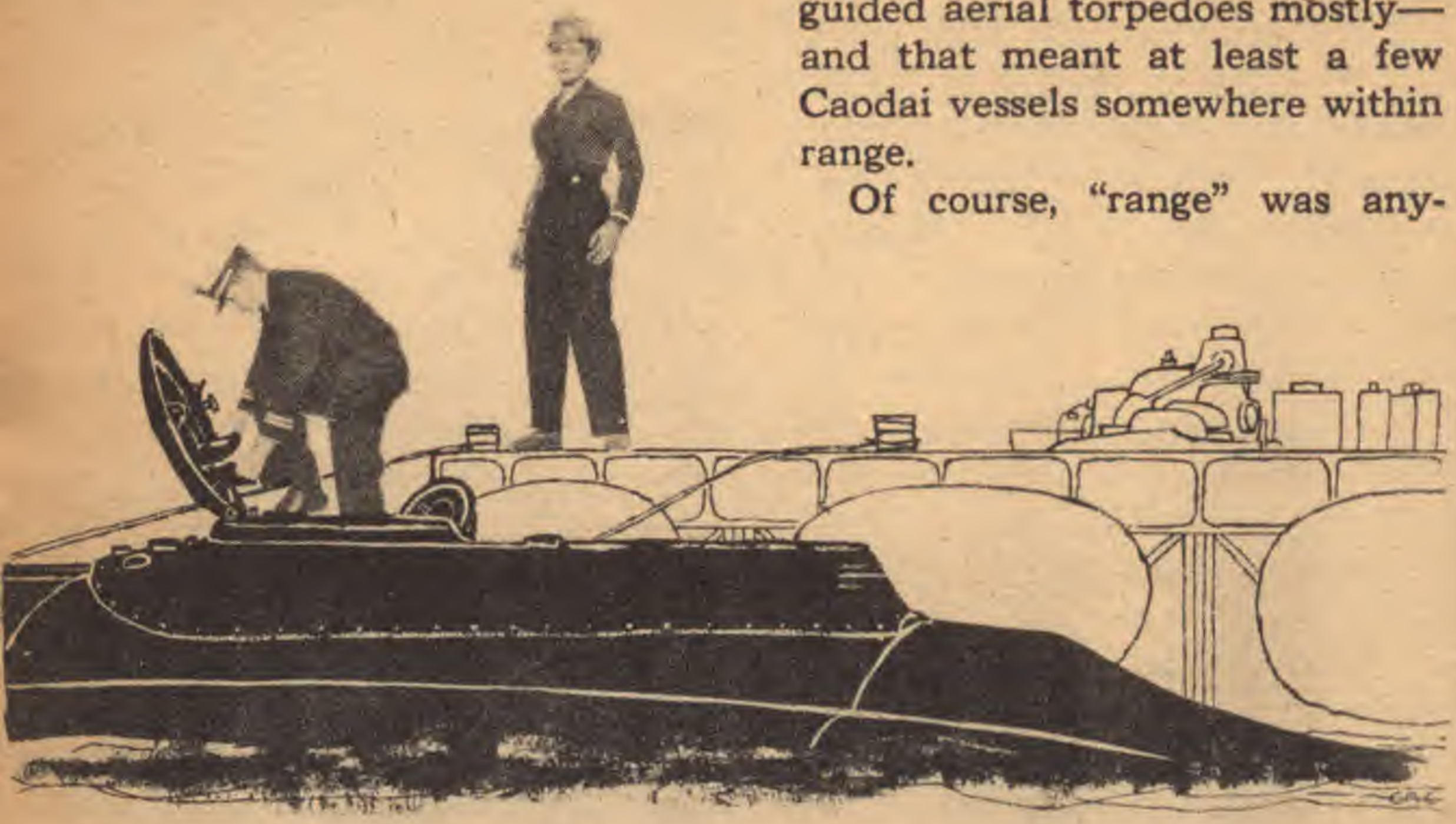
"Sure," he said, unimpressed and unheeding. He jerked a thumb and I found myself trudging through the mangrove swamp with a female naval ensign, toward the shore.

We looked at three scout torps lashed to a Churchill dock, bobbing harmlessly in the gentle morning swell.

She said bitterly: "Half our complement on leave — understaffed to begin with — the filthy swine!" She didn't make clear whether the "swine" were COMCARIB or the Caodais, but it was perfectly clear that she, as temporary exec officer while the male strength of the torpedo-squadron complement was manning the other torps, was requesting me to take one of the idle scouts out on a sweep.

She didn't have to ask me twice.

I slid out on the surface and two hundred yards from shore checked the sealer telltales, flooded the negative buoyancy tanks and tipped the diving vanes. I leveled off at thirty meters — plenty deep for the continental shelf.



My search pattern was clipped to the board over my scanning port. I flexed the vanes a couple of times to get the feel of the torp; it was good to be home again. All these scouts came off the same assembly lines and were made out of the same interchangeable parts, but it is astonishing how much the feel can differ between craft. I set the auto-pilot for the first leg of the sweep, triggered the sonars, and I was off.

Back to *Spruance!* I felt like a fighting man. And there was some chance that I might see some action. The girl ensign had filled me in a little bit on the way down to the beach. There really had been ship-to-shore firing — guided aerial torpedoes mostly— and that meant at least a few Caodai vessels somewhere within range.

Of course, "range" was anything up to 12,000 miles, and the only reason it wasn't more is that you can't get farther than 12,000 miles away from anywhere and still be on Earth. But she thought, though she wasn't clear why, that they were pretty close inshore.

IT WAS an exciting prospect. I tasted the implications of it thoughtfully. Both sides in the cold war were being pretty meticulous about respecting the continental masses belonging to the other side. You couldn't say as much for islands, and naturally Europe was respected by no one at all, being a selected jousting field. But even guided-missile attack was very rare. I wondered what on the Florida coast made

the Caodais mad enough to start shooting.

The blowoff, naturally, would be if they attempted to make a landing.

I remembered what Kedrick had said about expecting trouble from the stockade. The girl had talked as if everyone knew the prisoners were seething for weeks past.

How in blazes, I demanded of myself, could you be expected to know what was going on when security kept everybody's mouth shut?

Was it fair to drag me out of bed when —

Two things stopped that train of thought. One was the faintly shamefaced realization that I was furiously enjoying every minute of it.

The second was the sonar sighting bell loud in my ear. I read the telltales fast: It wasn't a whale or a clump of weed. The microphones had picked up another sonar. And the IFF filters had spotted it instantly as an enemy.

Contact!

I hit the TBS button — and prayed there was someone within range to hear: "Unidentified object, presumed Caodai, sighted at Grid Eight Eighty-Baker-Forty-Two— " I read my coordinates off the autolog. "Object bearing fifty-five degrees from present position, range extreme, size unknown."

That was it. *If* the sonar communicator got as far as someone who could hear — and *if* the understaffed, overworked squadron complement could spare a pair of ears to listen — then I *might* get reinforcements, possibly even in time to help.

Until then, it was up to me.

FEEDING the coal to the screws, I came about, tripping the safeties on the bow tubes. I had four tiny homing missiles to squander. Any one of them, small as they were, would probably do the trick if they connected with anything smaller than a cruiser.

And they would do their best to connect; their seeker fuses would tune in on the sound of the enemy screws, the temperature of the enemy hull, the magnetic deflection of the enemy steel, all at once. And if one bearing differed from the other two, they would reject that one. They would do their best.

But of course the Caodais would be doing *their* best. Their noisemakers would be clattering up the water at acoustic-focal points hundreds of yards away. Their "curtain" ports would be dropping thermal flares. Their counter-magnet generators would be generating and killing magne-

tic fields stem and stern by unpredictable turns.

Still — I had four missiles. One would be enough.

I was closing on them at maximum speed, trying hard to read the indications in the sonar. A little bright pip of light doesn't tell you much, but it got bigger and brighter, and it began to look like something a lot bigger than me.

All of a sudden, I was thinking of Elsie, fantastic thoughts: Suppose this Caodai, whatever he was, hit me; and suppose I got free and swam to the surface; and suppose they picked me up as a prisoner; and suppose they interned me; and suppose, just suppose, that I wound up on Zanzibar . . .

But then I had no time for fantasies.

The big, bright splotch in the sonar plate shimmered and spattered into a cluster of dots. For a moment, they wavered and tried to converge again — but it was a cluster, all right.

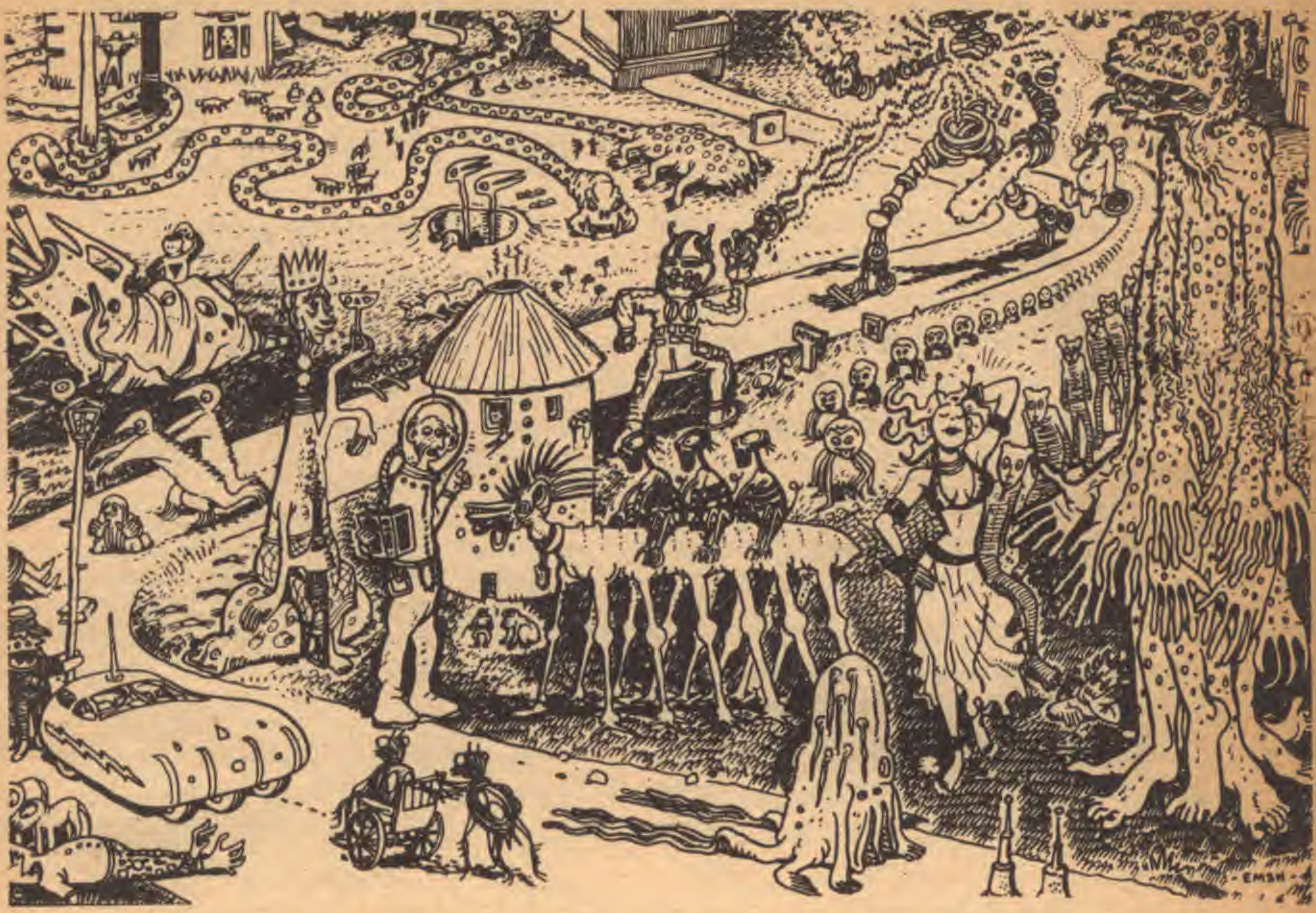
One, two, three — I counted, and counted again.

But the count didn't make much difference.

I had four missiles, sure. And there were at least eight enemy craft!

—FREDERIK POHL

Continued Next Month



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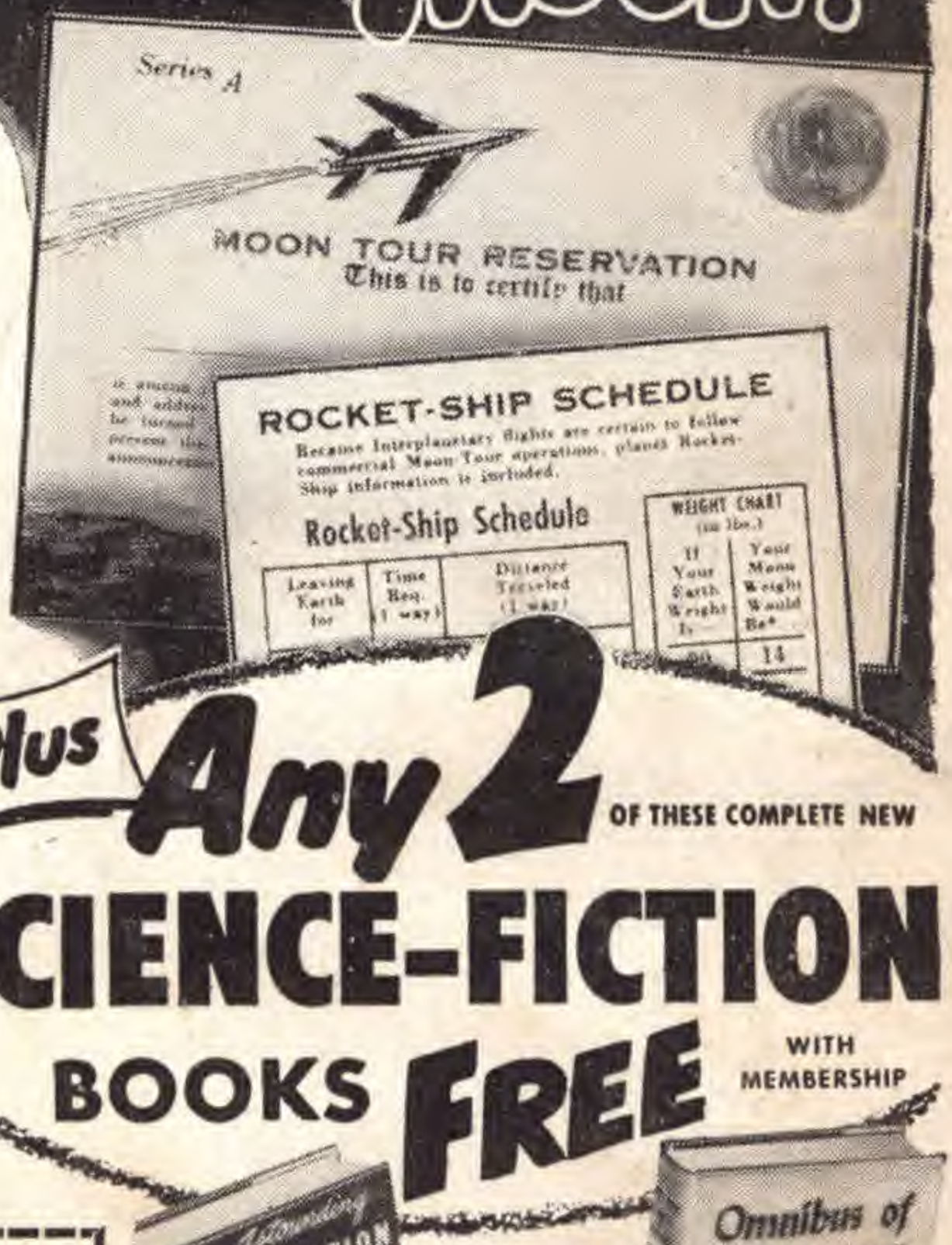

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