

19th Anniversary ALL-STAR ISSUE

THE MAGAZINE OF

Fantasy AND

Science Fiction

OCTOBER

50¢



ISAAC ASIMOV
RON GOULART
LARRY NIVEN



ARTHUR C. CLARKE
HARLAN ELLISON
ROBERT SILVERBERG



Walter Dill

Fantasy and Science Fiction

OCTOBER Including Venture Science Fiction

NOVELETS

The Meddler	LARRY NIVEN	4
The Fangs of the Trees	ROBERT SILVERBERG	109

SHORT STORIES

Time Was	PHYLLIS MURPHY	32
The Wide World of Sports	HARVEY JACOBS	37
Coffee Break	D. F. JONES	52
Try A Dull Knife	HARLAN ELLISON	70
Segregationist	ISAAC ASIMOV	80
The Ghost Patrol	RON GOULART	85

ARTICLE

Possible, That's All!	ARTHUR C. CLARKE	63
-----------------------	------------------	----

FEATURES

Books	ROBERT J. HUGHES, TED WHITE and GAHAN WILSON	23
Cartoon	GAHAN WILSON	31
Dance Music For A Gone Planet (<i>verse</i>)	SONYA DORMAN	62
Science: Little Found Satellite	ISAAC ASIMOV	97
F&SF Marketplace		129

Cover by Ronald Walotsky (for "The Fangs of the Trees")

Joseph W. Ferman, PUBLISHER
Judith Merril, BOOK EDITOR
Andrew Porter, ASSISTANT EDITOR

Edward L. Ferman, EDITOR
Isaac Asimov, SCIENCE EDITOR
Dale Beardale, CIRCULATION MANAGER

The Magazine of Fantasy and Science Fiction, Volume 35, No. 4, Whole No. 209, Oct. 1968. Published monthly by Mercury Press, Inc., at 50¢ a copy. Annual subscription \$5.00; \$5.50 in Canada and the Pan American Union, \$6.00 in all other countries. Publication office, 10 Ferry Street, Concord, N. H. 03301. Editorial and general mail should be sent to 347 East 53rd St., New York, N. Y. 10022. Second Class postage paid at Concord, N. H. Printed in U.S.A. © 1968 by Mercury Press, Inc. All rights, including translations into other languages, reserved. Submissions must be accompanied by stamped, self-addressed envelopes; the Publisher assumes no responsibility for return of unsolicited manuscripts.

The surprisingly few science fiction stories that also work as detective yarns tend to involve sedentary detectives whose forte is deduction. Isaac Asimov's Wendell Urth—a sort of science-fictional Nero Wolfe—is an example. Larry Niven's entertaining change of pace concerns a door-busting, slug-pumping private eye. The familiar ground rules of the hard-boiled detective story are present—sardonic humor, bruising action—but there is one variable that upsets the formula . . .

THE MEDDLER

by Larry Niven

SOMEONE WAS IN MY ROOM.

It had to be one of Sinc's boys. He'd been stupid. I'd left the lights off. The yellow light now seeping under the door was all the warning I needed.

He hadn't used the door; the threads were still there. That left the fire escape outside the bedroom window.

I pulled my gun, moved back a little in the corridor to get elbow room. Then—I'd practiced it often enough to drive the management crazy—I kicked the door open and was into the room in one smooth motion.

He should have been behind the door, or crouching behind a table, or hidden in the closet with his eye to the keyhole. Instead he was right

out in the middle of the living room, facing the wrong way. He'd barely started to turn when I pumped four GyroJet slugs into him. I saw the impacts twitching his shirt. One over the heart.

He was finished.

So I didn't slow down to watch him fall. I crossed the living room rug in a diving run and landed behind the couch. He couldn't be alone. There had to be others. If one had been behind the couch he might have gotten me, but there wasn't. I scanned the wall behind me, but there was nothing to hide under. So I froze, waiting, listening.

Where were they? The one I'd shot couldn't have come alone.

I was peeved at Sinc. As long

as he'd sent goons to waylay me, he might have sent a few who knew what they were doing. The one I'd shot hadn't had time to know he was in a fight.

"Why did you do that?"

Impossibly, the voice came from the middle of the living room, where I'd left a falling corpse. I risked a quick look and brought my head down fast.

The afterimage: He hadn't moved. There was no blood on him. No gun visible, but I hadn't seen his right hand.

Bulletproof vest? Sinc's boys had no rep for that kind of thing, but that had to be it. I stood up suddenly and fired, aiming between the eyes.

The slug smashed his right eye, off by an inch, and I knew he'd shaken me. I dropped back and tried to cool off.

No noises. Still no sign that he wasn't alone.

"I said, why did you do that?"

Mild curiosity colored his high-pitched voice. He didn't move as I stood up, and there was no hole in either eye.

"Why did I do what?" I asked cleverly.

"Why did you make holes in me? My gratitude for the gift of metal, of course, but—" He stopped suddenly, like he'd said too much and knew it. But I had other worries.

"Anyone else here?"

"Only we two are present. I beg

pardon for invasion of privacy and will indemnify—" He stopped again, as suddenly, and started over. "Whom were you expecting?"

"Sinc's boys. I guess they haven't caught on yet. Sinc's boys want to make holes in *me*."

"Why?"

Could he be that stupid? "To turn me off! To kill me!"

He looked surprised, then furious. He was so mad he gurgled. "I should have been informed! Someone has been unforgivably sloppy!"

"Yah. Me. I thought you must be with Sinc. I shouldn't have shot at you. Sorry."

"Nothing," he smiled, instantly calm again.

"But I ruined your suit . . ." I trailed off. Holes showed in his jacket and shirt, but no blood. "Just what *are* you?"

He stood about five feet four, a round little man in an old-fashioned brown one-button suit. There was not a hair on him, not even eyelashes. No warts, no wrinkles, no character lines. A nebbish, one of these guys whose edges are all round, like someone forgot to put in the fine details.

He spread smoothly manicured hands. "I am a man like yourself."

"Nuts."

"Well, he said angrily, "you would have thought so if the preliminary investigation team had done their work properly!"

"You're a—Martian?"

"I am *not* a Martian. I am—" He gurgled. "Also I am an anthropologist. Your word. I am here to study your species."

"You're from outer space?"

"Very. The direction and distance are secret, of course. My very existence should have been secret." He scowled deeply. Rubber face, I thought, not knowing the half of it yet.

"I won't talk," I reassured him. "But you came at a bad time. Any minute now, Sinc's going to figure out who it is that's on his tail. Then he'll be on mine, and this dump'll be ground zero. I hate to brush you. I've never met a . . . whatever."

"I too must terminate this interview, since you know me for what I am. But first, tell me of your quarrel. Why does Sinc want to make holes in you?"

"His name is Lester Dunhaven Sinclair, the Third. He runs every racket in this city. Look, we've got time for a drink—maybe. I've got scotch, bourbon—"

He shuddered. "No, I thank you."

"Just trying to set you at ease." I was a little miffed.

"Then perhaps I may adapt a more comfortable form, while you drink—whatever you choose. If you don't mind."

"Please yourself." I went to the rolling bar and poured bourbon and tap water, no ice. The apart-

ment house was dead quiet. I wasn't surprised. I've lived here a couple of years now, and the other tenants have learned the routine. When guns go off, they hide under their beds and stay there.

"You won't be shocked?" My visitor seemed anxious. "If you are shocked, please say so at once."

And he melted. I stood there with the paper cup to my lip and watched him flow out of his one-button suit and take the compact shape of a half-deflated grey beach ball.

I downed the bourbon and poured more, no water. My hands stayed steady.

"I'm a private op," I told the Martian. He'd extruded a convoluted something I decided was an ear. "When Sinc showed up about three years ago and started taking over the rackets, I stayed out of his way. He was the law's business, I figured. Then he bought the law, and that was okay too. I'm no crusader."

"Crusader?" His voice had changed. Now it was deep, and it sounded like something bubbling up from a tar pit.

"Never mind. I tried to stay clear of Sinc, but it didn't work. Sinc had a client of mine killed. Morrison, his name was. I was following Morrison's wife, getting evidence for a divorce. She was shacking up with a guy named Adler. I had all the evidence I needed when Morrison disappeared.

"Then I found out Adler was Sinc's right hand."

"Right hand? Nothing was said of hive cultures."

"Huh?"

"One more thing the prelim team will have to answer for. Continue talking. You fascinate me."

"I kept working on it. What could I do? Morrison was my client, and he was dead. I collected plenty of evidence against Adler, and I turned it over to the cops. Morrison's body never turned up, but I had good corpus delecti evidence. Anyway, Sinc's bodies never do turn up. They just disappear."

"I turned what I had over to the cops. The case was quashed. Somehow the evidence got lost. One night I got beat up."

"Beat up?"

"Almost any kind of impact," I told him, "can damage a human."

"Really!" he gurgled. "All that water, I suppose."

"Maybe. In my line you have to heal fast. Well, that tore it. I started looking for evidence against Sinc himself. A week ago I sent Xeroxes off to the Feds. I let one of Sinc's boys find a couple of the copies. Bribery evidence, nothing exciting, but enough to hurt. I figured it wouldn't take Sinc long to figure out who made them. The Xerox machine I borrowed was in a building he owns."

"Fascinating. I think I will make holes in the Lady of Preliminary Investigation."

"Will that hurt?"

"She is not a—" gurgle. "She is a—" loud, shrill bird whistle.

"I get it. Anyway, you can see how busy I'm going to be. Much too busy to talk about, uh, anthropology. Any minute now I'll have Sinc's boys all over me, and the first one I kill, I'll have the cops on me too. Maybe the cops'll come first. I dunno."

"May I watch? I promise not to get in your path."

"Why?"

He cocked his ear, if that was what it was. "An example. Your species has developed an extensive system of engineering using alternating current. We were surprised to find you transmitting electricity so far, and using it in so many ways. Some may even be worth imitating."

"That's nice. So?"

"Perhaps there are other things we can learn from you."

I shook my head. "Sorry, short stuff. This party's bound to get rough, and I don't want any bystanders getting hurt. *What* the hell am I talking about. Holes don't hurt you?"

"Very little hurts me. My ancestors once used genetic engineering to improve their design. My major weaknesses are susceptibility to certain organic poisons, and a voracious appetite."

"Okay, stay then. Maybe after it's all over you can tell me about Mars, or wherever you came from."

"Where I come from is classified. I can tell you about Mars."

"Sure, sure. How'd you like to raid the fridge while we wait? If you're so hungry all the time—hold it."

Sliding footsteps.

They were out there. A handful of them, if they were trying to keep it a secret. And these had to be from Sinc, because all the neighbors were under their beds by now.

The Martian heard it too. "What shall I do? I cannot reach human form fast enough."

I was already behind the easy chair. "Then try something else. Something easy."

A moment later I had two matching black leather footstools. They both matched the easy chair, but maybe nobody'd notice.

The door slammed wide open. I didn't pull the trigger, because nobody was there. Just the empty hallway.

The fire escape was outside my bedroom window, but that window was locked and bolted and rigged with alarms. They wouldn't get in that way. Unless—

I whispered, "Hey! How did you get in?"

"Under the door."

So that was all right. The window alarms were still working. "Did any of the tenants see you?"

"No."

"Good." I get enough complaints from the management without *that*.

More faint rustling from outside the door. Then a hand and gun appeared for an instant, fired at random, vanished. Another hole in my walls. He'd had time to see my head, to place me. I ran low for the couch. I was getting set again, both eyes on the door, when a voice behind me said, "Stand up slow."

You had to admire the guy. He'd got through the window alarms without a twitch, into the living room without a sound. He was tall, olive-skinned, with straight black hair and black eyes. His gun was centered on the bridge of my nose.

I dropped the GyroJet and stood up. Pushing it now would only get me killed.

He was very relaxed, very steady. "That's a GyroJet, isn't it? Why not use a regular heater?"

"I like this," I told him. Maybe he'd come too close, or take his eyes off me, or—anything. "It's light as a toy, with no recoil. The gun is just a launching chamber for the rocket slugs, and they pack the punch of a forty-five."

"But, man! The slugs cost a buck forty-five each!"

"I don't shoot that many people."

"At those prices, I believe it. Okay, turn around slow. Hands in the air." His eyes hadn't left me for a moment.

I turned my back. Next would be a sap—

Something metal brushed against my head, featherlight. I whirled, struck at his gun hand and his larynx. Pure habit. I'd moved the instant the touch told me he was in reach.

He was stumbling back with his hand to his throat. I put a fist in his belly and landed the other on his chin. He dropped, trying to curl up. And sure enough, he was holding a sap.

But why hadn't he hit me with it? From the feel of it, he'd laid it gently on top of my head, carefully, as if he thought the sap might shatter.

"All right, stand easy." The hand and gun came through the doorway, attached to six feet of clean living. I knew him as Handel. He looked like any blond brainless hero, but he wasn't brainless, and he was no hero.

He said, "You're going to hate yourself for doing that."

The footstool behind him began to change shape.

"Dammit," I said, "that's not fair."

Handel looked comically surprised, then smiled winningly. "Two to one?"

"I was talking to my footstool."

"Turn around. We've got orders to bring you to Sinc, if we can. You could still get out of this alive."

I turned around. "I'd like to apologize."

"Save it for Sinc."

"No, honest. It wasn't my idea to have someone else mix in this. Especially—" Again I felt something brush against the side of my head. The Martian must be doing something to stop the impact.

I could have taken Handel then. I didn't move. It didn't seem right that I could break Handel's neck when he couldn't touch me. Two to one I don't mind, especially when the other guy's the one. Sometimes I'll even let some civiominded bystander help, if there's some chance he'll live through it. But *this* . . .

"What's not fair?" asked a high, complaining voice.

Handel screamed like a woman. I turned to see him charge into the door jamb, back up a careful two feet, try for the door again and make it.

Then I saw the footstool.

He was already changing, softening in outline, but I got an idea of the shape Handel had seen. No wonder it had softened his mind. I felt it softening my bones, melting the marrow, and I closed my eyes and whispered, "Dammit, you were supposed to *watch*."

"You told me the impact would damage you."

"That's not the point. Detectives are *always* getting hit on the head. We *expect* it."

"But how can I learn anything if your little war ends so soon?"

"Well, what do you learn if you keep jumping in?"

"You may open your eyes."

I did. The Martian was back to his nebbish form. He had fished a pair of orange shorts out of his pile of clothes. "I do not understand your objection," he said. "This Sinc will kill you if he can. Do you want that?"

"No, but—"

"Do you believe that your side is in the right?"

"Yes, but—"

"Then why should you not accept my help?"

I wasn't sure myself. It felt wrong. It was like sneaking a suitcase bomb into Sinc's mansion and blowing it up.

I thought about it while I checked the hall. Nobody there. I closed the door and braced a chair under the knob. The dark one was still with us. He was trying to sit up.

"Look," I told the Martian. "Maybe I can explain, maybe I can't. But if I don't get your word to stay out of this, I'll leave town. I swear it. I'll just drop the whole thing. Understand?"

"No."

"Will you promise?"

"Yes."

The Spanish type was rubbing his throat and staring at the Martian. I didn't blame him. Fully dressed, the Martian could have passed for a man, but not in a pair of orange undershorts. No hair or nipples marked his chest, no navel pitted his belly. The

hood turned a flashing white smile on me and asked, "Who's he?"

"I'll ask the questions. Who're you?"

"Don Domingo." His accent was soft and Spanish. If he was worried, it didn't show. "Hey, how come you didn't fall down when I hit you?"

"I said I'll ask the—"

"Your face is turning pink. Are you embarrassed about something?"

"Dammit, Domingo, where's Sinc? Where were you supposed to take me?"

"The place."

"What place? The Bel Air place?"

"That's the one. You know, you have the hardest head—"

"Never mind that!"

"Okay, okay. What will you do now?"

I couldn't call the law in. "Tie you up, I guess. After this is over, I'll turn you in for assault."

"After this is over, you won't be doing much, I think. You will live as long as they shoot at your head, but when—"

"Now *drop* that!"

The Martian came out of the kitchen. His hand was flowing around a tin of corned beef, engulfing it tin and all. Domingo's eyes went wide and round.

Then the bedroom exploded.

It was a fire bomb. Half the living room was in flames in an instant. I scooped up the GyroJet.

The second bomb exploded in the hall. A blast of flame blew the door inward, picked up the chair I'd used to brace the door and flung it across the room.

"No!" Domingo yelled. "Handel was supposed to wait! *Now* what?"

Now we roast, I thought, stumbling back with my arm raised against the flames. A calm tenor voice asked, "Are you suffering from excessive heat?"

"Yes! Dammit, yes!"

A huge rubber ball slammed into my back, hurling me at the wall. I braced my arms to take up some of the impact. It was still going to knock me silly. Just before I reached it, the wall disappeared. It was the outside wall. Completely off balance, I dashed through an eight-foot hole and out into the empty night, six floors above concrete.

I clenched my teeth on the scream. The ground came up—the ground came up—where the hell was the ground? I opened my eyes. Everything was happening in slow-motion. A second stretched to eternity. I had time to see strollers turning to crane upward, and to spot Handel near a corner of the building, holding a handkerchief to his bleeding nose. Time to look over my shoulder as Domingo stood against a flaming background, poised in slow-motion in an eight-foot circle cut through the wall of my apartment.

Flame licked him. He jumped.

Slow-motion?

He went past me like a falling safe. I saw him hit; I heard him hit. It's not a good sound. Living on Wall Street during November '68, I heard it night after night during the weeks following the election. I never got used to it.

Despite everything my belly and groin were telling me, I was not falling. I was sinking, like through water. By now half a dozen people were watching me settle. They all had their mouths open. Something poked me in the side, and I slapped at it and found myself clutching a .45 slug. I plucked another off my cheek. Handel was shooting at me.

I fired back, not aiming too well. If the Martian hadn't been "helping" me I'd have blown his head off without a thought. As it was—anyway, Handel turned and ran.

I touched ground and walked away. A dozen hot, curious eyes bored into my back, but nobody tried to stop me.

There was no sign of the Martian. Nothing else followed me either. I spent half an hour going through the usual contortions to shake a tail, but that was just habit. I wound up in a small bar.

My eyebrows were gone, giving me a surprised look. I found myself studying my reflection in the bar mirror, looking for other signs that I'd been in a fight.

My face, never particularly handsome, has been dignified by scar tissue over the years, and my light brown hair never wants to stay in place. I had to move the part a year back to match a bullet crease in my scalp. The scars were all there, but I couldn't find any new cuts or bruises. My clothes weren't mussed. I didn't hurt anywhere. It was all unreal and vaguely dissatisfying.

But my next brush with Sinc would be for real.

I had my GyroJet and a sparse handful of rocket slugs in one pocket. Sinc's mansion was guarded like Fort Knox. And Sinc would be expecting me; he knew I wouldn't run.

We knew a lot about each other, considering we'd never met.

Sinc was a teetotaler. Not a fanatic; there was liquor on the premises of his mansion-fort. But it had to be kept out of Sinc's sight.

A woman usually shared his rooms. Sinc's taste was excellent. He changed his women frequently. They never left angry, and that's unusual. They never left poor, either.

I'd dated a couple of Sinc's exes, letting them talk about Sinc if they cared to. The consensus:

Sinc was an all right guy, a spender, inventive and enthusiastic where it counted.

And neither particularly wanted to go back.

Sinc paid well, and in full.

He'd bail a man out of jail if the occasion arose. He never crossed anyone. Stranger yet, nobody ever crossed him. I'd had real trouble learning anything about Sinc. Nobody had wanted to talk.

But he'd crossed Domingo. That had caught us both by surprise.

Put it differently. Someone had crossed Domingo. Domingo had been waiting for rescue, not bombs. So had I. It was Sinc's policy to pull his boys out if they got burned.

Either Domingo had been crossed against Sinc's orders, or Sinc was serious about wanting me dead.

I meet all kinds of people. I like it that way. By now I knew enough about Sinc to want to know more, much more. I wanted to meet him. And I was damn glad I'd shaken the Martian, because . . .

Just what was it that bugged me about the Martian?

It wasn't the strangeness. I meet all kinds. The way he shifted shape could throw a guy, but I don't bug easy.

Manners? He was almost too polite. And helpful.

Much too helpful.

That was part of it. The lines of battle had been drawn . . . and then something had stepped in from outer space. He was *deus ex machina*, the angel who descends on a string to set everything right, and incidentally to ruin the story. Me tackling Sinc with the Mar-

tian's help was like a cop planting evidence. It was wrong. But more than that, it seemed to rob the thing of all its point, so that nothing mattered.

I shrugged angrily and had another drink. The bartender was trying to close. I drank up fast and left in a clump of tired drunks.

My car had tools I could use, but by now there'd be a bomb under the hood. I caught a cab and gave him an address on Bellagio, a couple of blocks from Sinc's place, if you can number anything in that area in "blocks". It's all hills, and the streets can drive you nuts. Sinc's home ground was a lumpy triangle with twisted sides, and big. It must have cost the Moon to landscape. One afternoon I'd walked past it, casing it. I couldn't see anything except through the gate. The fence was covered by thick climbing ivy. There were alarms in the ivy.

I waited till the taxi was gone, then loaded the GyroJet and started walking. That left one rocket slug still in my pocket.

In that neighborhood there was something to duck behind every time a car came by. Trees, hedges, gates with massive stone pillars. When I saw headlights, I ducked, in case Sinc's boys were patrolling. A little walking took me to within sight of the ivy fence. Any closer and I'd be spotted.

So I ducked onto the property of one of Sinc's neighbors.

The place was an oddity: a rectangular pool with a dinky pool house at one end, a main house that was all right angles, and between the two, a winding brook with a small bridge across it and trees hanging over the water. The brook must have been there before the house, and some of the trees too. It was a bit of primal wilderness that jarred strangely with all the right angles around it. I stuck with the brook, naturally.

This was the easy part. A burglary rap was the worst that could happen to me.

I found a fence. Beyond was asphalt, street lamps, and then the ivy barrier to Sinc's domain.

Wire cutters? In the car. I'd be a sitting duck if I tried to go over. It could have been sticky, but I moved along the fence, found a rusty gate, and persuaded the padlock to open for me. Seconds later I was across the street and huddled against the ivy, just where I'd taken the trouble to hunt out a few of the alarms.

Ten minutes later I went over.

Sitting duck? Yes. I had a clear view of the house, huge and mostly dark. In the moment before I dropped, someone would have had a clear view of me, too, framed by lamplight at the top of the fence.

I dropped between inner and outer fence and took a moment to think. I hadn't expected an inner fence. It was four feet of solid brick stopped by six feet of wiring,

and the wiring had a look of high voltage.

Now what?

Maybe I could find something to short out the fence. But that would alert the house just as I was going over. Still, it might be the best chance.

Or I could go back over the ivy and try the gate defenses. Maybe I could even bluff my way through. Sinc must be as curious about me by now as I was about him. Everything I knew about Sinc was in the present tense. Of his past I knew only that there were no records of his past. But if Sinc had heard about my floating lightly down from a sixth-floor window, not unlike Mary Poppins . . . It might be worth a try. At least I'd live long enough to see what Sinc looked like. Or—

"Hello. How does your war proceed?"

I sighed. He drifted down beside me, still man-shaped, dressed in a dark suit. I saw my mistake when he got closer. He'd altered his skin color to make a suit, shirt and tie. At a distance it would pass. Even close up, he had nothing that needed hiding.

"I thought I'd got rid of you," I complained. "Are you bigger?" At a guess, he had nearly doubled.

"Yes. I became hungry."

"You weren't kidding about your appetite."

"The war," he reminded me. "Are you planning to invade?"

"I was. I didn't know about this fence."

"Shall I—?"

"No! No, you shall not whatever you were thinking about. Just watch!"

"What am I to watch? You have done nothing for several minutes."

"I'll think of something."

"Of course."

"But whatever I do, I won't use your help, now or ever. If you want to watch, fine, be my guest. But don't help."

"I do not understand why not."

"It's like bugging a guy's telephone. Sinc has certain rights, even if he is a crook. He's immune from cruel and unusual punishment. The FBI can't bug his phone. You can't kill him unless you try him first, unless he's breaking a law at the time. And he shouldn't have to worry about armed attacks by Martians!"

"Surely if Sinc himself breaks the rules—"

"There are *rules* for dealing with lawbreakers!" I snapped.

The Martian didn't answer. He stood beside me, seven feet tall and pudgy, a dark, man-like shape in the dim light from the house.

"Hey. How do you do all those things you do? Just a talent?"

"No. I carry implements." Something poked itself out of his baby-smooth chest, something hard that gleamed like metal. "This, for instance, damps momentum. Other portable artifacts

lessen the pull of gravity, or reprocess the air in my lung."

"You keep them all inside you?"

"Why not? I can make fingers of all sizes inside me."

"Oh."

"You have said that there are rules for dealing with rule breakers. Surely you have already broken those rules. You have trespassed on private property. You have departed the scene of an accident, Don Domingo's death. You have—"

"All right."

"Then—"

"All right, I'll try again." I was wasting too much time. Getting over the fence was important. But so, somehow, was this. Because in a sense the Martian was right. This had nothing to do with rules . . .

"It has nothing to do with rules," I told him. "At least, not exactly. What counts is power. Sinc has taken over this city, and he'll want others too, later. He's got too much power. That's why someone has to stop him."

"And you give me too much power. A—a man who has too much power loses his head. I don't trust myself with you on my side. I'm a detective. If I break a law, I expect to be jailed for it unless I can explain why. It makes me careful. If I tackle a crook who can whip me, I get bruised. If I shoot someone who doesn't deserve it, I go to prison. It all makes me careful. But with you around—"

"You lose your caution," said the dark bulk beside me. He spoke almost musingly, with more of a human expression than I'd heard before. "You may be tempted to take more power than is good for you. I had not expected your species to be so wise."

"You thought we were stupid?"

"Perhaps. I had expected you to be grateful and eager for any help I might give. Now I begin to understand your attitude. We, too, try to balance out the amount of power given to individuals. What is that noise?"

It was a rustling, a scampering, barely audible but not at all furtive.

"I don't know."

"Have you decided upon your next move?"

"Yes. I—damn! Those are dogs!"

"What are dogs?"

Suddenly they were there. In the dark I couldn't tell what breed, but they were big, and they didn't bark. In a rustling of claws scrabbling on cement, they rounded the curve of the brick wall, coming from both sides, terribly fast. I hefted the GyroJet and knew there were twice as many dogs as I had shots.

Lights came on, bright and sudden, all over the grounds. I fired, and a finger of flame reached out and touched one of the dogs. He fell, tumbling, lost in the pack.

All the lights went deep red,

blood red. The dogs stopped. The noise stopped. One dog, the nearest, was completely off the ground, hovering in mid-leap, his lips skinned back from sharp ruby teeth.

"It seems I have cost you time," the Martian murmured. "May I return it?"

"What did you do?"

"I have used the damper of inertia in a projected field. The effect is as if time has stopped for all but us. In view of the length of time I have kept you talking, it is the least I can do."

Dogs to the left and dogs to the right, and lights all the hell over the place. I found men with rifles placed like statues about the wide lawn.

"I don't know if you're right or wrong," I said. "I'll be dead if you turn off that time stopper. But this is the last time. Okay?"

"Okay. We will use only the inertia damper."

"I'll move around to the other side of the house. Then you turn off the gadget. It'll give me some time to find a tree."

We went. I stepped carefully among the statues of dogs. The Martian floated behind like a gigantic, pudgy ghost.

The channel between inner and outer fence went all the way around to the gate at the front of the house. Near the gate the inner fence pinched against the outer and ended. But before we reached

that point I found a tree. It was big, and it was old, and one thick branch stretched above the fence to hover over our heads.

"Okay, turn off the gadget."

The deep red lights glared a sudden white.

I went up the ivy. Long arms and oversized hands are a big help to my famous monkey act. No point now in worrying about alarms. I had to balance standing on the outer fence to reach the branch with my fingers. When I put my weight on it, it dipped three feet and started to creak. I moved along hand over hand, and swung up into the leaves before my feet could brush the inner fence. At a comfortable crotch, I settled myself to take stock.

There were at least three riflemen on the front lawn. They were moving in a search pattern, but they didn't expect to find anything. All the action was supposed to be in back.

The Martian floated into the air and moved across the fence.

He nicked the top going over. A blue spark snapped, and he dropped like a sack of wheat. He landed against the fence, grounded now, and electricity leaped and sizzled. Ozone and burnt meat mixed in the cold night air. I dropped out of the tree and ran to him. I didn't touch him. The current would have killed me.

It had certainly killed him.

And that was something I'd

never thought of. Bullets didn't faze him. He could produce miracles on demand. How could he be killed by a simple electric fence? If he'd only mentioned that! But he'd been surprised even to find that we had electricity.

I'd let a bystander be killed. The one thing I'd sworn I would never do again . . .

Now he was nothing like human. Metal things poked gleaming from the dead mass that had been an anthropologist from the stars. The rustle of current had stopped seconds ago. I pulled one of the metal gadgets out of the mass, slid it in a pocket and ran.

They spotted me right away. I took a zigzag course around a fenced tennis court, running for the front door. There were man-length windows on either side of the door. I ran up the steps, brought the GyroJet down in a hurried slashing blow that broke most of the panes in one window and dove off the steps into a line of bushes.

When things happen that fast, your mind has to fill the gaps between what you saw and what you didn't. All three gunmen chased me frantically up the steps and through the front door, shouting at the tops of their lungs.

I moved along the side of the house, looking for a window.

Somebody must have decided I couldn't go through all that jagged glass. He must have shouted the others, too, because I heard the

hunt start again. I climbed a piece of wall, found a little ledge outside a darkened second-floor window. I got the window up without too much noise.

For the first time on this crazy night, I was beginning to think I knew what I was doing. That seemed odd, because I didn't know much about the layout of the house, and I hadn't the faintest idea where I was. But at least I knew the rules of the game. The variable, the Martian, the *deus ex machina*, was out of the picture.

The rules were: whoever saw me would kill me if he could. No bystanders, no good guys would be here tonight. There would be no complex moral choices. I would not be offered supernatural help, in return for my soul or otherwise. All I had to do was try to stay alive. But a bystander had died.

The bedroom was empty. Two doors led to a closet and a bathroom. Yellow light seeped under a third door. No choice here. I pulled the GyroJet and eased the third door open.

A face jerked up over the edge of a reading chair. I showed it the gun, kept it aimed as I walked around in front of the chair. Nobody else was in the room.

The face could have used a shave. It was beefy, middle-aged, but symmetrical enough except for an oversized nose. "I know you," it said, calmly enough considering the circumstances.

"I know you too." It was Adler, the one who'd gotten me into this mess, first by cohabiting with Morrison's wife and then by killing Morrison.

"You're the guy Morrison hired," said Adler. "The tough private eye. Bruce Cheseborough. Why couldn't you let well enough alone?"

"I couldn't afford to."

"You couldn't afford not to. Have some coffee."

"Thanks. You know what'll happen if you yell or anything?"

"Sure." He picked up a water glass, dumped the water in the wastebasket. He picked up a silver thermos and poured coffee into his own coffee cup and into the water glass, moving slowly and evenly. He didn't want to make me nervous.

He himself was no more than mildly worried. That was reassuring, in a way, because he probably wouldn't do anything stupid. But . . . I'd seen this same calm in Don Domingo, and I knew the cause. Adler and Domingo and everyone else who worked for Sinc, they all had perfect faith in him. Whatever trouble they were in, Sinc would get them out.

I watched Adler take a healthy gulp of coffee before I touched the glass. The coffee was black and strong, heavily laced with good brandy. My first gulp tasted so good I damn near smiled at Adler.

Adler smiled back. His eyes were wide and fixed, as if he were afraid

to look away from me. As if he expected me to explode. I tried to think of a way he could have dropped something in the coffee without drinking it himself. There wasn't any.

"You made a mistake," I told him, and gulped more coffee. "If my name had been Rip Hammer or Mike Hero, I might have dropped the whole thing when I found out you were with Sinc's boys. But when your name is Bruce Cheseborough, Junior, you can't afford to back out of a fight."

"You should have. You might have lived." He said it without concentrating on it. A puzzled frown tugged at the corners of his eyes and mouth. He was still waiting for something to happen.

"Tell you what. You write me out a confession, and I can leave here without killing anyone. Won't that be nice?"

"Sure. What should I confess to?"

"Killing Morrison."

"You don't expect me to do that."

"Not really."

"I'm going to surprise you." Adler got up, still slow, and went behind the desk. He kept his hands high until I was around behind him. "I'll write your damn confession. You know why? Because you'll never use it. Sinc' I'll see to that."

"If anyone comes through that door—"

"I know, I know." He started

writing. While he was at it, I examined the tool I'd taken from the Martian's corpse. It was white shiny metal, with a complex shape that was like nothing I'd ever seen. Like the plastic guts in a toy gun, half melted and then tooled, so that all the parts were merged and rounded. I had no idea what it did. Anyway, it was no good to me. I could see slots where buttons or triggers were buried, but they were too small for fingers. Tweezers might have reached them, or a hatpin.

Alder handed me the paper he'd been writing on. He'd made it short and pointed: motive, means, details of time. Most of it I already knew.

"You don't say what happened to the body."

"Same thing that happened to Domingo."

"Domingo?"

"Domingo, sure. When the cops came to pick him up in back of your place, he was gone. Even the bloodstains were gone. A miracle, right?" Adler smiled nastily. When I didn't react, he looked puzzled.

"How?" I asked him.

Adler shrugged uncomfortably. "You already know, don't you? I won't write it down. It would bring Sinc in. You'll have to settle for what you've got."

"Okay. Now I tie you up and wend my way homeward."

Adler was startled. He couldn't have faked it. "Now?"

"Sure. You killed my client, not Sinc."

He grinned, not believing me. And he still thought something was about to happen.

I used the bathrobe sash for his arms and a handkerchief for a gag. There were other bathrobes in the closet to finish the job. He still didn't believe I was going to leave, and he was still waiting for something to happen. I left him on the bed, in the dark.

Now what?

I turned off the lights in the sitting room and went to the window. The lawn was alive with men and dogs and far too much light. That was the direct way out.

I had Adler's hide in my pocket. Adler, who had killed my client. Was I still chasing Sinc? Or should I try to get clear with that piece of paper?

Get clear, of course.

I stood by the window, picking out shadows. There was a lot of light, but the shadows of bushes and trees were jet black. I found a line of hedge, lighted on this side, but I could try the other. Or move along *that* side of the tennis court, then hop across to *that* odd-looking statue—

The door opened suddenly, and I whirled.

A man in dark slacks and a smoking jacket stood facing my gun. Unhurriedly, he stepped through the door and closed it behind him.

It was Sinc. Lester Dunhaven

Sinclair III was a man in perfect condition, not a pound overweight or underweight, with gymnasium muscles. I guessed his age at thirty-four or so. Once before I'd seen him, in public, but never close enough to see what I saw now: that his thick blond hair was a wig.

He smiled at me. "Cheseborough, isn't it?"

"Yah."

"What did you do with my . . . lieutenant?" He looked me up and down. "I gather he's still with us."

"In the bedroom. Tied up." I moved around to lock the door to the hall.

I understood now why Sinc's men had made him into something like a feudal overlord. He measured up. He inspired confidence. His confidence in himself was total. Looking at him, I could almost believe that nothing could stand against him.

"I gather you were too intelligent to try the coffee. A pity," said Sinc. He seemed to be examining my gun, but with no trace of fear. I tried to think it was a bluff, but I couldn't. No man could put across such a bluff. His twitching muscles would give him away. I began to be afraid of Sinc.

"A pity," he repeated. "Every night for the past year Adler has gone to bed with a pot of coffee spiked with brandy. Handel too."

What was he talking about? The coffee hadn't affected me at all. "You've lost me," I said.

"Have I?" Smiling as if he'd won a victory, Sinc began to gurgle. It was eerily familiar, that gurgle. I felt the rules changing again, too fast to follow. Smiling, gurgling rhythmically, Sinc put a hand in his pants pocket and pulled out an automatic. He took his time about it.

It was not a big gun, but it was a gun, and the moment I knew that, I fired.

A GyroJet rocket slug burns its solid fuel in the first twenty-five feet and moves from there on momentum. Sinc was twenty-five feet away. Flame reached out to tap him on the shoulder joint, and Sinc smiled indulgently. His gun was steady on the bridge of my nose.

I fired at his heart. No effect. The third shot perforated the space between his eyes. I saw the hole close, and I knew. Sinc was cheating too.

He fired.

I blinked. Cold fluid trickled down from my forehead, stung my eyes, dribbled across my lips. I tasted rubbing alcohol.

"You're a Martian too," I said.

"No need for insult," Sinc said mildly. He fired again. The gun was a squirt gun, a kid's plastic toy shaped like an automatic. I wiped the alcohol out of my eyes.

"Well," said Sinc. "Well!" He reached up, peeled his hair off and dropped it. He did the same with his eyebrows and eyelashes. "Well, where is he?"

"He told me he was an . . . anthropologist. Was he lying?"

"Sure, Cheseborough. He was the Man. The Law. He's tracked me over distances you couldn't even write down." Sinc backed up against a wall. "You wouldn't even understand what my people called my crime. And you've no reason to protect him. He used you. Every time he stopped a bullet for you, it was to make me think you were he. That's why he helped you put on a floating act. That's why he disposed of Domingo's body. You were his stalking-horse. I'm supposed to kill you while he's sneaking up on me. He'll sacrifice you without a qualm. Now, *where is he?*"

"Dead. He didn't know about electric fences."

A voice from the hall, Handel's voice, bellowed, "Mr. Sinclair! Are you all right in there?"

"I have a guest," Sinc called out. "He has a gun."

"What do we do?"

"Don't do anything," Sinc called to him. And then he started to laugh. He was losing his human contours, "relaxing" because I already knew what he was.

"I wouldn't have believed it," he chuckled. "He tracked me all that distance to die on an electric fence!" His chuckles cut off like a broken tape, making me wonder how real they were, how real his laughter could be with his no doubt weird breathing system. "The current couldn't kill him, of course. It

must have shorted his air-maker and blown the battery."

"The spiked coffee was for him," I guessed. "He said he could be killed by organic poisons. He meant alcohol."

"Obviously. And all I did was give you a free drink," he chuckled.

"I've been pretty gullible. I believed what your women told me."

"*They* didn't know." He did a pretty accurate double take. "You thought . . . Cheseborough, have I made rude comments about your sex life?"

"No. Why?"

"Then you can leave mine alone."

He had to be kidding. No he didn't, he could take any shape he liked. Wow, I thought. Sinc's really gone native. Maybe he *was* laughing, or thought he was.

Sinc moved slowly toward me. I backed away, holding the useless gun.

"You realize what happens now?"

I took a guess. "Same thing that happened to Domingo's body? All your embarrassing bodies?"

"Exactly. Our species is known for its enormous appetite." He moved toward me, the squirt gun forgotten in his right hand. His muscles had sagged and smoothed. Now he was like the first step in making a clay model of a man. But his mouth was growing larger, and his teeth were two sharp-edged horseshoes.

I fired once more.

Something smashed heavily against the door. Sinc didn't hear it. Sinc was melting, losing all form as he tried to wrap himself around his agony. From the fragments of his shattered plastic squirt gun, rubbing alcohol poured over what had been his hand and dripped to the floor.

The door boomed again. Something splintered.

Sinc's hand was bubbling, boiling. Sinc, screaming, was flowing out of his slacks and smoking jacket. And I . . . I snapped out of whatever force was holding me rooted, and I picked up the silver thermos and poured hot spiked coffee over whatever it was that writhed on the floor.

Sinc bubbled all over. White metal machinery extruded itself from the mass and lay on the rug.

The door crackled and gave. By then I was against the wall, ready to shoot anything that looked my way. Handel burst into the room and stopped dead.

He stood there in the doorway, while the stars grew old and went out. Nothing, I felt, could have torn his eyes from that twitching, bubbling mass. Gradually the mass stopped moving : . . and Handel gulped, got his throat working, shrieked and ran from the room.

I heard the meaty thud as he collided with a guard, and I heard him babbling, "Don't go in there! Don't . . . oh, don't . . ." and then a sob, and the sound of uneven running feet.

I went into the bedroom and out the window. The grounds still blazed with light, but I saw no motion. Anyway, there was nothing out there but dogs and men.

Mercury Press, Inc., 347 East 53 St., New York, N.Y. 10022

Send me The Magazine of FANTASY AND SCIENCE FICTION.

I enclose ☐ \$5.00 for one year

☐ \$9.00 for two years

☐ \$12.50 for three years

Name F-10

Please print

Address

City State Zip #

Add 50¢ per year for Canada and P. A.; \$1.00 for other foreign countries

BOOKS



Guest reviewers this month are Robert Hughes, Ted White and Gahan Wilson. Judith Merrill's column will appear next month.

ENGLAND SWINGS SF, edited by Judith Merrill, Doubleday, \$5.95

SF 12, edited by Judith Merrill, Delacorte Press, \$5.95

Something new is happening in science fiction, and your friendly editor, Judith Merrill, explains it all to you in these two anthologies.

Just what's happening is pretty clearly indicated by the titles of these two books. The titles are totally incomprehensible to anyone who's not already "with it," as we say. Ask your local schoolteacher from Dubuque what they mean and you'll get a blank stare or a wild guess, unless perchance she's a fan.

Reading these collections, I was soon struck by how closely much of the work resembles modern poetry and avant-garde literature. This brilliant insight was rudely anticipated by the editor in the later pages of ENGLAND SWINGS, when she comments:

"One of the most vital components of the special character of the 'new British sf' is the influ-

ence and interest of a large part of the community of poets in Great Britain.

"It should be clear by now that most of the writers in the British sf field—particularly the younger ones—turn as naturally to poetry and the 'little magazine' as to fiction and commercial sales."

This blending of imaginative, speculative writing long characteristic of science fiction, and the introspective, impressionistic and sometimes surrealistic style of the modern poet is proper and fitting, but obviously it's not everyone's cup of tea. If what you want is a cracking good yarn, with a conventional hero solving an objective problem with a plausible stratagem, you will find few examples of this in either collection. If, on the other hand, you respond to the sometimes muddy, sometimes brilliant work of William Burroughs or J. G. Ballard, both books are treasures.

Of the two anthologies, SF 12 wins my vote as the better. After all, the more the editor is restricted in selection, the more ex-

cellent material must be arbitrarily discarded. SF 12 contains her choices of the best of both British and American work in the new idiom.

The change in sf is dramatically illustrated by the acknowledgments. Only two out of some 30 selections come from *Analog*—the masterful “Light of Other Days” by Bob Shaw and “An Ornament to His Profession” by Charles L. Harness. Several are from *Fantasy and Science Fiction*, and other sources include such diverse publications as *Punch*, *The New Yorker*, *Esquire*, *The Antioch Review*, and *Transatlantic Review*.

The other collection, *ENGLAND SWINGS SF*, is brightened considerably by Miss Merrill’s dialog with the authors. After each selection, authors’ comments and biographical notes are set flush left; Miss Merrill’s responses or interjections are flush right. “Dialog” isn’t the right word, perhaps, since each party is hitting his or her own conversational ball, but everyone is going in the same direction. The editor always gets the last word, but editors always do.

You are duly warned at the outset, “You have never read a book like this before, and the next time you read one anything like it, it won’t be *much* like it at all.”

With that in mind, you are cordially urged to sample such

delicacies as “The Hall of Machines” by Langdon Jones, or “The Baked Bean Factory” by Michael Butterworth. Butterworth explains that for his theme, he had to draw in some places on acid/pot experiences, as other writers, past and present, have done.

By all means, try two of the shockers of J. G. Ballard contained in this collection: “The Assassination of John Fitzgerald Kennedy Considered as a Downhill Motor Race,” and “Plan for the Assassination of Jacqueline Kennedy.”

ANALOG 6, edited by John W. Campbell, Doubleday, \$4.95

There’s no problem here. These are stories selected from *Astounding/Analog*’s thirty-sixth year of publication, and you know what they’re like by now.

Not that *Analog* hasn’t been affected by the increased scientific and literary sophistication of readers and writers. However plot and characterization are foremost. Nothing is obscure—you always know who is doing what to whom, and why.

In his introduction, Campbell points out that “Science fiction gives the author freedom to explore new concepts—but it’s a disciplined freedom, it demands of him honesty of thought and consistency . . . Fantasy gives him

the absolute and undisciplined freedom of an LSD 'trip'—he can get away with anything. No honesty of thought, no discipline, no consistency is imposed . . ."

We can make room for both fantasy and science fiction in this best of all possible worlds, and if some of *Analog's* best reads as slick as a Perry Mason mystery, is that all bad?

Bob Shaw's "Light of Other Days" is here—it seems to have made most anthologies this year—as well as "Bookworm, Run" by Vernor Vinge and "Call Him Lord" by Gordon R. Dickson.

Suitable for every shelf.

THE STARLIT CORRIDOR, compiled by Roger Mansfield, Pergamon Press.

It had to come. This is a textbook of "modern science fiction short stories and poems" and is for use in schools and colleges.

There exists a sizeable and vocal group of science fiction fans who would argue that anything suitable for schools and colleges is bleached, dried, and dead . . . dead . . . dead . . .

Vitality and vigor of literary expression belong exclusively to pop culture, they would insist.

Perhaps critics and professors damage their students when they lay dead hands on living work, but they don't damage the work itself.

This collection is surprisingly good, although limited.

There's a very brief introduction by the compiler, and then the writers take over without critical annotation. Among the selections are "The Liberation of Earth" by William Tenn; "Harrison Bergeron" by Kurt Vonnegut, Jr.; "The Monsters" by Robert Sheckley; "Disappearing Act" by Alfred Bester, and "Before Eden" by Arthur C. Clarke.

This slim volume is a very suitable gift for an English professor who still thinks sf necessarily involves a bug-eyed monster clutching a beauteous blonde.

LAST DOOR TO AIYA, edited and translated by Mirra Ginsburg, S. G. Phillips, \$4.95

This is a selection of new science fiction from the Soviet Union, and it is the best of three I have seen from that nation.

The translations are excellent. The stories are imaginative. We are assured by the editor that the contributors are "doctors, physicists, mathematicians, astronomers, engineers, and geologists, as well as linguists, journalists, and writers."

"The World in Which I Disappeared" by A. Dneprov is a delightful tale of an ex-corpse revived for experimentation. He is involved in the "Eldorado Project," which is a model of "a world

of happiness, prosperity, and social equilibrium . . . without Communists and unemployment."

"The New Signal Station" by S. Gansovsky is a war story involving ESP and precognition. "The Golden Lotus, A Legend" is a new version of the search for the mysterious cave flower with mysterious powers.

"My Colleague" by V. Grigoriev is a mind-swapping yarn amusingly told, and "The Last Door to Aiya" by E. Parnov and M. Yemstev bears a resemblance to certain classic horror stories.

These, and the four other tales, are interesting if not unforgettable.

WORLD'S BEST SCIENCE FICTION 1968, edited by Donald A. Wollheim and Terry Carr, Ace, 75¢

BEST SF: 1967, edited by Harry Harrison and Brian W. Aldiss, Berkley, 75¢

THE BEST SF STORIES FROM NEW WORLDS, edited by Michael Moorcock, Berkley, 60¢

These are three fine paperbacks.

"World's Best" contains 16 excellent tales, including "The Billiard Ball" by Isaac Asimov and the story with the most eerie title of the year, "I Have No Mouth, and I Must Scream," by Harlan Ellison.

The Harrison-Aldiss collection

includes the work of Fritz Leiber, A. Bertram Chandler, Robert Silverberg, and Fred Hoyle as well as a brief bit by James Thurber ("Interview with a Lemming") and J. G. Ballard's "The Assassination of John Fitzgerald Kennedy. . . ."

The "New Worlds" collection is undoubtedly the most inexpensive way to gain an introduction to the British "thing." There are only seven stories here, but they are of respectable length and provide a good overview of the style. Unfortunately there's a BEM on the cover, but don't let this scare you off.

—ROBERT J. HUGHES

HEINLEIN IN DIMENSION, a critical analysis by Alexei Panshin (with an introduction by James Blish); Advent:Publishers; \$6.00

The inevitable product of a reader's love-affair with an author is an attempt to place The Author on a pedestal suitable for mass worship.

Alexei Panshin has had his love affair with Heinlein—as have most of us, each in our turn—but **HEINLEIN IN DIMENSION** is so little directed towards deifying Heinlein that some have openly accused Panshin of tearing down their god. This reaction stems, I suspect, from the fact that in this—the first full book devoted to the

critical survey of a science fiction writer's work—Panshin was leaning over backwards to balance his own affection for Heinlein's works with objective critical judgements.

The book was some time in gestation. Originally commissioned by Advent, it was beset from the outset by various entanglements and was serialized in the fan press over a period of several years before it could be published as a book. The present volume is the product of some of the feedback from fan publication, and also benefits from the author's growing perspectives (he has since written a more general work on modern science fiction commissioned by another publisher but dealt with irresponsibly and presently searching a new home, which I believe it deserves), incorporating as it does second- and later-thoughts.

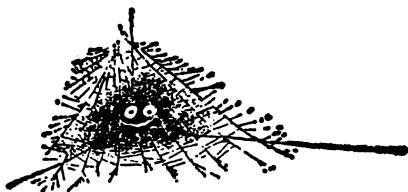
The book is divided into six main sections (plus a brief opening chapter, "Preliminaries," and two finally appended chapters, "Heinlein's Non-Fiction" and "The Future of Heinlein"), of which the first three seek to summarize every story Heinlein wrote. Panshin divides them, somewhat arbitrarily, into "The Period of Influence," "The Period of Success," and "The Period of Alienation." Then, having set all the props out on the stage, he deals with their "Construction," "Execution," and "Content."

The result is virtuoso. Heinlein's first story appeared in 1939, and although he was never prolific in the sense the Great Pulp Hacks were, the following almost-thirty years have accumulated a largish body of his material. Panshin sifts it and sorts it, draws contrasts and parallels, and if he sometimes strikes me as wrong in an expressed opinion he has at least mustered up a good argument for his point of view.

The book's title is a good one. Panshin takes his readers on a (sometimes nostalgic) survey of Heinlein's written estate (not ignoring his non-science-fiction), but always carefully maintains a sense-of-context. This is a *critical* survey—not a collection of love letters. But it is ultimately most flattering to the man, the writer, who is its object. I've heard that Heinlein objected to the book being written, but he needn't have. No one but Heinlein could have inspired such a book, and no one more than Heinlein's multitude of fans and readers could have cared enough to see this book published.

I want to recommend it: the book is unique. Writers and readers alike will enjoy it and (most likely) benefit from it. And since it will appear in few bookstores, I suggest you order it directly from Advent: P.O. Box 9228, Chicago, Illinois, 60690.

—TED WHITE



THE DARK CORNER

The more naive among the psychedelic set and the pot lot appear to believe that they have stumbled on a New Thing. They style themselves Columbases, treading an undiscovered continent, making first contact with the angels and demons which dwell therein.

They are, of course, quite wrong. Those lands have been explored by previous voyagers, and we have the maps and logs of their journeys. Some of these bold cartographers left encouraging reports, others did not.

Among those with less happy news stood—we can say towered—the figure of Arthur Machen. His cautionary essays on what may happen to those who meddle with that which we laughingly call reality should be required reading for those who are tempted to dip their toe into the acid pool or go out with Mary Jane. Why Harry J. Anslinger has not printed up, at government expense, of course, a collection of Machen's darker tales I do not know. I am sure that the general distribution of such a book would do more to

discourage would-be tasters of the stranger potions than any number of stern warnings about genes.

Arkham House, bless its gothic heart, has done another public service to those interested in the weirder speculations by bringing out the first American edition of Machen's last novel, *THE GREEN ROUND*, and for a modest \$3.75 you can have this scary little volume for your very own. It is not, as the dust jacket candidly admits, in a class with *THE HILL OF DREAMS*. It has its structural flaws—too many repetitions of events, an occasional vagueness as to who is doing the narration—but it is Machen, which is quite enough.

The novel concerns a series of events which happen to, and take place in the vicinity of, Lawrence Hillyer, recluse and scholar, resident at 29 Layburn Street, London. It is full of warnings.

Where, wonders Mr. Hillyer, is the dividing line between fantasy and reality? Just what, he asks, is the difference between the waking and the dreaming state? And, finally, am I sane, or am I mad?

These are dangerous questions for anyone to ask, even for one as stable and sure as yourself, gentle reader, but for Mr. Hillyer, who has committed the supreme strategical blunder of cutting himself off from his kind, they prove disastrous.

We are weak enough as an army, says Arthur Machen; alone, in isolation, we are easy prey. Read your papers, says Machen, take politics seriously, share in the common gossip, hold on to your neighbor's hand. There are shining lights dancing along the side lanes, but stick to the highway, brother; the lonely wanderer is easily lost.

MASTERS OF HORROR (Berkeley, 60¢) is an offbeat paperback edited by Alden H. Norton and Sam Moskowitz, with copious commentary by the latter. It breaks down into two small anthologies, the first one being a resurrectionist's delight of the kind of gothic grue which made them shudder way back when, the second a spotty mish-mosh of more recent ghouleries.

Unless you are an accomplished scavenger of second hand book stores, and God help you if you are, it is unlikely you have encountered any of the ancient items. Clemence Houseman's "The Were-Wolf" is straight traditional legend with that good Old Country feel; "The Transformation" by Mary Shelley, little mother of *Frankenstein*, is a touchingly pathetic dream-wish item concerning the redemption of someone very like her late husband;

and then we have Bram Stoker's "Dracula's Guest." This last, says Mrs. Stoker, was supposed to have been the first chapter of *DRACULA*, itself, but was dropped because it made the book too long. Mr. Moskowitz goes along with this, but I think the editors ditched it because they felt it would damage the novel's quiet build. You decide.

As a transition we have "The Yellow Sign" by Robert W. Chambers, which is a dandy. In his introduction to it Mr. Moskowitz seems to imply that Lovecraft went around pretending he didn't owe Chambers a good deal in the creation of his Cthulhu business. He admitted it all over the place, sir! H.P.L. was nothing if not generous in handing out credit where credit was due, and I am glad to have the chance to tromp on any rumors that he didn't. I have tromped.

The new section is a something for everyone affair and I confess some of it was not for me. One item, "Blind Man's Bluff" by H. Russell Wakefield, is a gem of the quiet English ARGH! school which I think you may enjoy, and there are offerings by Merritt, Keller, Kuttner and Bradbury. All in all the book is easily worth the sixty cents involved.

—GAHAN WILSON

BOOKS RECEIVED

FICTION

THE STILL SMALL VOICE OF TRUMPETS, Lloyd Biggle, Jr., Doubleday 1968, 189 pp., \$4.50

BLACK EASTER, James Blish, Doubleday 1968, 165 pp., \$3.95

NIGHTMARES AND DAYDREAMS, Nelson Bond, Arkham House 1968, 269 pp., \$5.00

TWILIGHT JOURNEY, L. P. Davies, Doubleday 1968, 191 pp., \$4.50

NOVA, Samuel R. Delany, Doubleday 1968, 279 pp., \$4.95

SCIENCE FICTION BY GASLIGHT, A History and Anthology of Science Fiction in the Popular Magazines, 1891-1911, Sam Moskowitz, ed., World 1968, 364 pp., \$6.95

OPERATION MALACCA, Joe Poyer, Doubleday 1968, 208 pp., \$4.50

APEMAN, SPACEMAN, Leon E. Stover and Harry Harrison, eds., Doubleday 1968, 355 pp., \$5.95

GENERAL

YESTERDAY'S TOMORROWS, A Historical Survey of Future Societies, W. H. G. Armytage, University of Toronto Press, 288 pp., \$5.50

THE MASKS OF GOD: CREATIVE MYTHOLOGY, Joseph Campbell, Viking 1968, 730 pp., \$10.00

THE BIBLE AND FLYING SAUCERS, Barry H. Downing, Lippincott 1968, 221 pp., \$3.95

MODERN NUMEROLOGY, Morris C. Goodman, Fleet 1968, \$5.00

MAN AND THE FUTURE, James E. Gunn, ed., The University Press of Kansas 1968, 305 pp.

PAPERBACKS

SF: AUTHORS' CHOICE, Harry Harrison, ed., Berkley, 75¢

OCTOBER THE FIRST IS TOO LATE, Fred Hoyle, Fawcett, 60¢

WORLDS TO COME, Damon Knight, ed., Fawcett, 60¢

PLANET RUN, Keith Laumer and Gordon R. Dickson, Berkley, 60¢

STRANGERS IN THE UNIVERSE, Clifford D. Simak, Berkley, 60¢

IN MY SOUL I AM FREE, Brad Steiger, Lancer, 75¢



"First time I've seen that."

Phyllis Murphy describes herself as a member of the Quiet Generation. "I graduated from Barnard College before its student body shouted obscenities at the police (a development I look upon with envy). I toiled as an editor for about a dozen years. During that time I collaborated on THE LITTLE PEOPLE, a book about drug addiction, and hoarded evenings, weekends, vacations and several feigned sick leaves for my short stories." Her first story for us is the funny, reductio ad absurdum account of Barney, a dedicated time-saver who sorted out the nonsense and skipped it with a vengeance.

TIME WAS

by Phyllis Murphy

BARNEY WAS NICE. I STILL MISS him. I don't think the kids have forgotten him either.

Now that I have a chance to look back on things, I can see that it wasn't passion that made our courtship so delirious. Barney was simply in a hurry. He was always in a hurry. That's what I seem to remember most about him.

Before I knew it, we were married, the honeymoon was over, and we had a house out on the Island, a second car, and a baby on the way. "We can't afford to waste time," Barney used to say, usually when he was on his way out the door. He didn't like to stand around talking.

If Barney had five minutes to spare, he'd do something with

them. He'd lay out his clothes for the week, or sort the papers in his briefcase, or make some notes in his memo pad, or shine his shoes. In ten minutes he could wash the car, or go down to the basement and build half a bookcase. He was amazing. He always remembered never to make unnecessary trips up and down the stairs. He'd make one or two trips a day, besides coming down in the morning and going up at night, and he'd go with his arms loaded with things he wanted to put back in their places.

He made me feel like such a wastrel. I don't know how many times he used to lecture me on the importance of saving time. "You only pass this way once," he'd say.

"Make it count." I'm afraid I was a disappointment to him, but I really did try. I guess I didn't have the talent for it. Figuring out how to save time always took up so much of my time that I didn't have time left to save.

I remember when Barney read a book about sleep. The author must have been his soul-brother because he claimed that sleep was a waste of time and suggested ways people could train themselves to do without it.

Barney made up his mind that he was going to cut down to four hours of sleep a night, and he went right into training. I had to admire him. He'd come down to breakfast bleary-eyed and foggy-headed, but would he admit it? Just ask him. "Aren't you tired, Barney?"

"Certainly not. What makes you say that?"

"Oh, I don't know. I guess it's because you couldn't find me when you were trying to kiss me good morning."

"I feel fine, perfectly fine." And that was that.

I went into training along with Barney, but not because I wanted to. He found all kinds of things to do with the hours he wasn't sleeping, and he kept me awake most of the night hammering and painting and listening to records while I read and watched television. I began to get sick after a while, and my doctor told me I needed a good rest. I thought that would change

Barney's mind, but he came up with a different solution. He spent a few of his non-sleeping hours soundproofing our bedroom so I could sleep no matter how much noise he made.

I have to admit that the training worked, although it did have a few side effects. Barney was getting along on only four hours of sleep, and he wasn't groggy in the mornings any more. But he was aging very fast, and he began to have a strange, staring look in his eyes.

I certainly never suspected anything disastrous when Barney came home one evening, waving a pamphlet and racing upstairs to his den. He was taking his meals at his desk by then, to save time, and I had his tray all ready. When I brought it up, he let me read the pamphlet over his shoulder. It was an ad for a speed-reading course, and I'd never seen Barney so excited. "Think of it!" he said. "You can learn to read six newspapers in half an hour!"

I was concerned about the expense. We took one newspaper, and it seemed to me the price went up every few months. I hated to think what six papers would cost us. And how would we get rid of them? But Barney didn't agree. He said I was thinking negatively. He filled out an application blank and wrote a check to go with it that very night.

Barney really threw himself into speed-reading. He practiced sever-

al hours a night and did everything his teachers told him to do. Sometimes, when he propped a book on top of his chest of drawers and practiced some of the ways he was taught to move his hand down the printed page, he looked like an old Chaplin movie, but he was good natured about my teasing.

I guess the course worked because Barney was reading a lot of things. We had all six papers delivered because Barney couldn't squeeze onto the train with them, and every night he came home with his pockets stuffed with paperbacks. One night I saw him trying something new. He said it was his own invention. He was reading a paperback, and every time he finished a page he'd tear it off instead of turning it. There was a pile of ragged pages at his feet.

"Isn't that terribly wasteful?" I asked.

"Not really," he said, not taking the time to look up. "Time is money too, you know, and a minute saved can be a dollar earned." It took me a while to figure that out, and finally I gave up.

"Does it really work?" I said to him one morning during the five minutes he allowed himself for breakfast. He liked to give himself a full twenty-five minutes to read the papers.

"What work?"

"Speed-reading. Can you really read every word and still go so fast?" I confess to being slightly

jealous. I'm such a slow reader, and I often go back over the parts I like.

"Sure," he said. "You don't *exactly* read every word, just the important ones."

"Then how can you understand what you're reading?"

"Most people waste words," Barney said, glancing at his watch propped up against the salt shaker. "In speed-reading you read for the sense and skip the nonsense."

I was beginning to think he was right, when a strange thing began to happen. Barney was never one for a lot of words, but lately he'd been cutting them down to the bone. Instead of saying goodnight to me, he was saying something that sounded like "Ni," and he didn't even say that much to the children. We had three children by that time, and Barney always used to say a special goodnight to each one. Now he was only poking his head in their rooms and waving as he went by. Our oldest girl said she was sure she heard the sound of his voice as he waved, but she couldn't make out any words.

Then I called Barney at the office one day to remind him to bring home a new cord for my iron, and when he picked up the phone, he said, "Hello goodbye." That was all. He hung up.

I called him back and his secretary said he'd gone out, so I left the message with her. Barney brought home the cord, and I didn't men-

tion the incident of the phone. I thought he must have been in more of a hurry than usual, nothing more.

But the next week, on Saturday, we had a few friends in, and they noticed what was happening. Barney asked every other person what he wanted to drink. The people he skipped were a little offended at first, but I tried to pass it off as a joke. Then we went into the dining room to sit down, and Barney had put only three chairs at the table. There were eight of us for dinner.

He was almost incoherent, too, and I thought he must have been hitting the bottle out in the kitchen. Now I realize it wasn't liquor at all that made him talk so strangely. After dinner, we were talking about the school board election, and he said something like, "Damned background idiots!" None of us could make out what he said, so we smiled agreeably and tried to look uncommitted.

After everyone left, Barney was helping me straighten up the living room when I happened to mention how much weight one of our friends had lost. In fact, it was Tim Hart I mentioned, and he's Barney's best friend.

"Who?" Barney said.

"Tim," I said.

"When see?" Barney said.

As far as I could make out, Barney was asking me when I had seen Tim. I asked him if that was what he said, and he nodded yes. "Right

in our own home," I said and I began to get a horrible premonition. "Tonight."

Whatever he said next was completely garbled. He was angry and I could only get the words "playing around" out of it.

"Barney, you're not listening to what I'm saying!" I said.

"I'm sense," he said.

"No, you're not! You're not getting the sense of it when you don't even know Tim was here talking to you tonight. How could I be playing around with him?"

Barney loaded his arms with things that belonged upstairs and went up to his den. I tried to stay awake until he came to bed, but I couldn't. I was exhausted.

I was so worried. I didn't know then that Barney was having trouble at the office too, but by that time we couldn't communicate with each other. Maybe he could understand me, but I was lucky if I could understand two of his words in a day.

It was Barney's boss who told me what was happening. He was worried about Barney too, and one day he called me up and suggested I take Barney to a doctor, preferably a psychiatrist. Not that he doubted Barney's honesty, you understand, but something had to be done about the accounting mistakes he was making. "He skips whole columns of figures!" Barney's boss said. "His totals are ridiculous!"

I said I would do my best, but I really didn't think I'd get Barney to see a doctor. As a matter of fact, Barney was the only person who wasn't upset about whatever was happening to him. Even our children cowered in fear when he ran through the house making his weird noises. But he was happy. He was saving so much time, and that was what he had wanted.

There wasn't much I could do except wait for the end to come. Like everything else about Barney, it happened fast.

We lived in a development, and there were a thousand other houses that looked like ours, which was something that never really bothered the people who lived in them. We used to make jokes about walking into the wrong house in the dark, but as far as I know, no one ever did anything like that. But I had been noticing that Barney was having difficulty picking out his own house. He'd come running down the street, squinting hard at the house numbers, and once or twice he ran back a few steps and squinted at the house next door. I began to wait at the front window

when it was time for him to come home, just in case.

It was on a Friday evening when it happened. I was standing by the window, and Barney came running down the street, a little faster than usual. A strange kind of dread came over me, and I ran to the door and threw it open. "Barney!" I called, and he ran past our house.

"Barney!" I screamed. He didn't even turn around. He just kept running, not even looking at any of the house numbers. He was going to skip the whole street, perhaps the entire development! I ran after him as long as I could, but finally I had to stop or give up breathing.

I watched him run out of my sight, and I wondered what I was going to tell the children. And what about the neighbors? And Barney's boss?

I never saw Barney again, and neither did anybody else who knew him. He skipped over us all. I felt hurt because I wasn't important enough for him to retain, but I got over it. Mostly I just miss him now and then, when I think of him. And I do think of him. Funny.



Was it Dr. Spock who said that if you must strike your child, at least do it only when you are genuinely angered? Anyway, it's a poignant piece of advice: admitting that we are not rational animals, hoping that we can avoid being simultaneously "rational" and violent. There are many places where reason as we know it and violence blend to the point of fascination; one of the most familiar is the gridiron, especially the world of professional football. Harvey Jacobs' story is about the day when the regulations that contain the violence of pro football suddenly change. It is a very strong story, but it will not hurt you to read it. Set! Hut-one, hut-two, hut-three . . .

THE WIDE WORLD OF SPORTS

by Harvey Jacobs

FOR ME THE RADIO BOOTH. THE view is different from there. Different from down. The people are small. The clothes and blankets make all colors. The whole bowl can be seen, and it is really like a bowl. A bowl of fruit.

You see past the top deck of stands to a church, then to buildings of the city. On that day the sky was grey and dirty like a steel wool. It was crisp. You breathed in puffs.

As it was, good or bad, the weather brought them out. For the nothing game of the century we

got 12,305 paid admissions. Well, the park holds 20,000, so there was plenty of room. They took off the seat rules. Everybody went down by the fifty yard line. It was exactly what we expected, a tight bunch of grapes.

I went upstairs in plenty of time. Barney Blue, or BaBa Blue, was already there. His spotter, some kid, was with him. The radio was all set up. No television for that contest. Who would look?

Next door the press box was still empty. They had a good two hours. God knows why BaBa Blue was so

early himself. I did not want to make my move too soon. All I hoped was that Jack Wilks and Shelly Lubachik would have the brains in their heads to hold back.

Plenty depended on how smart BaBa Blue would be. As it happened, he was not very smart. Thinking back on it, his whole way put me down on him.

"Vic, what in hell are you doing up here?"

"I never been up here in all these years," I said.

"This is Vic Lazisky," BaBa Blue said to his spotter. "Vic, this is Wally Brom."

"I guess I know who you are," the spotter said and shook my hand. I could see that this was a kid who followed my career. It always surprises me to think of them reading about you and talking about you and you usually never meet them or make acquaintance.

Then BaBa's engineer came carrying coffees. He was a smallish, pale kind, and no future trouble.

"Hi, Vic," he said though I'd never met him.

"Pleased," I said.

"You want a coffee?"

"Don't mind if I do," I said. "If there's extras." I drank a swallow from a paper cup and burned my tongue with it.

"That's scorching," I said.

The four of us sat around. We had nothing but to wait. So we talked records. On his schedule, an hour from game time, Jack showed,

carrying the box. It was wrapped like a present in green paper with flowers. That struck me funny at the time.

"Hey, BaBa," Jack said and was introduced around. We were not ready to move for about twenty minutes yet.

"What is this, old home week up here?" BaBa Blue said. "A gathering of the clan?"

"Where's Shelly?" Jack said.

"He knows to meet me," I said. I was worried that Shelly was in some trouble downstairs.

The spotter, Wally, stood up and yawned.

"I had some night," he said.

"Don't sleep on my time," BaBa said.

"Shouldn't you guys go on down," the spotter said.

"Later is plenty soon," I said. "For this game nobody hurries."

"Say that again," BaBa Blue said.

On the field a few of the guys scrimmaged. The band played for the crowd. One of the twirlers did somersaults. From up where I was, her behind was no bigger than my fingernail. I could cover it by holding one nail up by my eye.

"It's like watching midgets," I said.

The writers came to the press box. Morey Jackman and Bob Lane were responsible there. I wondered what had happened to them. We could not do our business until they got there to cover their end

since the press box practically sits next to the radio booth. Finally five to one they showed. Still no Shelly.

Shelly worries me. Under average circumstances he is no problem, but under pressure he goes crazy in himself.

"I guess now," Jack Wilks said.

"I guess."

"Well, good luck."

"What luck?" said BaBa Blue.

"What's the double talk?"

I said to BaBa and the others, "Just go over by the wall of the booth."

"Huh, Vic?" BaBa Blue said. Then he saw me with the gun.

"None of us wants trouble," I said. "Just move yourselves."

We would not touch them anyway unless absolutely necessary, as our orders said. They explained to us that it was the writers and reporters who would tell the story later. But none of us would say that at the time.

"Vic, come on," BaBa Blue said.

Jack opened his present and took out ropes, cuffs and the tape recorder.

"You are on vacation today," I said. "We got the game all done for you."

Jack pressed PLAY. The recorder lit itself off batteries, and BaBa heard himself start to describe the action. They even had sounds of the crowd screaming cheers.

"It's me, dammit," BaBa said. "How did you get my voice?"

"These days they got people who can do any voice," Jack said. "Even the President. Why not you?"

"Jack, do your work," I said. "You don't need to explain to him."

Jack hooked the wires so that the sound of the recorder would play over the radio. How he did it god knows. I am no electrician.

"BaBa, you want to know who wins?" I said.

"Vic, this whole joke skips me."

"It's no joke. The game is all done on there. What happens is a tie. We each score three TDs and a field goal. The ending is great. In the last seconds the Royals make their kick. Boy, wait when the bookies get those results. They spot us 21 points on the sheet."

Jack took the paper from the engineer that tells where the commercials go and so forth. BaBa Blue told the engineer not to give the paper, and the engineer held it back, so Jack slapped him twice on the mouth.

"You are going to call the cues like always," Jack said. "If there is one screw-up you are a dead person. Understand me?"

"I understand."

"I don't understand," the spotter said.

"It's easy," I said, "if you keep your mind loose. The thing is, we are taking over today. You only got to sit and look."

"Enough horseballs," BaBa said. "You got the weirdest sense of humor, Vic. Now get out of here

because I am sick of this dumb joke."

A writer tried to jump down from the press box. Morey grabbed his leg. He hung half over the rail, but Morey held and pulled him back in like a fish. The writer, I think from the *News*, rolled around, and Morey could do nothing. He knifed him in the chest.

"Morey, that's a writer," I said.

"Well I couldn't nail him down to the cement."

"How long now?" I said.

Six minutes.

"Where is Shelly?"

"Beats my meat," Jack said.

"Probably eating."

Then Jack did the sound of Shelly eating, mashing food with his tongue so you could hear the wetness. I do not like that kind of crap, but it is true that Shelly is a loud eater.

We tied them and cuffed their ankles together. We gagged BaBa and the spotter but left the engineer alone. BaBa made pig sounds—*ump, ump, ump*—and his face was purple.

"Can't you just take it easy," I said. "Look, BaBa, between us, nothing will happen to you."

BaBa quieted then except his eyes. His eyes popped, taking everything in. That was good. I thought about the sports page and what BaBa would write. I myself frankly never expected to see it, but somebody would. It was worth it after all those years.

They played the National Anthem.

The crowd stood and the players with hands on their hearts. The music came late to us. You could see the instruments going and a split second later hear the music and singing.

In case I forgot to say, the boys in the band were with us, the frankfurter pushers, the peanut boys, the ticket sellers and takers, the janitors, the field crew, telephone operators, the special cops and, to my surprise, the ass-wigglers. The whole ball of wax was with us.

I looked around the bowl. There they were all singing away, breathing hard for the game to start, all the thousands of them. I said then to Jack Wilks, "Jack, this is going to work out all right."

"Who knows?"

"I have a hunch it will work," I said.

The loudspeaker called the line-ups. The crowd began to notice that names like mine, Jack, Morey Bob Beefer, Rocco and others were missing. I told them from the first it would be smart to send substitutes wearing our numbers, but they overruled me saying *not needed, negative*. Not needed, negative. That's how they talk. Like the robots on television shows.

Our checker, Siggy Mulosk, came up at about two o'clock.

"How is it?"

"Steady all over," he said.

"Is everything sealed?"

"Everything is controlled down to the toilets."

"Did you happen to see Shelly?"

I said it purposely before he brought it up.

"No. He should be here. His post is here."

"He'll be here."

"I'm writing him down."

"Holy Christ don't fink on Shelly. You sound like them. Go ahead and write him down if you feel better. I'll remember it."

"Don't wise-ass me," the checker said.

"You know Shelly," I said. "He does his best."

"I'm writing him down. How do I know that they're not keeping him away to see if I write him down. I got to, Vic."

"Ah," I said.

Jack started the tape recorder. We listened while it described the game. Actually, nothing was happening on the field yet. But Jack was told to start the tape on the minute, so he did. The radio told what was going on before it really started but what difference since nobody could get out of the park any more.

They began on the field. The Royals scored a first down, but I knew they would lose the ball on a fumble in two plays. After rehearsing that game so many times, it was a bore to see. I couldn't concentrate on that game knowing what will happen every next play. I am the

same way when they show horse races. The first time it is new, but the repeat when the jock tells how he made his moves puts me to sleep. I like the suspense of things. When people tell me they saw a movie twice, I think they are sick in the head. Why see a movie twice?

The Terrors got back the ball after the fumble. Then the crowd got hysterical watching Billy Hally take the skin to the 35 where he was supposed to get hit but forgot. Hally went to the 22 before they brought him down. I have sympathy for him. I would have gone all the way myself, for the hell of it. You could see Hally getting talked to in the huddle and hitting himself on the chest to punish himself for doing stupid and to make a point with himself.

A jet went over low but what could they see? BaBa Blue looked up at it. I know what he was thinking. He squirmed and tried to scream from his eyeballs. Then he moved his head to me, wanting to tell me something. He kept it up too, so I loosened the rope and put a pencil in his hand and paper on his lap.

He wrote *what about the kids*.

So he had the idea.

"I'm sorry about it. We picked this particular game to draw less of them."

Then BaBa wrote *stop stop stop* all over the paper, *stop stop stop stop stop stop stop*.

I mussed up BaBa's hair the way you do with friends. It got to him. He quit writing.

The engineer played an ad for the furniture company right on time, so we had no trouble from him. BaBa sat turning the pencil in his hand. I hand him a fresh paper in case he wanted some. The spotter seemed OK, not even bothered.

On the field Pokriss got hurt. That was not in the cards, but accidents happen. He hurt his leg and they carried him out. The crowd gave him a yell. How many times in my life I stood down there with my butt busted, looking on them panting over my bouncing guts?

Yet the game gives me a lot. I have been a hero most of my life and would have had less of everything without my ability. It gives to me and takes back.

At two-thirty it started to happen. If I miss a thing or go from thing to thing, that is because there is so much to tell. You can check me against others for facts.

First the loudspeaker. No. First Rocco Benvegna, Beefer Schwinn and Paul Boylan took positions on the roof and took out the guns. You saw them outlined against the light of the sky.

BaBa Blue saw before even me. He swallowed a yowl and coughed his lungs up. There they were, Rocco not 100 yards from us to the right.

Yet nobody in the stands saw them or pointed or yelled. They were watching the field, which is what they paid to do. The Terrors were being held on the two yard line but going to score. The band played trumpet calls. I waved to Rocco and he returned my wave.

The sight of Rocco crouching with his gun pointed down was a good-looking sight if you can call it that. Boylan and Schwinn the same. They were like statues on the roof. You could swear they were there a hundred years. . .

If you are a fan, you know I am Center for the Terrors. Here I was in the center again. Always in the middle, rain or shine. I am the sucker of them all no matter what I do. Having one of the guns on the roof is clean and easy compared to my job. Watching BaBa Blue and the rest of them was a lot harder than waiting alone like Rocco.

The first quarter ended with the Terrors still making a bid, and they took it over on the first play of the second. The crowd went wild. Then we lined for the extra point.

Joey Ribik told me when he kicks he thinks of the posts like spread legs. Ribik readied and pulled back his leg, but there was no kick. He stood like a frozen man. The ref went to him yelling and slapping his hands together, but the ref was in on it too and all part of the plan. Ribik never kicked. It is terrible to see a man

about to kick who doesn't do it. I felt the stopping myself right in the stomach.

The peanut and frankfurter boys were spread out by that time, and the security cops. It surprised me they came along with us, but it does figure when you think it over. Outside, the maintenance men and gatemen and punchers were ready.

The Terrors and Royals began to shake hands and hug each other for good luck. Ribik danced around on one leg.

The crowd made noises of *ooos* and *ehs* and *huhs* like a man in the john for the first time in his life. Many of them stood on chairs to see better, but there was nothing yet to see.

The loudspeaker began.

The loudspeaker told them.

Still nobody moved or tried to run or even screamed. The loudspeaker spelled it out and showed them the guns. We waved down to them so they could see us. And the peanut men and frankfurter men and cops all waved and showed their weapons.

You would think when the loudspeaker told them, the crowd would break up, but no. They came closer together. The 12,305 souls of them moved in a knot. We were told it would happen that way. It was exactly like they said, and I suppose they know better about such things.

Here the engineer and Jack put on another ad, this time for soap flakes. Very cute and musical. BaBa

Blue closed his eyes and let his head fall, so I pulled him by the hair.

Shelly came then.

"Welcome," I said. "Where you been? They wrote you down."

"I'm sorry, Vic," he said. "They switched me to Gate 4 to watch there."

Now the loudspeaker said ALL THOSE NAMED ROBERT BOB OR BOBBY PLEASE COME TO THE FIELD.

Who knows why but the idiots came when the speaker called to them. Some went back at the last minute, or tried to, but most came and stood. Why?

The band began to play, and the Roberts were separated into groups. The first group of them got taken out near mid-field. The Royals lined on the west goal, and the Roberts stood while they charged. One Robert ran. The machine guns made a ring around him, then hit him. He hopped around and fell. Then the Royals hit the other Roberts in their run, and that was openers.

Shelly grabbed my arm. I let him hold. He was so excited I could smell his sweat. He is a walking baby.

Frank checked the recorder. It was running smooth. It told that the game was in the second quarter, which was true, with the score Terrors 7 Royals 3, which was of course a lie, and you would swear it was BaBa Blue doing the show.

Of the first group of Roberts, four stayed down, two were bent over holding themselves and about seven just staggered around. One was wrestling with Lance Ligima, who played with him a little and then smashed him with his spikes.

The next Roberts were shoved on the grass and hit by the Terrors. They were all over the place now and it was much more action.

The sounds that came up were weird to hear. The stands made a sound like beach water in waves. The band music was very clear. When the Roberts got hit, the hitting sound was perfect. And remember that we were high up. Way high.

I have always liked the physical contact of the game of football since I was a child. For me it is something like sex without dying limp after. It is hard against hard, not hard against soft. You do not end up in the honey well. But still there is a sameness. I don't know if the Roberts who were getting hit hard without being used to it were getting their jollies. Professionals will understand me. The pain is pleasure, but it is pain too.

"There's a lot left," Jack said.

"What did you expect," I said. "We just started."

"Why did so many come to this lousy game today?"

"What have they got to do at home?" Shelly said.

A piece of the crowd split away. Of a sudden it broke off, started

by some of the Roberts being pushed to their place in the line. They got away and ran around. You could see exactly where it broke from the rest, like the break in a glass. The lump came into little pieces that ran around.

They were cut off by peanut and frankfurter boys on one side shooting into them, and by security cops on the field. The machine guns hit them. They flew around and dropped like bugs.

Shelly had BaBa's field glasses. I grabbed them. The whole was fine from up, but the glasses made it better in ways. I saw lines in faces a mile away. I saw a mouth yelling and a lady hitting the floor with her hands. I saw things like that one at a time.

"Give me the glasses, come on, Vic," Shelly said.

"When do we go down?" said Jack.

"Our relief is about a half hour," I said.

"There won't be any left," Jack said. "Look at Rocco."

"There'll be left," I said.

The machine guns were raining in the remains of the broken piece of crowd. Others of them got on the field and were hunted by the guys, but in the stands it was the food sellers and some maintenance men who did a day's work.

The noises changed. There was a commotion in the crowd. Some ran on the field. The loudspeaker did not even have to call

them any more, saying JOHNS or CHARLIES. They came down by their own will. Even women and some nutty kids. You couldn't stop them. But they did not make trouble. They came to the field and got into it, but made no trouble. And some left in the stands even cheered.

I looked at the band with BaBa's glasses. They had a guy and were giving it to him. A cheer leader was in it with her twirling stick poking the poor slob. Her uniform was ripped in the chest. Skin showed. What glasses BaBa had.

BaBa's engineer flipped. He made a bite for the tape of the recorder, and Jack hit his neck and took him chair and all and threw him down. He went end-over-end like a newspaper does, hitting with a bang on top of a Royal.

"You hit one of us," Shelly said.

"I got to put the damn ads on now myself," Jack said.

"Wait when the committee finds out what you did," Shelly said.

They brought out a big canvas and covered a bunch under it. That was a sight.

BaBa Blue got sick. I took his gag out; otherwise he would drown in his own juice. I sent Shelly to find rags but he came back empty, so we used the engineer's coat, which was there, to wipe him. We threw the coat over the rail, so somebody downstairs got it.

During this time, a few in the crowd organized. They told us this

could happen. They knew to tell us what to expect right down the line. They were right about the Roberts going when told and now about the organizing.

The organizing went on in the center of the crowd. Jack noticed first by following BaBa's eyes. He looked and saw maybe a dozen in a huddle. So on instructions, he sent Shelly down to the headquarters to tell them. Shelly did not want to go again, but he went.

While Shelly was going, more organized. A circle of them had their backs to the field. The field was a sewer. Something went wrong with removing and piling. Those assigned to take out the garbage were too busy making their own. There were bodies all around and some of ours too.

I counted six of us and in Section B a frankfurter guy over one of the chairs. In the glasses I saw that one of us who got it was Chico Martinez, who I roomed with years ago. He was called Moon by the curve of his face.

Shelly came up. He was glad because they told him he was doing good work. Shelly likes a pat now and then instead of a boot in the nuts for a change.

By the time Shelly came, the speaker was yelling CENTER D CENTER D, and the specials went in. They split the crowd like a melon. They fired off gas. The specials had masks on and went through to the organizers. The

crowd opened in a sore, then closed except for a hole left where the organizers were. The hole stayed like the hole in a doughnut.

The leaders were taken to the side of the field then rolled on by the rollers used for smoothing the turf. That was disgusting.

Even I felt nauseous and I admit it. My mouth had a paste. While I moved around my tongue to get spit flowing, I thought that some out there are certainly fans for many years. I suppose we all were losing loyal fans, and we knew it. Generally speaking, it was worth the price.

"Look at BaBa," Shelly said.

BaBa Blue had his eyes shut. I think he got the message that we wanted him to watch. He would not open those eyes any more.

"He's got to look," Jack said.

A messenger came up from communications and told us there was a call in from the radio station downtown because we missed one ad. Jack put the ad on right away. He told the messenger how we had trouble with the engineer, but the messenger wrote Jack down.

"We both have got wrote down," Shelly said.

I tried to open up BaBa Blue. I slapped him around to get his eyes open, but he shut tighter. He pinched his mouth and would have closed his ears if he had the wax.

"Come on BaBa," I said. "Open."

"Open or I knock them out," Jack said.

Jack held a match under his chin. That opened him for a second, but he closed again.

Shelly said to throw him over. We made believe we would do it, but we got nothing for the bluff.

They were running the rollers now over the canvas.

Otherwise the running went on, and the guns. Ping. Ping. Ping. More gas was used to spread the people into sections. The band kept on and the cheerers. These cheer girls had some ladies from the stands. I looked through the glasses and showed Shelly. It is amazing how girls can carry on.

The sounds that came now were working sounds. The gas soured all the air even up. It made many sick, which I could have done without.

Now I thought about the bombs under the stands which could not go until the end. They would be heard.

By the time the bombs exploded, we would be withdrawn they said. They said the crowd would stay there without even one of us to hold them. They said the crowd then would rip itself apart. I did not believe that but knew by then how right they had been about so many things, so I gave them the doubt.

I looked around to see Shelly, working BaBa Blue, who stayed closed.

"Leave him," I said. "He knows enough."

"I want to go down," Shelly said.

"Soon," I said.

On schedule in fifteen minutes, Zeke Winkel, Larry Finn and Pop Londaberry came. I was relieved and Shelly too, but not Jack. Jack was punished for missing the ad and told to stay there.

He slammed BaBa Blue in the ankles and turned his chair over and left him sideways.

"At least you got the field glasses," I said. "Take it easy, Jack."

Shelly and me went down. On the steps Shelly showed me he had two hamburgers wrapped in aluminum and shoved in his pants. He ate one sitting and I tried mine but gave it to him. It was too soggy.

Shelly even had a lemon soda to wash the burgers down. We opened it on the stair edge and I had half.

"Stay by me," I said.

We took out pistols and went down.

The lower you go, the more different it sounds to you. From up the sounds are like the ocean washing the bowl. From down you are in the sound. The screaming was much worse, and the breaking and running.

When you play ball, the sound goes two ways. In from them or out from you. If you do good, the sound goes out from you to them. But if you do bad, the sound goes from them to you and fills you like sand.

The feeling of sand is one reason you hate them. The times

when the sound is sand, you want to get them and destroy them once and for all. And we were doing it.

Shelly pulled my jersey. He found a friend. There was the ugliest lady trying to hide herself behind a post. She saw Shelly look and hid herself.

"Go, but be careful," I said. "And remember the meeting place when the loudspeaker tells you. Do you know where to go?"

"Gate 9 East."

"Go and enjoy."

Shelly went to this ugly person. I went on the field. Let Shelly lay.

He might as well because the chance of getting us out alive was next to zero. My hunch was they would desert us or die too.

It must be. They are like that. I guessed when we ran to the meeting place, there would be no trucks. The gates would not unlock as they promised. Or worse, bombs would be planted for us too.

Then who could tell about how they came and gave the plan to us? Who could tell where we got guns and bombs and ammo?

I never liked them. But they showed us the way, so why not? Why not? Like BaBa wrote *stop stop stop*, I write *why not why not why not*.

The first thing I felt on the field was heat. On such a crisp day. Well, there was sweat and fear. And the opening of bodies pouring heat. The grass was soaked. I ran with the boys.

Running them was not the same as really playing the game. You hit one. He went over or down or held you. Then another one, who maybe tried to sock you but not hard because he was mixed up.

You ran again, jumping on one or kicking one, but it was not like playing. The contact was different. And under your feet the grass was sticky and wet. It was not so great, but not bad for a while.

Some felt different from me. Rocco had come down and loved every minute. Shelly would have enjoyed it, but he was busy with the girl. You couldn't walk without climbing and falling. What a mess.

On the bench three peanut guys, who should have been in the stands, had a fatso and were stuffing him with nuts, shells and all.

I broke that up. For the hell of it, I cracked a peanut guy in the mouth. The fatso sat on the grass with his legs out, sucking air. My feeling was the peanut people did not have the same rights to be there as the players.

I walked toward the band. They were balling. Most of the ladies who came out of the stands got shoved there and were stripped and made to sing and dance.

I went back to the field, and a good thing because three frankfurter men got grabbed, and the fans stole their guns. They killed eight of us before we got them.

When we planned, I told them never to give guns to the food sell-

ers. I didn't like the idea of it but they did. Chalk one mistake for them.

It was getting later, and the crowd left was pressed in by the guns and gas. They blew a hole in their circle near the band and came out fighting. They were with it now.

But they ran through the band and on the field and did not attack us. They attacked others of themselves. Me and some of the boys watched this, and so I saw another right decision of our planners.

There was really a chance the crowd would stay like sheep while the bombs exploded and we got out. How did the planners know all this? They were geniuses.

Before that minute I never dreamed I could get out alive. Now I looked up at the clock. There was a guy on the hour hand. I shot him off in two shots. It was soon time for the bombs. The loudspeaker told us nothing though about our escaping.

Shelly came. He dragged the ugly with him.

"What are you doing with that?" I said.

"Nothing," he said. "Taking her."

"Taking her? Shelly, cut it out."

"I want to take her. What's wrong with that?"

"You know they won't let you take her, Shelly."

It was a great scene with Shelly and the lady on his arm.

"I'm hiding her in my locker, Vic. Until the signal."

Here a Royal, Howie Cretch, kicked her away from Shelly. She came flying like a bird and grabbed for me. I caught her.

"Howie," Shelly yelled, "Howie," but Howie ran away.

"All right, Shelly," I said. "Lock her. But hurry for chrissakes. You know what's going to happen here."

"Yeah," Shelly said.

"You'll louse it up. I'll go with you."

The three of us went through the action down under the stands where the lockers were.

"You know the time. Move."

We went down a corridor with the ugly holding us back.

Then I heard them down there.

"The control center," I said. "Remember they set up the control center in our locker room. If they see you with her, goodbye to all our asses."

I led us to the Royals' locker room a ways down. We found an open one and put her inside. She hardly fit. Shelly had to shove her and she hold herself.

"Stay, honey," he said. "I'll come back for you."

I thought if they found her and she told them it was Shelly and me, we were dead even if we did escape the bombs. Discipline, discipline. They are always yelling about that.

"Shelly stay here. Listen for them. I got to go back."

"Why Vic?"

"I left my gun sitting on the bench."

I went back. She was scrunched in the locker looking so stupid. I hated to but did it for Shelly's sake. And mine too. Because if there was any chance to live, why lose it by their finding her.

Then I stuffed her back and closed the door when Shelly's bullet hit me in the shoulder.

I felt a burning from the bullet and turned and aimed at Shelly's drippy nose and squeezed the trigger almost, but thank god, he dropped his gun and said, "Vic, now who do I shack with?"

He was afraid of what he did to me.

Then we heard them coming.

"Run, Shelly," I said.

They opened up after us. Ping. Ping. Ping. When they hit the lockers, it sounded like the bombs themselves. I fired back and got one, but more came.

We found a door back behind the Royals' lockers and went through and slammed it, then went down a hall. There were steps at the end of the hall. Up we went and unloaded a round back at them.

We ran out on the field way down by the far goal. I told Shelly to run to the crowd. When they popped out into the light, I got two more.

Then the loudspeaker gave off a siren blast which meant discovery.

I saw cops coming in one gate and all guns on them. Shelly pulled me now to the crowd. We were on the thirty-five yard line when the bombs went. The stands lifted up, hung there, then spilled to smoke and death.

I knew it. The bombs were set early. There was no warning to us and no trucks waiting to take us.

More bombs went. Shelly held me and I held him. There was such a black smoke and stink I will never lose it.

I thought of BaBa Blue. Did he see this or was he still closed?

Then I got woozy and I breathed for air and blacked out. I slipped down and got stepped on and then curled myself. Shelly told me that.

In the hospital they told me sixty-two of us died including many dear friends. Fifty lived for the trial. Fifty players. I do not count the food sellers, maintenance men and so forth. Of them we killed or maimed 9,432 souls in our 2 hours and 31 minutes of time.

It was all ruined by a politician's wife having a baby and calling her doctor, who always went to the game. They told her on the telephone he was paged and not there. But he always went to the game. So they sent after him, and the cops who came saw and got back out to tell it.

They brought BaBa Blue to the trial. He was closed yet. They had the scrap of paper with the *stop*

stop stop, but he told no story.

BaBa Blue or not, plenty did talk, so you could get their testimony and check the facts against mine.

The trial was horseshit.

I stood by Shelly while the judge asked us what was the motive. I said for both of us, "It was a little war, that's all it was."

And the judge asked about them and how they contacted us, and I was a stone. In all the parks where it happened that day, in all the countries whatever the game, not one of us spoke of them, as I understand it. That is the thing about athletes. We stick together when we have a common reason. Teamwork is the cause.

Besides, what would the use be to talk of them? Who knows where I will go in this world or the next, and who is to say they won't be waiting there? And then there is the matter of loyalty. We promised with one hand on the heart and the other on our sex never to mention anything.

The judge asked were we sorry.

Shelly was sorry for his girl, and I was sorry for losing loyal rooters and supporters. Yet I would do it again tomorrow. Such a day is good. Things build in you, and such a day is very good. I enjoyed the entire afternoon.

When I was in the hospital, I wondered what I would do next if there could be a next. I could not play professional ball any

more. They would, of course, never let me.

In another job I would miss the money, the glory and the kind of body contact which I like. What could I do? Dig ditches?

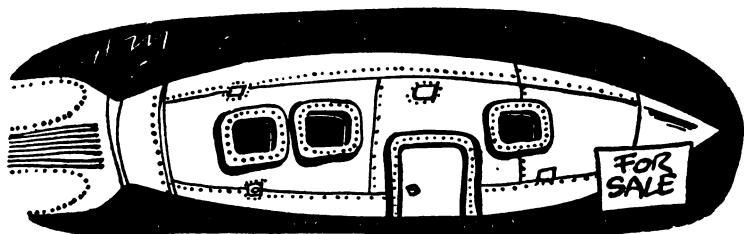
Shelly worried about it also, and I calmed him down many times. He kept worrying himself and was worrying this morning when they wiped his fat nose and took him to die.

Even I am still worrying.

What else is there but to play for a person like me? What is there so good as the game itself?

Yet the day was fine to have after so many times of the sound like sand coming from the crowd. The sound like sand filling me up in the ears and nose and mouth and bellybutton and hole.

The day was fine, but I do not want to die for it.



CHANGING YOUR ADDRESS?

The Magazine of FANTASY and SCIENCE FICTION will follow you anywhere providing you let us know six weeks in advance. Please be sure to give us your old address as well as the new one, and be sure to add the ZIP number. (If convenient, send the address label from the wrapper of the next copy of F&SF you receive.)

MERCURY PUBLICATIONS
Subscription Service
P.O. Box 271
Rockville Centre, N.Y. 11571

There have been all sorts of claims made for coffee, to the point where the industry would have us believe that no serious work could ever get done without it, or at least without the interruption caused by its preparation and consumption. We do not know whether D. F. Jones—a British Naval commander in World War II, author of two sf novels, COLOSSUS and IMPLOSION—required the aid of coffee while writing this story, but he has come up with an amusing tale about the most energizing coffee break since the first bean was roasted, ground and combined with boiling water.

COFFEE BREAK

by D. F. Jones

WHEN AN EAGER SALESMAN for a new and pushing chemical company convinced Manuel y Ortega da Gomez-Jackson that his particular insecticide was the newest, best and cheapest answer to the depredations of the leaf-miners that troubled Manuel's very considerable coffee plantation, quite a chain of events started.

And the confidence of the eager salesman was fully justified. The luckless leaf-miners were the first to benefit—if that is the word. Those insects that stuck to the only trade they knew, leaf-mining, died. Those that played a hunch and left the succulent leaves severely alone, well, starvation got them. Which

is life in a microcosm. However you place your bet, the bank wins.

Gomez-Jackson was highly delighted, and the clusters of ripening red berries were transmuted in his glistening eyes into a pearl necklace of impressive proportions for a somewhat exacting mistress—and a rather smaller, cultivated string for a watchful wife.

So, in due course, a lot of people were delighted. The mistress reacted predictably, gratifyingly; she even felt a pang of private guilt about the charming and more virile young man who was both her weakness and a secret charge on Manuel's beneficence, although, naturally, this feeling did not last

inconveniently long. Manuel's wife even softened slightly under the influence of her present, for he had not made the cardinal error of over-doing it. The gift had been nicely calculated; another twenty bucks and her hair-trigger suspicions would have been tripped, and all hell let loose. So Manuel was satisfied; so were the brokers, for the price had been good; so were the purchasers, for the quality was excellent.

There was only one, small snag; a minute trace of the active element of the systemic insecticide had not only spread from the roots to the leaves of the coffee plants, some had insinuated itself into the berries.

To be fair to all concerned, this point had been considered, and the buyer's chemist had noted the presence of this substance when testing the beans, but it was quite a well-known compound, proved beyond question as harmless to humans, non-carcinogenic, non-toxic and non-quite a lot of other things. It was also present in such microscopic quantities that it needed an elegant and refined procedure to even find it, and massive doses had never caused the slightest discomfort or allergy in hamsters, mice or any of the other animals who are so helpful in the laboratory. In any case, the final proof lay in the drinking, and that was done enthusiastically by untold numbers, with no trace of long or short term

ill effects. Most of this coffee went to Europe or stayed in South America, but some of it arrived, via Europe, in the United Nations HQ, New York.

The organization of commissariat facilities for so diverse a body as the UN is a complex matter, and the fact that it can be done at all is one of the few hopeful signs for the future of this planet. Security Council problems may be more weighty, but are seldom more complex than those that daily confront the commissary committee. Take tea. The Slavs cry for lemon, the English scream with agony at the sight of a tea-bag, and are fascinated by the spectacle of solid US citizens drinking the stuff iced. In its gloomier moments the committee ponders the problems that the admission of China and Tibet would pose; Lapsang Suchon and rancid butter . . . as for the French view of tea—among other things—well . . .

But coffee is a different proposition. Despite the many and varied forms it may take, the standard American version is acceptable to the majority of the many nationalities in that slab-sided building on the East River. And in the lounge reserved for the very top brass, heads of delegations, visiting foreign ministers, prime ministers and presidents, Manuel's coffee was, for a time, served. So here, amid the cups and the protocol, the black leather chairs on the appropriately

neutral gray carpet, the next link in the chain was forged.

Let us be quite clear on one point; there is nothing wrong with New York water. Several people drink the stuff, straight, every day, but in the absence of other evidence, this harmless, vital staff of life must have provided the small additive which made the difference. It cannot have been the milk or cream, for many drink their coffee black—especially when the Council is in session. For similar reasons sugar and other sweeteners are ruled out; only water remains as a constant factor. Perhaps it was some minute trace element in the chlorine added for purification, or some naturally occurring element in the New York watershed. Whatever it was, it fell in love with the insecticide compound, itself probably modified by the coffee, and formed a satisfying if complicated union with it. Afterwards, a high-grade chemist spent a happy time building a molecular model of the resulting mixture. Rumors that a museum tried to buy it as a fine example of modern art are quite untrue.

In the General Assembly it had been yet another of those mornings. The delegates representing a good deal of the earth's inhabitants had spent the first hour or so eyeing each other with varying degrees of disfavor across the chamber, whilst waiting hopefully for a

chance to get a word in edgeways. Situation normal. True, an Arab delegate omitted to scowl at the Israeli member, but this was purely an oversight. A Britisher managed to be discreetly insulting with an appraising stare at a European Common Market member's suit. Britain might be a shadow of what it was, but Savile Row remains Savile Row . . .

An unnameable delegate had held the floor since the morning session began, restating for the hundredth time his country's point of view. Few bothered to use the translation head-sets; they had heard this one before. Watches were peeked at, doodles were scribbled, confidences exchanged behind backs of hands. One man appeared to be wrestling with his tax return.

The speaker pressed gallantly on, blindly aware that he was convincing no one, but sustained by the thought that his speech would look good in the Press back home, a matter of some importance if you happened to be a citizen of that country. He "stated firmly" and he "categorically denied" and he "reiterated"—and there was no doubt at all about the reiteration. Amid a barrage of ill-concealed yawns he headed for his climax, thumping the rostrum with as much force as he dared—his was a small country, and delegates can be touchy about their rights and privileges—and reached the end

of his speech or performance, according to your view-point.

The Chairman sighed slightly, nodded his acknowledgement, glanced unnecessarily at the clock, and the meeting adjourned. With well concealed but long practiced ease, the delegates moved swiftly coffeewards. Only the member battling with his tax return was slow off the mark. But then, he was concentrating.

When the session resumed, there was no immediate sign of change in the atmosphere, although a very close observer might have noted the faint suspicion of a smile here and there. It was a full fifteen minutes later, when another delegate was in full flight, energetically rebutting the earlier delegate's speech—and getting as little attention—that the Change began.

"Balls!"

The word hung fractionally, like a glowing, glittering jewel, against the gray threadbare background of the delegate's over-well-prepared speech. Some with a command of the tongue of Shakespeare blinked, others frowned. A lot concluded they had misheard. The interruptor decided he had not made his point with full clarity.

"It's all balls!" He sounded remarkably cheerful and certain in his judgment. Heads turned.

Whatever else, it brightened the day for the translators. With great gusto they did their job.

"C'est tout ball!"

"Tutte ballo!"

The Chairman, an Asian, graduate of Harvard Law School, sometime lecturer at the London School of Economics, frowned. In his time in the Western world he had heard the term, although not, let it be hastily said, at either of those august establishments. He tapped his desk with the gavel thoughtfully provided, and frowned again as he peered in the general direction of the interrupter.

"I must ask delegates to refrain from making remarks while one of our number is addressing the Assembly!"

Again that voice rang out, clear as a bell, "Sorry, Mr. Chairman, but it's still all balls!"

The Chairman raised his eyebrows in surprise, then inclined his head graciously towards the speaker. The frown had gone. He smiled, his voice was soft, gentle, and the microphones picked up every word.

"My dear fellow, of course it's all balls, but it is this delegate's turn to talk it! You really mustn't interrupt!" He turned his attention to the stalled speaker at the rostrum, who was following the conversation with a curiously detached interest. "Please go on. I confess I agree, your speech is all balls, but you're delivering it very nicely." Again the gracefully inclined head. "Do go on."

It might be expected that this unusual state of affairs would be

greeted with uproar, cries of dissent. Certainly, one man, forbidden coffee by his doctor, was on his feet, red with rage and bitterly regretting that the shoe-banging on desk gambit was played out, but apart from him, the rest of the Assembly appeared to be laughing. Most surprising of all, the speaker at the rostrum was laughing as hard as anyone. Against this very unusual noise the irate man struggled to be heard.

"Mr. Chairman, I must protest! Surely you must uphold this great Assembly, our dignity—" He had difficulty in continuing.

The Chairman grinned at him. "Now *you're* talking balls!" The thought appeared to please him. "What on earth has dignity to do with our work—and d'you really think the world holds us in high regard? Of course, this is unfair of the world; we only carry out our governments' directives, but if you imagine we are respected! We talk, and in the main we are powerless. Inevitably, much of what we say is balls!" He smiled, and looked again at the rostrum. "My dear fellow, please accept our apologies. I cannot imagine what has come over us. For my part, I can only say I see things in a new, clear light which is not altogether complimentary to any of us here. Or," he added thoughtfully, "to the people who sent us." He took off his glasses, cleaned them and replaced them with prim care, and consulted

the agenda before him. He thought for a moment, then, "There is so much to do, and while I will naturally respect your wishes, may I suggest that you may care to stand down and allow me to arrange our business? You—we—all know perfectly well this debate is getting nowhere."

"Mr. Chairman, I'd be delighted!" The speaker gathered up his notes. He waved them at the Assembly. "You may be bored with this, but not half as bored as I am!"

He stepped down in a thunderous roar of applause and walked briskly to his seat, his face pink with pleasure. Unanimity is a rare treat in UNO. Even the Chairman clapped, then raised his hand for silence.

"We are all indebted to our colleague. His action is clearly right, but I cannot recall anyone before—" He broke off and pulled his lip, a look of puzzlement on his face as he thought. Then he shrugged, and dismissed the matter from his mind. "Well, no matter; he has done it, and we're all grateful."

He beamed his approval of the general rumble of assent. "We must get on; it is an unprofitable waste of time to consider why we—and I think I speak for most," he cast a reproving glance at the one glowering delegate, "we should have this change of view." With sudden vehemence he almost shouted, "Time is not on our side!"

And no one took him up on that point.

"Well, now; let us start with an easy one, but one that has bedeviled us for a very long time; this wretched border dispute between New Grogly and Ellinghland. It's been around far too long."

Frenzied cheering greeted this. Even the non-coffee drinking protestor could not argue with this comment. It had never got in the Top Ten disputes. Neither side had the power, or the interest of a Great Power, to escalate the affair into a really worthwhile crisis. East and West had no interest in the area and allowed matters to drift. As long as the locals were tied up in their own affairs, they were unlikely to be too tiresome to the big boys.

Both sides claimed a strip of land, cursed with a horrible climate and inhabited by a sad, underfed and under-privileged race who were only made sadder by the sudden appearance of a truckload of troops from one side or the other, smart, by local standards, in their third-hand uniforms. The leaders of these gallant bands would explain, with fanatical ardor, that the future lay with X—or, if it happened to be the other side's turn, Y. But the natives were less concerned with the highly problematical future as the more urgent question of the next meal. There had been little fighting between the

rivals, and at first the natives had been inclined to find this attention exciting, but disillusion soon set in. Neither side suffered many casualties, but for sure the locals caught it. Emptying a few magazines into a village that *might* be held by the enemy is a good deal more conducive to good aim than firing at an enemy that *is* armed.

The natives also discovered that liberators expect gratitude and whatever assistance the liberated can provide. These backward people with their near Stone Age culture rapidly became familiar with the arts of requisition, regulation and hostage-taking and other, finer points of the Plastic Age. It was also their pathetic homes that got knocked about, and when the forces had retired, flushed with victory—inevitably, both sides won—they could get on with burying their dead and trying to repair their huts.

Of course, there was a brighter side; the liberators did not come empty handed, but somehow the natives did not find these gifts satisfying. Most of the flags were made of paper, and while the pictures of the respective leaders might be interesting to contemplate, the handbills were of less utility for few could read, and not being a very resourceful people, no other use for all this paper occurred to them.

It was all really extremely funny, but it takes a robust sense of humor

to appreciate this sort of situation, especially if you are chronically hungry, the walls of your hovel are knocked down, your seed-corn gone in an alien gut, and your daughter, carried away by those uniforms, is clearly in a family way. . . .

And it was this trivial matter that was to be aired first. "Now, gentlemen, will the two delegates involved please stand up? Thank you." He smiled impartially at them. "This is a great chance for you two to show the rest of us the way. This strip of land. You, sir, will you please say why you want it?" He pointed to the Ellinghese member, who hesitated, looked at his notes—and threw them on the floor. Again there was the faintly bewildered expression. The delegate shook his head. "I can't think why this hasn't been said before . . . Mr. Chairman, the only reason we want this land is to stop the Groglied having it. There are no worthwhile minerals, the natives are a headache, being even more backward than we are, but if the Groglied get it, it will be a blow to our status."

"That is serious?" The Chairman was faintly incredulous.

The Ellinghese still looked puzzled. "I used to think so."

"Thank you," said the Chairman. "Now you, sir."

The Grogli representative smiled cheerfully. "Our reasons don't strike me as much better. We feel

it would make our map look more impressive; apart from that, we only want to stop the Ellinghese. Candidly," he spoke confidentially, as if the Chairman was the only person present, "although my lot have not actually said so, I'm sure the real reason is that it takes the minds of our people off one or two rather pressing home problems. We all know the value of that one."

A lot of heads nodded.

"Well, we know where we are," observed the Chairman. He scratched one ear in an absent-minded way, wrote rapidly, then looked up. "What d'you think of this?" He returned to his notes, "The governments of Grogly and Ellinghi accept they have no right to or desire for all that land delineated in the map deposited with the UN in 1952." He regarded the Assembly in general over the top of his glasses. "This has dragged on for twenty years!" He shook his head sadly and continued, "Both governments admit they have no ethnic, cultural or other ties whatsoever with the inhabitants of this land and both freely renounce all claims and title to this land, in perpetuity." Again he looked up. "I suppose it's too much to expect you to offer aid to these people?"

Both agreed it was, the Grogli adding cheerfully, "I'm sure I'll get hell from my government, but if we sew this up, they won't dare do anything. Public opinion! But money—no."

Inside ten minutes the resolution had been passed. The watching Press were, to put it mildly, staggered. They had not had the benefit of the VIP coffee, and the unprecedented happenings had them ranging through the whole spectrum of human emotions, although there was only one at the baffled rage end, a Grogli Pressman who had practically sold an article proving conclusively the Grogli case. For the rest, it was a time of excitement not known since the days of Mr. Khrushchev.

Certainly, those affected were in a very odd mental state. Their minds were like gloomy old houses, shuttered and barred against the world, full of tortuous passages, musty, locked rooms, and in each house dwelt a soul, possessive, darkly suspicious, fearful of intrusion and the unremembered world. Above all, fearful. And this drug was a cleansing wind that burst open the shutters, forced out the stale, vitiated air, letting the bright sun flood in, revealing the tawdry decay within.

Not that the affected delegates threw themselves into each others arms. Arab still looked at Jew in a hard-boiled way; East still regarded West as decadent, but the Arab now saw that there was a Jewish case; the East did not extract pleasure from the idea of Western decadence, and was prepared to admit that the West had no monopoly in decay.

The drug gave a clarity of vision, showing the utter preposterousness of pre-atomic attitudes in the latter end of the twentieth century. All paid lip-service to the idea that man faces self-destruction—a good stock speech on “the dangers that confront us” is an essential part of any politician’s outfit—but now they really *did* see it. They were not transformed into shining angels, but they were no longer near blinded by their national or political dark glasses. They *saw*.

Aware that their conduct would be causing near apoplexy in various capitals—and not caring overmuch—the Assembly adjourned for lunch. Practically all tanked up on the coffee, including some who had missed out in the morning. The dining room was exceptionally crowded; many who had intended eating out did not do so, being too busy to bother. Fantastic snatches of conversation could be heard.

“Kashmir’s not a real problem—we’ll soon fix that, its the sub-continental population increase . . .”

“Of course we know their damned government is as twisted as a corkscrew! We’d give our back teeth to get out . . .”

“Sure, it’s crazy to bust ourselves, competing in space! Now, if we make a joint declaration . . .”

“The UN can run the canal, as long as we get a fair share of the profits. It’s obvious . . .”

Clarity was not confined to *weltpolitik*.

"My wife's bloody impossible . . . so am I, really."

Sadly, it was not the Age, but only the Day of the Reasonable Man that had arrived. The afternoon session was restricted to straight talking and the settlement of a number of the smaller, perennial problems. There was tacit agreement that problems which, given a reasonable approach, could be quickly solved, should come first. Delegates knew of the growing flood of cables which ranged from the terse recall to outraged demands for full explanations. Time pressed, yet members generally felt confident that they would convince their governments of the rightness of their actions. True, their advisors were twittering like a flock of birds, but that was hardly new.

There were some grounds for their optimism, for many who had not drunk the coffee caught the mood as a sort of secondary infection. Agreed, it was a fine idea to investigate the physical properties of Jupiter, but why do it twice, at such vast cost, when two-thirds of the earth's population was underfed and daily getting nearer starvation? It was the fairy story of the Emperor's clothes all over again, but like fairy stories, it could not last.

Behind the scenes, quick-witted Security was going nearly mad. It took time for the existence of the Change to be realized, but once

that fact had been established it was a relatively simple matter to infer that the Assembly had been Got At; no body of men could act that reasonable and be in their right senses.

It was all done, smoothly and efficiently after the session had resumed its fantastic way. Ironically, there was complete agreement among the nationalities in Security. No one tried to even imply that it was a cunning West—or East—plot to subvert the other side. The first task was to stop it, never mind how it started. By the time the meeting of the Assembly broke up, all food and drink had been impounded, the staff whisked off for questioning, new stocks and staff installed. Investigations proliferated; there was even a bizarre check on that other common factor; the wash-room . . .

Next day the Change had worn off. Delegates were back in their shuttered and bolted minds, even more puzzled and fearful. It was clearly impossible to go back on the agreements of the previous day. For good or ill, minor problems all over the world had been settled, so far as the UN was concerned.

Those inhabitants of the strip of land between Grogly and Ellinghiland for example: they remained rather sad and underfed, and perhaps some of the girls were even sadder, missing those dashing uniforms, but for the rest, well, at least they were left alone to work

out their own salvation.

Making a virtue of necessity, both neighbors proclaimed victory for their cause, i.e., the expulsion of the other from the land. Understandably, both governments were somewhat vague about the positive side of their victories. Public holidays were proclaimed, and streets renamed in honor of the liberation. The victorious troops, now confined to their own countries, with the eternal broadmindedness of the soldier, turned their attention to the local girls. Both countries ordered the swift return of their UN representatives, but, very prudently, both decided that life in the USA was more congenial and healthy. Partners in misfortune, they teamed up and now run one of those curious bookshops on the West side of the Forties where "Lust in a Sin-bed" and "Sin in a Lust-bed" are eternal best sellers. And so the Change ended.

But take heart. The secret of that magical drug is known. Naturally, it is a Secret, for who knows what might happen if reason really did rule? Man must have his fantasies, even if it kills him. It all goes on much as before, little has changed, except that statesmen are chary of drinking coffee with opponents—what could be better than slipping the drug to the other guy, while remaining your good old cunning, selfish, fearful self? But secrets of that sort cannot be kept forever, and while it is hard

to imagine it doing anything but good in the field of international affairs, it may prove a mixed blessing in business, and in the home. Imagine a truly reasonable husband, or—even wilder flight of the mind—a reasonable wife? So hope for the Change, but fear its coming; a fairly standard predicament for humanity.

Certainly, Manuel Gomez-Jackson is a changed man. He is not so much thinner, as less fat; the gleam in his eye is not so bright, he is more apprehensive and nervous, and frequently tired. His coffee continues to make astronomical prices, but when you are stuck with two mistresses and a wife, plus the problem of not letting any one know of the other two's existence . . .

And then there was the case of the foreign attache leaving JFK, whose diplomatically protected bag accidentally dropped off the fork lift truck and burst, allowing two gallons of New York water to remain on US soil . . .

A stalwart member of that essentially simple-souled, kind-hearted fraternity, the US Customs, who happened to be nearby, remarked with some confidence and great feeling, that now he had seen everything.

I would like to assure him; not all, not yet. Not quite yet.

There is a discreet establishment, not entirely unconnected with CIA, which has taken deliv-

ery of some two thousand gallons of water, and while the security measures prevent the entry of any unauthorized persons, they are quite unable to stop the strong

aroma of coffee from getting out.

And certain other parties are diligently at work, and if the stuff gets loose among the politicians at election time, well . . .



DANCE MUSIC FOR A GONE PLANET

Snow fills the treadmarks where
the General's tank foundered.
A prime Minister stretches
his neck from the wall,
eyes leaking glass.
Tissue thin,
paper of roses peels,
quilts open into blizzards
while we crank up the dark machine
and dance until the parquet shrieks.
The excavators smile
with iron teeth and eat the bricks;
we put another record on.
One day our sons will rummage
in this dump and rig
a new dance hall.

—SONYA DORMAN

Arthur Clarke has said (in *PROFILES OF THE FUTURE*): "If a distinguished but elderly scientist says that something is possible he is almost certainly correct. If he says that something is impossible he is very probably wrong." Now, no one would dare classify the distinguished science editor of *F&SF* as elderly (even under Clarke's qualification that he meant anyone over "thirty"), but the fact is that the title of one of Dr. Asimov's articles about the speed of light did carry the word "impossible." So here is Mr. Clarke, armed to the teeth with information about things that go faster than light—except they are not exactly "things."

POSSIBLE, THAT'S ALL!

A COURTEOUS BUT COMPREHENSIVE REFUTATION OF THE GOOD DOCTOR, TRANSCRIBED MORE IN SORROW THAN IN ANGER,

by Arthur C. Clarke

THE GALACTIC NOVELS OF MY esteemed friend Dr. Asimov gave me such pleasure in boyhood that it is with great reluctance that I rise up to challenge some of his recent statements ("Impossible, That's All," *F&SF*, February 1967). I can only presume that advancing years, and the insatiable demands of the Asimov-of-the-Month-Club Selection Board, have caused a certain enfeeblement of the far-ranging imagination that has delighted so many generations of s.f. fandom. (Firm Note from Editor: To put the record straight, and to prevent any innocent readers being deceived—the Good

Doctor was born three years *later* than his Reluctant Critic.)

The possibility, or otherwise, of speeds greater than that of light cannot be disposed of quite as cavalierly as Dr. A does in his article. First of all, even the restricted or Special Theory of Relativity does not deny the existence of such speeds. It only says that speeds *equal* to that of light are impossible—which is quite another matter.

The naive layman who has never been exposed to quantum physics may well argue that to get from below the speed of light to above it one has to pass *through*

it. But this is not necessarily the case; we might be able to jump over it, thus avoiding the mathematical disasters which the well-known Lorentz equations predict when one's velocity is *exactly* equal to that of light. Above this critical speed, the equations can scarcely be expected to apply, though if certain interesting assumptions are made, they may still do so.

I am indebted, if that is the word, to Dr. Gerald Feinberg of Columbia University for this idea. His paper "On the Possibility of Superphotic Speed Particles" (privately printed; posted in plain, sealed envelopes) points out that since sudden jumps from one state to another are characteristic of quantum systems, it might be possible to hop over the "light barrier" without going through it. If anyone thinks that this is ridiculous, I would remind him that quantum-effect devices doing similar tricks are now on the market—witness the tunnel diode. Anything that can rack up sales of hundreds of thousands of dollars should be taken very seriously indeed.

Even if there is no way through the light-barrier, Dr. Feinberg suggests that there may be another universe on the other side of it, composed entirely of particles that cannot travel *slower* than the speed of light.* (Anyone who can visualize just what is meant by that phrase "on the other side of" is a

much better man than I am.) However, as such particles—assuming that they still obey the Lorentz equations—would possess imaginary mass or negative energy, we might never be able to detect them or use them for any practical purpose like interstellar signalling. As far as we are concerned, they might as well not exist.

This last point does not worry me unduly. Similar harsh things were once said about the neutrino, yet it is now quite easy to detect this improbable object, if you are prepared to baby-sit a few hundred tons of equipment for several months two miles down in an abandoned gold-mine. Anyway, mere trifles like negative energy and imaginary mass should not deter any mathematical physicist worthy of his salt. Odder concepts are being bandied round all the time in the quark-infested precincts of Brookhaven and CERN.

Perhaps at this point I should exorcise a phantom which, rather wisely, the Good Doctor refrained from invoking. There are many things that *do* travel faster than light; but they are not exactly "things"—they are only appearances, which do not involve the transfer of energy, matter or information.

One example—familiar to thou-

*Some colleagues of Dr. Feinberg have since conducted (unsuccessfully) a search for these hypothetical faster-than-light particles.

sands of radar technicians—is provided by the movement of radio waves along the rectangular copper pipes known as wave-guides. The electromagnetic patterns travelling through a wave-guide can *only* move faster than light—never at less than this speed! But they cannot carry signals; the changes of pattern which alone can do this move more slowly than light, and by precisely the same ratio as the others exceed it (i.e. the product of the two speeds equals the square of the speed of light).

If this sounds complicated, let me give an example which hopefully will clarify the situation. Suppose we had a wave-guide one light-year long, and fed radio signals into it. Under no circumstances could anything emerge from the other end in less than a year; in fact, it might be ten years before the message arrived, moving at only a tenth of the speed of light. But once the waves had got through, they would have established a pattern that swept along the guide at ten times the speed of light. Again I must emphasize that this pattern would carry no information. Any signal or message would require a change of some kind at the transmitter—which would take ten years to make the one-light-year trip.

If you have ever watched storm-waves hitting a breakwater, you may have seen a very similar phenomenon. When the line of waves

hits the obstacle at an acute angle, a veritable water spout appears at the point of intersection and moves along the breakwater at a speed which is always greater than that of the oncoming waves, and can have any value up to infinity (when the lines are parallel, and the whole sea-front erupts at once). But no matter how ingenious you are, there is no way in which you could contrive to use this water-spout to carry signals—or objects—along the coast. Though it contains a lot of energy, it does not involve any *movement* of that energy. The same is true of the hyper-speed patterns in a wave-guide.

If you wish to investigate this subject in more detail, I refer you to the article by s.f. old-timer Milton A. Rothman, "Things That Go Faster Than Light" in *Scientific American* for July 1960. The essential fact is that the existence of such speeds ("phase velocities") in no way invalidates the Theory of Relativity.

However, there may be other phenomena that do precisely this. Please fasten your seatbelts and read—slowly—the following extract from a letter by Professor Herbert Dingle, published in the Royal Astronomical Society's Journal, *The Observatory*, for December 1965 (85, 949, pp. 262-64). It will repay careful study.

"The recent report that artificially produced messages from distant parts of the universe might

have been detected has prompted much speculation on the possibility of communication over long distances, in all of which it seems to have been taken for granted that a time of at least r/c must elapse before a signal can be received from a distance r (c = velocity of light). There is, however, no evidence for this. There is reason for believing that it is true for any phenomenon uniquely locatable at a point, or small region, but some phenomena are not so locatable. If the postulate of relativity (i.e. the postulate that there is no natural standard of rest, so that the relative motion of two bodies cannot be uniquely divided between them . . .) is true, the Doppler effect affords a means of *instantaneous communication over any distance at all*. . . . A code of signals . . . could therefore be devised that, in principle, *would enable us to send a message to any distance and receive an immediate reply.*" [My italics.]

"Unfortunately we do not know whether the postulate of relativity is true or not. . . . Since the demise of the special relativity theory has not yet succeeded in penetrating into general awareness, it seems worth while to show its impotence in the present problem. . . ."

And so on, for a few hundred words of tight mathematical logic, followed by a reply from a critic which Professor Dingle demolishes, at least to his satisfaction, in the

August 1966 issue of the *Observatory*. I won't give details of the discussion because they are far too technical for this journal.* (Translation: I don't understand them).

The point I wish to make, however, should already have been made sufficiently clear by the extract. Despite its formidable success in many *local* applications, Relativity may not be the last word about the universe. Indeed, it would be quite unprecedented if it were.

The *General Theory*—which deals with gravity and accelerated motions, unlike the *Special Theory* which is concerned only with unaccelerated motion—may already be in deep trouble. One of the world's leading astrophysicists (he may have changed his mind now, so I will not identify him beyond saying that his name begins with Z) once shook me by remarking casually, as we were on the way up Mt. Palomar, that he regarded all the three "proofs" of the *General Theory* as disproved. And only this week I read that Professor Dicke has detected a flattening of the sun's poles which ac-

*For those who would like to study the Professor's ideas in a slightly more accessible source, see his article "The Observation of Line Events" in that intriguing volume *THE SCIENTIST SPECULATES*, By a coincidence of almost infinite improbability, it occurs right next to a note by the Good Doctor, reprinted from this magazine. How's that for a well-ordered Universe?

counts for the orbital peculiarities of Mercury, long regarded as the most convincing evidence for the theory.

If Dicke is right, the fact that Einstein's calculations gave the correct result for the precession of Mercury will be pure coincidence. And *then* we shall have an astronomical scandal at both ends of the Solar System: for Lowell's "prediction" of Pluto's orbit also seems completely fortuitous. Pluto is far too small to have produced the perturbations that led to its discovery. (Has anyone yet written a story suggesting that it is the satellite of a much larger but invisible planet?)

And now that I have got started, I'd like to take a swipe at another Einsteinian sacred cow: the Principle of Equivalence, which is the basis of the gravitational theory. Every book on the subject—George Gamow's *GRAVITY* is a good example—illustrates the principle by imagining a man in a spaceship. If the spaceship is accelerating at a steady rate, it is claimed that there is no way in which the occupant can distinguish the "inertial" forces acting on him from those due to a gravitational field.

Now this is patently nonsense—unless the observer and his spaceship have zero dimensions. One can *always* distinguish between a gravitational field and an inertial one. For if you examine any gravitational field with a suitable in-

strument (which need be no more complicated than a couple of ball-bearings, whose movements in free-fall are observed with sufficient precision), you will quickly discover two facts: (1) the field varies in intensity from point to point, because it obeys an inverse square law (this "gravity gradient" effect is now used to stabilize satellites in orbit); (2) the field is not parallel, as it radiates from some central gravitating body.

But the "pseudo-gravitational" force due to acceleration can—in principle at least—be made uniform and parallel over as great a volume of space as desired. So the distinction between the two would be obvious after a very brief period of examination.

Let us ignore the unpleasant little man in the front row who has just popped up to ask how I've spotted a flaw missed by Albert Einstein and some 90% of all the mathematicians who have ever lived on this planet, since the beginning of time. But *if* the Principle of Equivalence is invalid, several important consequences follow. One of the most effective arguments against the possibility of antigravitational and "space drive" devices is overthrown—surely a consummation devoutly to be wished by all advocates of planetary exploration, not to mention those billions who will shortly be cringing beneath the impact of sonic thunderbolts from SST's. In ad-

dition, and more relevant to our present argument, we will have made a hole in the Theory of Relativity through which we should be able to fly a superphotic ship.

Talking of holes leads rather naturally to our old friend the space-warp, that convenient shortcut taken by so many writers of interstellar fiction (myself included). As a firm believer in Hal-dane's Law ("The Universe is not only queerer than we imagine—it is queerer than we *can* imagine") I think we should not dismiss space-warps merely as fictional devices. At least one mathematical physicist, Professor J. A. Wheeler, has constructed a theory of space-time that involves what he has picturesquely called "worm-holes." These have all the classic attributes of the space-warp; you disappear at A and reappear at B, without ever visiting any point in between. Unfortunately, in Wheeler's theory the average speed from A to B, even *via* worm-hole, still works out at less than the speed of light. This seems very unenterprising, and I hope the Professor does a little more homework.

Another interesting, and unusu-

al, attempt to demolish the light-barrier was made in the last chapter of the book *ISLANDS IN SPACE*, by Dandridge M. Cole and Donald W. Cox. They pointed out that all the tests of the relativity equations had been carried out by particles accelerated by external *forces*, not self-propelled systems like rockets. It was unwise, they argued, to assume that the same laws applied in this case.

And here I must admit to a certain slight embarrassment. I had forgotten, until I referred to my copy, that the preface ends with a couple of limericks making a crack at *me* for saying (in *PROFILES OF THE FUTURE*) that the velocity of light could never be exceeded. In such a situation, I always fall back on Walt Whitman:

"I contradict myself? Very well,
I contradict myself. I am
large; I contain multitudes."

So now I invite the Good Doctor to do likewise. After all, he is larger than I am.

And I still reserve the right to *re*-contradict myself, whenever I feel in the mood.

Be it noted that by the Asimov-Clarke treaty, agreed to in a taxicab moving along Park Avenue, New York, several years ago, my good bald friend, Arthur Clarke, is obliged to state always that I am the best science writer in the world, while I am equally obliged to state that he is the best science-fiction writer in the world.

Arthur's strictures in the above article are therefore taken in good

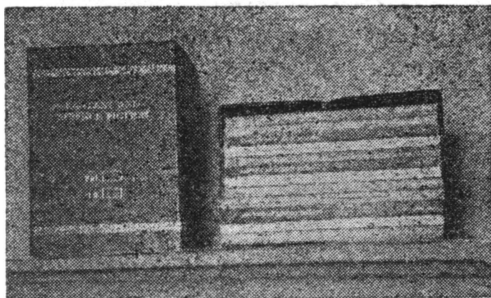
part. Everything he says consists of pearls.

Of course, *we* can't go faster than the speed of light. Tachyons can, but they can't go *slower* than the speed of light. So far, tachyons exist only in a mathematical analysis. Even if they really exist, they may not be detectable. Even if they are detectable, there seems to be no way we can join them or they us. So if we speak of the "attainable Universe" the speed of light remains an upper limit. (I'll write an article on tachyons some day, maybe.)

As for gravity-inertia equivalence, it is easy to imagine the elevator in the shape of a solid, truncated, frustum of a sphere (or whatever the proper name would be) which expands as it moves upward in such a way that the inertia would behave exactly like a gravitational field emanating from a point source. In such a case there would be no way of distinguishing inertia from gravity.

And I'm betting Einstein's General Relativity survives current uncertainties.

—ISAAC ASIMOV



Handsome, Sturdy
VOLUME FILES
for Your Copies of
**FANTASY AND
 SCIENCE FICTION**

Each Volume File will keep
 12 copies of FANTASY &

SCIENCE FICTION clean, orderly, and readily accessible. Sturdily built, the files are covered with a rich black and red washable leatherette, and the lettering is in 16-carat gold leaf.

Reasonably priced at \$3.50 each, 3 for \$10.00 or 6 for \$19.00, they are shipped fully postpaid on a money back basis if not satisfactory. Order direct from:

JESSE JONES BOX CORPORATION

Dept. F&SF

P.O. Box 5120

Philadelphia, Pa., 19141

Harlan Ellison's current projects include the following: scripting an sf film, ESPER, for Universal pictures (it is projected as a film-for-TV and later a series); putting together a second volume of DANGEROUS VISIONS; completing two novels, DEMON WITH A GLASS HAND (based on his award-winning "Outer Limits" television script), and DIAL 9 TO GET OUT, a contemporary novel "more than slightly autobiographical." Ellison is presently crossing the country making TV and radio appearances to promote his new collection LOVE AIN'T NOTHING BUT SEX MISPELLED. His latest short story is the tale of Eddie Burma, who lent pieces of himself to a hungry world.

TRY A DULL KNIFE

by Harlan Ellison

IT WAS *pachanga* NIGHT AT THE Cave. Three spick bands all going at once, each with a fat momma shaking her meat and screaming *Vaya!* The sound was something visible, an assault in silver lamé and screamhorn. Sound hung dense as a smog-cloud, redolent as skunk-scent. Darkness shot through with quicksilver flashes of mouths open to show gold bridgework and dirty words. Eddie Burma staggered in, leaned against a wall and felt the sickness as thick as cotton wool in his throat.

The deep scar-burn of pain was bleeding slowly down his right side. The blood had started coagulating; his shirt stuck to his flesh, but he dug it: it wasn't pumping any

more. But he was in trouble, that was the righteous truth. Nobody can get 'cut the way Eddie Burma'd been cut and not be in deep trouble.

And somewhere back out there, in the night, they were moving toward him, coming for him. He had to get through to—who? Somebody. Somebody who could help him, because only now, after fifteen years of what had been happening to him, did Eddie Burma finally know what it was he had been through, what had been done to him . . . what was *being* done to him . . . what they would certainly do to him.

He stumbled down the short flight of steps into The Cave and

was instantly lost in the smoke and smell and twisting shadows. Ethnic smoke, Puerto Rican smells, lush shadows from another land. He dug it, even with his strength ebbing, he dug it.

That was Eddie Burma's problem. He was an empath. He felt. Deep inside himself, on a level most people never even know exists, he felt for the world. Involvement was what motivated him. Even here, in this slum nightclub where intensity of enjoyment substituted for the shallow glamour and gaucherie of the uptown *boites*, here where no one knew him and therefore could not harm him, he felt the pulse of the world's life surging through him. And the blood started pumping again.

He pressed his way back through the crowd, looking for a phone booth, looking for a toilet, looking for an empty booth where he could hide, looking for the person or persons unknown who could save him from the dark night of the soul slipping toward him inexorably.

He caromed off a waiter, Pancho Villa moustache, dirty white apron, tray of draft beers. "Hey, where's the *gabinetto*?" he slurred the request. His words were slipping in their own blood.

The Puerto Rican waiter stared at him. Uncomprehending. "Perdon?"

"The toilet, the *pissoir*, the can, the head, the crapper. I'm bleeding to death, where's the potty?"

"Ohhh!" meaning dawned on the waiter, "*Excusado . . . atavio!*" He pointed. Eddie Burma patted him on the arm and slumped past, almost falling into a booth where a man and two women were groping one another darkly.

He found the door to the toilet and pushed it open. A reject from a Cuban Superman film was slicking back his long, oiled hair in an elaborate pompadour before the foggy mirror. He gave Eddie Burma a passing glance and went back to the topography of his coiffure. Burma moved past him in the tiny room and slipped into the first stall.

Once inside, he bolted the door and sat down heavily on the lidless toilet. He pulled his shirt up out of his pants and unbuttoned it. It stuck to his skin. He pulled, gently, and it came away with the sound of mud squished underfoot. The knife wound ran from just below the right nipple to the middle of his waist. It was deep. He was in trouble.

He stood up, hanging the shirt on the hook behind the door, and pulled hanks of toilet paper from the gray, crackly roll. He dipped the paper in a wad into the toilet bowl, and swabbed at the wound. Oh, God, *really* deep.

Then nausea washed over him, and he sat down again. Strange thoughts came to him, and he let them work him over:

This morning, when I stepped

out the front door, there were yellow roses growing on the bushes. It surprised me; I'd neglected to cut them back last fall, and I was certain the gnurled, blighted knobs at the ends of the branches—still there, silently dead in reproach of my negligence—would stunt any further beauty. But when I stepped out to pick up the newspaper, there they were. Full and light yellow, barely a canary yellow. Breathing moistly, softly. It made me smile, and I went down the steps to the first landing to get the paper. The parking lot had filled with leaves from the eucalyptus again, but somehow, particularly this morning, it gave the private little area surrounding and below my secluded house in the hills a more lived-in, festive look. For the second time, for no sensible reason, I found myself smiling. It was going to be a good day, and I had the feeling that all the problems I'd taken on, all the social cases I took unto myself—Alice and Burt and Linda down the hill, all the emotional cripples who came to me for succor—would shape up, and we'd all be smiling by end of day. And if not today, then certainly by Monday. Friday, the latest.

I picked up the paper and snapped the rubber band off it. I dropped the rubber band into the big metal trash basket at the foot of the stairs and started climbing back up to the house, smelling the orange blossoms and the fine, chill

morning air. I opened the paper as I climbed, and with all the suddenness of a freeway collision, the morning calm vanished from around me. I was stopped in mid-step, one leg raised for the next riser, and my eyes felt suddenly grainy, as though I hadn't had enough sleep the night before. But I had.

The headline read: EDWARD BURMA FOUND MURDERED.

But . . . I was Eddie Burma.

He came back from memories of yellow roses and twisted metal on freeways to find himself slumped against the side of the toilet stall, his head pressed to the wooden wall, his arms hanging down, the blood running into his pants top. His head throbbed, and the pain in his side was beating, hammering, pounding with a regularity that made him shiver with fear. He could not sit there, and wait.

Wait to die, or wait for them to find him.

He knew they would find him. He knew it.

The phone. He could call . . .

He didn't know whom he could call. But there had to be someone. Someone out there who would understand, who would come quickly and save him. Someone who wouldn't take what was left of him, the way the others would.

They didn't need knives.

How strange that *that* one, the little blonde with the Raggedy Ann

shoebutton eyes, had not known that. Or perhaps she had. But perhaps also the frenzy of the moment had overcome her, and she could not simply feed leisurely as the others did. She had cut him. Had done what they all did, but directly, without subtlety.

Her blade had been sharp. The others used much more devious weapons, subtler weapons. He wanted to say to her, "Try a dull knife." But she was too needing, too eager. She would not have heard him.

He struggled to his feet and put on his shirt. It hurt to do it. The shirt was stained the color of teak with his blood. He could barely stand now.

Pulling foot after foot, he left the toilet and wandered out into The Cave. The sound of "Mamacita Lisa" beat at him like gloved hands on a plate glass window. He leaned against the wall and saw only shapes moving, moving, moving in the darkness. Were they out there? No, not yet; they would never look here first. He wasn't known here. And his essence was weaker now, weaker as he died, so no one in the crowd would come to him with a quivering need. No one could feel it possible to drink from this weak man, lying up against a wall.

He saw a pay phone, near the entrance to the kitchen, and he struggled toward it. A girl with long hair and haunted eyes stared

at him as he passed, started to say something, then he summoned up strength to hurry past her before she could tell him she was pregnant and didn't know who the father was, or she was in pain from emphysema and didn't have doctor money, or she missed her mother who was still in San Juan. He could handle no more pains, could absorb no more anguish, could let no others drink from him. He didn't have that much left for his own survival.

My fingertips (he thought, moving) are covered with the scars of people I've touched. The flesh remembers those touches. Sometimes I feel as though I am wearing heavy woolen gloves, so thick are the memories of all those touches. It seems to insulate me, to separate me from mankind. Not mankind from me, God knows, for they get through without pause or difficulty—but me, from mankind. I very often refrain from washing my hands for days and days, just to preserve whatever layers of touches might be washed away by the soap.

Faces and voices and smells of people I've known have passed away, but still my hands carry the memories on them. Layer after layer of the laying-on of hands. Is that altogether sane? I don't know. I'll have to think about it for a very long time, when I have the time.

If I ever have the time.

He reached the pay phone; after a very long time he was able to

bring a coin up out of his pocket. It was a quarter. All he needed was a dime. He could not go back down there; he might not make it back again. He used the quarter and dialed the number of a man he could trust, a man who could help him. He remembered the man now, knew the man was his only salvation.

He remembered seeing him in Georgia, at a revival meeting, a rural stump religion circus of screaming and hallelujahs that sounded like !H!A!L!L!E!L!U!J!A!H! with dark faces and red-necks all straining toward the seat of God on the platform. He remembered the man in his white shirtsleeves, exhorting the crowd, and he heard again the man's spirit message.

"Get with the Lord, before *He* gets right with *you*! Suffer your silent sins no longer! Take out your truth, carry it in your hands, give it to me, all the ugliness and cess-pool filth of your souls! I'll wash you clean in the blood of the Lamb, in the blood of the Lord, in the blood of the truth of the Word! There's no other way; there's no great day coming without purging yourself, without cleansing your spirit! I can handle all the pain you've got boiling around down in the black lightless pit of your souls! Hear me, dear God hear me . . . I am your mouth, your tongue, your throat, the horn that will proclaim your deliverance to the

Heavens above! Evil and good and worry and sorrow, all of it is mine, I can carry it, I can handle it, I can lift it from out of your mind and your soul and your body! The place is here, the place is me, give me your woe! Christ knew it, God knows it, *I* know it, and now *you* have to know it! Mortar and trowel and brick and cement make the wall of your need! Let me tear down that wall, let me hear all of it, let me into your mind, and let me take your burdens! I'm the strength, I'm the watering place . . . come drink from my strength!"

And the people had rushed to him. All over him, like ants feeding on a dead beast. And then the memory dissolved. The image of the tent revival meeting dissolved into images of wild animals tearing at meat, of hordes of carrion birds descending on fallen meat, of small fish leaping with sharp teeth at helpless meat, of hands and more hands, and teeth that sank into meat.

The number was busy.

It was busy again.

He had been dialing the same number for nearly an hour, and the number was always busy. Dancers with sweating faces had wanted to use the phone, but Eddie Burma had snarled at them that it was a matter of life and death that he reach the number he was calling, and the dancers had gone back to their partners with curses for him. But the line was still busy. Then

he looked at the number on the pay phone, and knew he had been dialing himself all that time. That the line would always, *always* be busy, and his furious hatred of the man on the other end who would not answer was hatred for the man who was calling. He was calling himself, and in that instant he remembered who the man had been at the revival meeting. He remembered leaping up out of the audience and taking the platform to beg all the stricken suffering ones to end their pain by drinking of his essence. He remembered, and the fear was greater than he could believe. He fled back to the toilet, to wait for them to find him.

Eddie Burma, hiding in the refuse room of a sightless dark spot in the netherworld of a universe that had singled him out for reality. Eddie Burma was an individual. He had substance. He had corporeality. In a world of walking shadows, of zombie breath and staring eyes like the cold dead flesh of the moon, Eddie Burma was a real person. He had been born with the ability to belong to his times, with the electricity of nature that some called charisma and others called warmth. He felt deeply; he moved through the world and touched, and was touched.

His was a doomed existence, because he was not only extroverted and gregarious, but he was truly clever, vastly inventive, suffused

with humor, and endowed with the power to listen. For these reasons he had passed through the stages of exhibitionism and praise-seeking to a state where his reality was assured. Was very much his own. When he came into a room, people knew it. He had a face. Not an image, or a substitute life that he could slip on when dealing with people, but a genuine reality. He was Eddie Burma, only Eddie Burma, and could not be confused with anyone else. He went his way, and he was identified as Eddie Burma in the eyes of anyone who ever met him. He was one of those memorable people. The kind other people who have no lives of their own talk about. He cropped up in conversations: "Do you know what Eddie said . . .?" or "Guess what happened to Eddie?" And there was never any confusion as to who was the subject under discussion.

Eddie Burma was a figure no larger than life, for life itself was large enough, in a world where most of those he met had no individuality, no personality, no reality, no existence of their own.

But the price he paid was the price of doom. For those who had nothing came to him and, like creatures of darkness, amorally fed off him. They drank from him. They were the succubi, draining his psychic energies. And Eddie Burma always had more to give. Seemingly a bottomless well, the bottom had been reached. Finally. All the peo-

ple whose woes he handled, all the losers whose lives he tried to organize, all the preying crawlers who slinked in through the ashes of their non-existence to sup at his board, to slake the thirsts of their emptiness . . . all of them had taken their toll.

Now Eddie Burma stumbled through the last moments of his reality, with the wellsprings of himself almost totally drained. Waiting for them, for all his social cases, all his problem children, to come and finish him off.

I live in a hungry world, Eddie Burma now realized.

"Hey, man! C'mon outta th' crapper!" The booming voice and the pounding on the stall door came as one.

Eddie trembled to his feet and unbolted the door, expecting it to be one of them. But it was only a dancer from The Cave, wanting to rid himself of cheap wine or cheap beer. Eddie stumbled out of the stall, almost falling into the man's arms. When the beefy Puerto Rican saw the blood, saw the dead pale look of flesh and eyes, his manner softened.

"Hey . . . you okay, man?"

Eddie smiled at him, thanked him softly, and left the toilet. The nightclub was still high, still screaming, and Eddie suddenly knew he could not let *them* find this good place, where all these good people were plugged into life and living. Because for *them* it

would be a godsend, and they would drain The Cave as they had drained him.

He found a rear exit and emerged into the moonless city night, as alien as a cavern five miles down or the weird curvature of another dimension. This alley, this city, this night, could as easily have been Transylvania or the dark side of the moon or the bottom of the thrashing sea. He stumbled down the alley, thinking . . .

They have no lives of their own.

Oh, this poisoned world I now see so clearly. They have only the shadowy images of other lives, and not even real other lives—the lives of movie stars, fictional heroes, cultural clichés. So they borrow from me and never intend to pay back. They borrow, at the highest rate of interest. My life. They lap at me, and break off pieces of me. I'm the mushroom that Alice found with the words EAT ME in blood-red on my id. They're succubi draining me, draining my soul. Sometimes I feel I should go to some mystical well and get poured full of personality again. I'm tired. So tired.

There are people walking around this city who are running on Eddie Burma's drained energies, Eddie Burma's life-force. They're putt-putting around with smiles just like mine, with thoughts I've second-handed like old clothes passed on to poor relatives, with hand movements and expressions

and little cute sayings that were mine, Scotch-taped over their own. I'm a jigsaw puzzle, and they keep stealing little pieces. Now I make no scene at all, I'm incomplete, I'm unable to keep the picture coherent, they're taken so much already.

They had come to his party, all of the ones he knew. The ones he called his friends, and the ones who were using him as their wizard, as their guru, their psychiatrist, their wailing wall, their father confessor, their repository of personal ills and woes and inadequacies. Alice, who was afraid of men and found in Eddie Burma a last vestige of belief that males were not all beasts. Burt, the box-boy from the supermarket, who stuttered when he spoke and felt rejected even before the rejection. Linda, from down the hill, who had seen in Eddie Burma an intellectual, one to whom she could relate all her theories of the universe. Sid, who was a failure, at fifty-three. Nancy, whose husband cheated on her. John, who wanted to be a lawyer, but would never make it because he thought too much of his clubfoot. And all the others. And the new ones they always seemed to bring with them. There were always so many new ones he never knew. Particularly the pretty little blonde with the Raggedy Ann shoe-button eyes, who stared at him hungrily.

And from the first, earlier that night, he had known something was wrong. There were too many of them at the party. More than he could handle . . . and all listening to him tell a story of something that had happened to him when he had driven to New Orleans in 1960 with Tony in the Corvette, and they'd both gotten pleurisy because the top hadn't been bolted down properly, and they'd passed through a snowstorm in Illinois.

All of them hung on his words, like drying wash on a line, like festoons of ivy. They sucked at each word and every expression like hungry things pulling at the marrow in beef bones. They laughed, and they watched, and their eyes glittered . . .

Eddie Burma had slowly felt the strength ebbing from him. He grew weary even as he spoke. It had happened before, at other parties, other gatherings, when he had held the attention of the group, and gone home later, feeling drained. He had never known what it was.

But tonight the strength did not come back. They kept watching him, seemed to be *feeding* on him, and it went on and on, till finally he'd said he had to go to sleep and they should go home. But they had pleaded for one more anecdote, one more joke told with perfect dialect and elaborate gesticulation. Eddie Burma had begun to cry, quietly. His eyes were red-rimmed, and his body felt as though the bones and

musculature had been removed, leaving only a soft rubbery coating that might at any moment cave in on itself.

He had tried to get up to go and lie down, but they'd gotten more insistent, had demanded, had ordered, had grown nasty. And then the blonde had come at him and cut him, and the others were only a step behind. Somehow . . . in the thrashing tangle that had followed, with his friends and acquaintances now tearing at one another to get at him, he had escaped. He had fled, he did not know how, the pain of his knifed side crawling inside him. He had made it into the trees of the little glen where his house was hidden, and through the forest, over the watershed, down to the highway, where he had hailed a cab. Then into the city . . .

See me! See me, please! Just don't always come and take. Don't bathe in my reality and then go away feeling clean. Stay and let some of the dirt of you rub off on me. I feel like an invisible man, like a drinking trough, like a sideboard dripping with sweetmeats . . . Oh God, is this a play, and myself unwillingly the star? How the hell do I get off stage? When do they ring down the curtain? Is there, please God, a man with a hook . . . ?

I make my rounds, like a faith healer. Each day I spend a little

time with each one of them. With Alice and with Burt and with Linda down the hill, and they take from me. They don't leave anything in exchange, though. It's not barter, it's theft. And the worst part of it is I always needed that, I always let them rob me. What sick need was it that gave them entrance to my soul? Even the pack rat leaves some worthless object when it steals a worthless object. I'd take anything from them: the smallest anecdote, the most used-up thought, the most stagnant concept, the puniest pun, the most obnoxious personal revelation . . . anything! But all they do is sit there and stare at me, their mouths open, their ears hearing me so completely they empty my words of color and scent . . . I feel as though they're crawling into me.. I can't stand any more . . . really I can't.

The mouth of the alley was blocked.

Shadows moved there.

Burt, the box-boy. Nancy and Alice and Linda. Sid, the failure. John, who walked with a rolling motion. And the doctor, the jukebox repairman, the pizza cook, the used car salesman, the swinging couple who swapped partners, the discotheque dancer . . . all of them. They came for him.

And for the first time he noticed their teeth.

The moment before they

reached him stretched out as silent and timeless as the decay that ate at his world. He had no time for self-pity. It was not merely that Eddie Burma had been cannibalized every day of the year, every hour of the day, every minute of every hour of every day of every year.

The awareness dawned unhappily—in that moment of timeless time—that he had let them do it to him. That he was no better than they, only different. They were the feeders—and he was the food. But no nobility could be attached to one or the other. He *needed* to have people worship and admire him. He *needed* the love and attention of the masses, the worship of monkeys. And for Eddie Burma that was a kind of beginning of death. It was the death of his unself-consciousness, the slaughter of his innocence. From that moment

forward, he had been aware of the clever things he said and did, on a cellular level below consciousness. He was aware. Aware, aware, aware!

And awareness brought them to him, where they fed. It led to self-consciousness, petty pretensions, ostentation. And that was a thing devoid of substance, of reality. And if there was anything his acolytes could not nourish on, it was a posturing, phony, *empty* human being.

They would drain him.

The moment came to a timeless climax, and they carried him down under their weight and began to feed.

When it was over, they left him in the alley. They went to look elsewhere.

With the vessel drained, the vampires moved to other pulsing arteries.

Coming next month . . .

. . . is a complete short novel by **Keith Laumer** set on a lonely and valuable planet that was once inhabited by a colony of giants. There is one survivor—a man twelve feet high, sixteen hundred pounds—and this is the story of his bitter and moving conflict with a “normal” man. **Brian Cleeve** will also be on hand with **THE DEVIL IN EXILE**, a sequel to **THE DEVIL AND DEMOCRACY** and **THE DEVIL AND JAKE O’HARA** (August 1968), in which the dark one moves into the communications biz, specifically TV, and finds himself right at home.

Since our special Isaac Asimov issue (October 1966), Dr. Asimov has had 12 books published. Among these are THROUGH A GLASS, CLEARLY (New English Library 1967) and ASIMOV'S MYSTERIES (Doubleday 1968), both fiction; and SCIENCE, NUMBERS AND I (Doubleday 1968), the latest collection of F & SF essays. We'll have some more information about Dr. Asimov's books, recent and forthcoming, next month; meanwhile, here is a story that projects the problems of transplanted and artificial organs into a surprising but logical area.

SEGREGATIONIST

by Isaac Asimov

THE SURGEON LOOKED UP without expression. "Is he ready?"

"Ready is a relative term," said the med-eng. "We're ready. He's restless."

"They always are. . . . Well, it's a serious operation."

"Serious or not, he should be thankful. He's been chosen for it over an enormous number of possibles and frankly, I don't think . . ."

"Don't say it," said the surgeon. "The decision is not ours to make."

"We accept it. But do we have to agree?"

"Yes," said the surgeon, crisply. "We agree. Completely and wholeheartedly. The operation is entirely

too intricate to approach with mental reservations. This man has proven his worth in a number of ways and his profile is suitable for the Board of Mortality."

"All right," said the med-eng.

The surgeon said, "I'll see him right in here, I think. It is small enough and personal enough to be comforting."

"It won't help. He's nervous, and he's made up his mind."

"Has he indeed?"

"Yes. He wants metal; they always do."

The surgeon's face did not change expression. He stared at his hands. "Sometimes one can talk them out of it."

Copyright © by Isaac Asimov, 1968. Reprinted From Abbottempo, published by Abbott Laboratories

"Why bother?" said the med-eng, indifferently. "If he wants metal, let it be metal."

"You don't care?"

"Why should I?" The med-eng said it almost brutally. "Either way it's a medical engineering problem and I'm a medical engineer. Either way, I can handle it. Why should I go beyond that?"

The surgeon said stolidly, "To me, it is a matter of the fitness of things."

"Fitness! You can't use that as an argument. What does the patient care about the fitness of things?"

"I care."

"You care in a minority. The trend is against you. You have no chance."

"I have to try." The surgeon waved the med-eng into silence with a quick wave of his hand—no impatience to it, merely quickness. He had already informed the nurse and he had already been signalled concerning her approach. He pressed a small button and the double-door pulled swiftly apart. The patient moved inward in his motor-chair, the nurse stepping briskly along beside him.

"You may go, nurse," said the surgeon, "but wait outside. I will be calling you." He nodded to the med-eng, who left with the nurse, and the door closed behind them.

The man in the chair looked over his shoulder and watched them go. His neck was scrawny

and there were fine wrinkles about his eyes. He was freshly shaven and the fingers of his hands, as they gripped the arms of the chair tightly, showed manicured nails. He was a high-priority patient and he was being taken care of. . . . But there was a look of settled peevishness on his face.

He said, "Will we be starting today?"

The surgeon nodded. "This afternoon, Senator."

"I understand it will take weeks."

"Not for the operation itself, Senator. But there are a number of subsidiary points to be taken care of. There are some circulatory renovations that must be carried through, and hormonal adjustments. These are tricky things."

"Are they dangerous?" Then, as though feeling the need for establishing a friendly relationship, but patently against his will, he added, ". . . doctor?"

The surgeon paid no attention to the nuances of expression. He said, flatly, "Everything is dangerous. We take our time in order that it be less dangerous. It is the time required, the skill of many individuals united, the equipment, that makes such operations available to so few . . ."

"I know that," said the patient, restlessly. "I refuse to feel guilty about that. Or are you implying improper pressure?"

"Not at all, Senator. The de-

cisions of the Board have never been questioned. I mention the difficulty and intricacy of the operation merely to explain my desire to have it conducted in the best fashion possible."

"Well, do so, then. That is my desire, also."

"Then I must ask you to make a decision. It is possible to supply you with either of two types of cyber-hearts, metal or . . ."

"Plastic!" said the patient, irritably. "Isn't that the alternative you were going to offer, doctor? Cheap plastic. I don't want that. I've made my choice. I want the metal."

"But . . ."

"See here. I've been told the choice rests with me. Isn't that so?"

The surgeon nodded. "Where two alternate procedures are of equal value from a medical standpoint, the choice rests with the patient. In actual practice, the choice rests with the patient even when the alternate procedures are *not* of equal value, as in this case."

The patient's eyes narrowed. "Are you trying to tell me the plastic heart is superior?"

"It depends on the patient. In my opinion, in your individual case, it is. And we prefer not to use the term, plastic. It is a fibrous cyber-heart."

"It's plastic as far as I am concerned."

"Senator," said the surgeon, in-

initely patient, "the material is not plastic in the ordinary sense of the word. It is a polymeric material true, but one that is far more complex than ordinary plastic. It is a complex protein-like fibre designed to imitate, as closely as possible, the natural structure of the human heart you now have within your chest."

"Exactly, and the human heart I now have within my chest is worn out although I am not yet sixty years old. I don't want another one like it, thank you. I want something better."

"We all want something better for you, Senator. The fibrous cyber-heart will be better. It has a potential life of centuries. It is absolutely non-allergenic . . ."

"Isn't that so for the metallic heart, too?"

"Yes, it is," said the surgeon. "The metallic cyber is of titanium alloy that . . ."

"And it doesn't wear out? And it is stronger than plastic? Or fibre or whatever you want to call it?"

"The metal is physically stronger, yes, but mechanical strength is not a point at issue. Its mechanical strength does you no particular good since the heart is well protected. Anything capable of reaching the heart will kill you for other reasons even if the heart stands up under manhandling."

The patient shrugged. "If I ever break a rib, I'll have that replaced by titanium, also. Replacing bones

is easy. Anyone can have that done anytime. I'll be as metallic as I want to be, doctor."

"That is your right, if you so choose. However, it is only fair to tell you that although no metallic cyber-heart has ever broken down mechanically, a number have broken down electronically."

"What does that mean?"

"It means that every cyber-heart contains a pacemaker as part of its structure. In the case of the metallic variety, this is an electronic device that keeps the cyber in rhythm. It means an entire battery of miniaturized equipment must be included to alter the heart's rhythm to suit an individual's emotional and physical state. Occasionally something goes wrong there and people have died before that wrong could be corrected."

"I never heard of such a thing."

"I assure you it happens."

"Are you telling me it happens often?"

"Not at all. It happens very rarely."

"Well, then, I'll take my chance. What about the plastic heart? Doesn't that contain a pacemaker?"

"Of course it does, Senator. But the chemical structure of a fibrous cyber-heart is quite close to that of human tissue. It can respond to the ionic and hormonal controls of the body itself. The total complex that need be inserted is far

simpler than in the case of the metal cyber."

"But doesn't the plastic heart ever pop out of hormonal control?"

"None has ever yet done so."

"Because you haven't been working with them long enough. Isn't that so?"

The surgeon hesitated. "It is true that the fibrous cybers have not been used nearly as long as the metallic."

"There you are. What is it anyway, doctor? Are you afraid I'm making myself into a robot . . . into a Metallo, as they call them since citizenship went through?"

"There is nothing wrong with a Metallo as a Metallo. As you say, they are citizens. But you're *not* a Metallo. You're a human being. Why not stay a human being?"

"Because I want the best and that's a metallic heart. You see to that."

The surgeon nodded. "Very well. You will be asked to sign the necessary permissions and you will then be fitted with a metal heart."

"And you'll be the surgeon in charge? They tell me you're the best."

"I will do what I can to make the changeover an easy one." The door opened and the chair moved the patient out to the nurse.

The med-eng came in, looking over his shoulder at the receding patient until the doors had closed again. He turned to the surgeon. "Well, I can't tell what happened

just by looking at you. What was his decision?"

The surgeon bent over his desk, punching out the final items for his records. "What you predicted. He insists on the metallic cyber-heart."

"After all, they are better."

"Not significantly. They've been around longer; no more than that. It's this mania that's been plaguing humanity ever since Metallos have become citizens. Men have this odd desire to make Metallos out of themselves. They yearn for the physical strength and endurance one associates with them."

"It isn't one-sided, doc. You don't work with Metallos but I do; so I know. The last two who came in for repairs have asked for fibrous elements."

"Did they get them?"

"In one case, it was just a matter of supplying tendons; it didn't make much difference there, metal or fibre. The other wanted a blood system or its equivalent. I told him I couldn't; not without a complete rebuilding of the structure of his body in fibrous material. . . . I suppose it will come to that some day. Metallos that aren't really Metallos at all, but a kind of flesh and blood."

"You don't mind that thought?"

"Why not? And metallized human beings, too. We have two varieties of intelligence on Earth now and why bother with two. Let

them approach each other and eventually we won't be able to tell the difference. Why should we want to? We'd have the best of both worlds; the advantages of man combined with those of robot."

"You'd get a hybrid," said the surgeon, with something that approached fierceness. "You'd get something that is not both, but neither. Isn't it logical to suppose an individual would be too proud on his structure and identity to want to dilute it with something alien? Would he *want* mongrelization?"

"That's segregationist talk."

"Then let it be that." The surgeon said with calm emphasis, "I believe in being what one is. I wouldn't change a bit of my own structure for any reason. If some of it absolutely required replacement, I would have that replacement as close to the original in nature as could possibly be managed. I am *myself*; well pleased to be myself; and would not be anything else." He had finished now and had to prepare for the operation. He placed his strong hands into the heating oven and let them reach the dull red-hot glow that would sterilize them completely. For all his impassioned words, his voice had never risen, and on his burnished metal face there was (as always) no sign of expression. ◀

In this latest Max Kearny story, the ghost detective gets mixed up in a tangle between the Freeload Prevention Society of California and three ghosts summoned by the Portuguese Angel, a mystic, spirit medium, wrestler, California Renaissance man. Ron Goulart, who is moving to the East, will have a new novel, THE SWORD SWALLOWER, published by Doubleday late this year. (A shorter version appeared here in November 1967.)

THE GHOST PATROL

by Ron Goulart

THE PICKET SIGN ABANDONED in front of the clinic doorway read: LET'S GET RID OF FREELOADING AND BLACK MAGIC. When Max Kearny lifted it out of the way, an empty fortified wine bottle, shielded by a paper sack, somersaulted down the three brick steps of the clinic. Max rested the sign against the green stucco and reached for the door handle.

The door fanned suddenly open and a middle-aged man in a dark suit came bicycling out backwards. The man thumped into Max, and a tall square-jawed man in the uniform of the Northwest Mounted Police reached out for him. The man in the dark suit adjusted his rimless glasses. The mountie waited, then hit the man on the nose and heaved him down to the street. Dusting his hands together,

the mountie went back inside.

Max jumped to the sidewalk and gripped the dark-suited man up to a standing position. The man adjusted his glasses and said, "Why don't you get a job?"

"Beg pardon?"

"Do a decent day's work," said the man, "and don't come begging for free handouts. Pay for getting ill like any decent sick American."

Max said, "I have a job. I'm an art director with an advertising agency in San Francisco and I'm driving through San Marco to check on some dog food billboards."

"Oh, one of those intellectuals," the man said. "I knew you had some reason for loitering around Dr. Levin's freeload clinic for bums."

"I wasn't loitering," said Max.

"Dr. Levin is a friend of mine and I was just walking in when the mounted police threw you out."

"I haven't time to argue. Captain Pennington's in there and needs me."

Max went up the steps again, beside the man. "Who's Captain Pennington?"

"We get used to such uninformed questions. It's because of the news blackout the so-called lords of the press have imposed on the Freeload Prevention Society. Too, too few know about the captain and our crusade."

"You're protesting Dr. Levin's starting this free clinic in the tenderloin here?"

"We protest any and all freeloading."

The door slapped open and a second dark-suited man, tall and red-headed, tumbled out backwards. A fat, rumpled man with grey hair held him by the collar and crotch. "Scoundrel, scalawag, hyena," said the rumpled old man. He jettisoned the redhead.

Max said to the freeload man, "Is that Captain Pennington who just went by?"

"Yes. If we had a better press, you'd have known him at once."

"Are you guys going to attack again?"

"No. We only went in because one of them grabbed our best placard."

"Off, off, you wrongos," ordered the rumpled man. "You lily-liv-

ered scamps." He squinted his left eye at Max. "You another three-suited viper?"

Max said, "Nope. Friend of Dr. Levin's. Is he around?"

"Max?" called a voice from the hallway. "Come on in. Quick."

The pale green corridor smelled of rubbing alcohol and sweet wine. "You have a varied staff, Hal," said Max.

Dr. Harold Levin was thin, with curly dark hair and tortoise-shell glasses. "Step into this disrobing room, Max. We can talk." He rubbed his chin, looked at the rumped old man. "I told you not to hit any of them."

"I didn't come by my nickname by depending on pansy language."

"Never mind our nickname," said Dr. Levin. "Go away now. I don't need any help."

"That decayed bunch of goons will try again."

"All of you," said Levin. "I'm doing okay. I don't want a big frumus."

"Nobody can browbeat a friend of Roundhouse Widder's," said the old man.

"Hey," said Max. "Joe 'Roundhouse' Widder was a senator from Indiana or someplace. Back in the 1910s and 1920s. He died before World War II."

"He's kidding, Max," said Levin.

"The hell I am," said Widder. "There's only one Roundhouse Widder and I'm it. Maybe a good

punch in the snout will convince your dude friend."

"I believe you," said Max. "How come you have this ghost here, Hal?"

"In here where it's private, Max. See, my nurse is in the reception room over there, and she can hear most of what's said in my office. Roundhouse, you and the rest, go away now."

Widder made a mild raspberry sound and melted into nothingness.

"Was the clinic haunted when you moved in?" asked Max.

Dr. Levin opened a pale green door and flicked on a light switch. He went into the small room and sat on a white cabinet. "Max, I know your hobby is occult investigation. You're a ghost detective, okay. But I don't want any help."

Max leaned against the wall next to a scale. "It's only a hobby anyway. Up to you. Who are those others, the Freeload Prevention guys?"

"Did April send you over, Max?"

"No. I haven't talked to her since the last time you two were over to our flat."

Levin said, "Sorry. She lets all this upset her too much. Setting up this clinic, Max, getting the private funds and all. We've been under a lot of pressure. Pennington, the one with the red hair, he and a couple of other guys come around and picket. They picket anything that smacks of socialism to them.

The San Marco police shoo them away, but Pennington is an ex-Navy man, and the cops don't lean too hard."

"Has Pennington tried anything physical?"

"Not so far," said Dr. Levin. "You know how California is these days, Max. Pennington is just another lunatic. They'll get tired once the clinic has been here awhile. What brings you to San Marco?"

"Had to take a look at some billboards, so I drove down from the city," said Max. "That mountie. He's a ghost, too, isn't he?"

"More or less," said Levin. "Hey, I think April was going to call Jillian and ask you folks over for dinner this week. Free?"

"I'll see what Jillian says. You in the same house?"

"Right. It's easier to find now because you can follow the signs to Yankee Doodle Acres and then continue on over the rise to our place."

"Yankee Doodle Acres?" asked Max. "Oh, yeah, that's the new patriotic housing development."

Levin shrugged. "You know how California is these days. Pennington lives there, of course." Checking his watch he said, "I've got a backup on patients, Max. Maybe we'll see you and Jill on Friday." A white phone on a white table rang. "Just a second. Hello, Hal Levin here. Mom, I can't talk to you much now. Yes, they were

picketing today. They don't hurt me any, Mom. When? Friday, Mom, we can't. April and I will probably have company. What? Max and Jillian Kearny. No, it's only a hobby; he's not a full-time ghost detective. He's an art director, Mom." Levin cupped his hand over the mouthpiece. "It's my mother, Max." Back into the phone he said, "Mom, I can't take you to the wrestling matches Friday. What custom? Mom, I've been married two years and never since then have I taken you. One Friday in August last year? No, Mom. Mom, listen, I have to see some patients. They're fine. Okay, goodbye. Love." He hung up. "My mother, Max. Maybe we'll see you Friday night."

Max started for the door, snapped his fingers and stopped. "Russ Knobler. That's who the mounted police guy was. He was in the movies in the '30s, killed himself about twenty years back. Russ Knobler, sure. We used to see him in Saturday matinees."

"Yes," said Dr. Levin, working Max toward the exit.

"Does he always appear as a mountie?"

"No," said Levin. "Sometimes he's a lumberjack."

The front door opened and closed, and Max was on the steps again.

The Levins' backyard covered nearly a quarter acre of thick grass

and wild brush and scattered trees. Twilight was slowly spreading. April Levin stood with her back to the sunset and mixed Max a second gin and tonic. She was a tall, long-legged brunette with short-cropped hair. Max leaned forward in his weathered deck chair and said, "I don't want to intrude."

"He's being haunted, Max. As a ghost detective you can't stand by and watch that. It would be against your code."

"We don't have an oath like doctors, April."

"Hal's your friend."

"Ever since he was working for the agency medical plan," said Max. He glanced at Levin, who was showing Max's wife the Victorian sundial he was refurbishing for the yard. "How many ghosts are there?"

"I've only seen the whole bunch once," said April, sitting on a low wrought-iron bench. "They spend most of their time hanging around Hal's new free clinic. But they were here one time when that nitwit Pennington came by in a red-white-and-blue sound truck. Anyhow, there seem to be three of them."

"What does Hal say?"

"Nothing much."

"They're trying to help Hal," said Max. "Defend him against the Freeload Prevention boys."

"I guess," sighed April.

"One of the ghosts is an old senator, Joe Widder. The other

one I saw down in the tenderloin was Russ Knobler, the movie hero. Know the third?"

"William Barbee Platt."

"Platt? He was the physical-culture philosopher. Got killed on his 90th birthday while skydiving." Max paused to taste his drink. "Why these three I wonder."

"That's easy."

"Oh? Some connection with Hal?"

"They're the three favorite idols of Hal's mom," said April. She rose to start herself a fresh drink. "I've heard considerable about them in the last two years. They're three out of four of Mom Levin's heroes. The fourth of which is still alive."

Jillian and Levin returned to the round metal table that held the liquor and ice bucket. "We ought to have a sundial," said Max's auburn-haired wife.

"With our lease we couldn't keep one in the apartment."

"I had a chance," said Levin, sitting, "to buy a real buggy. The kind country doctors used to ride around in. I let it pass."

"You don't make house calls anyway," said Max.

"Things don't always have to be completely functional," said Jillian. "For instance, we could put a sundial in our living room, Max, and use it as a table."

"The gnomon would get in the way," said Levin. "That's the part that casts the shadow, Jill."

"We could just look at it."

From a distance, through the oncoming night, a voice announced, "There's no place in a free republic for freeloading. No place in a pragmatic society for black magic and witchcraft."

"Pennington?" asked Max, as he stood.

"It's actually Mr. Weehunt," said April. She moved to Levin's side and took his hand. "Pennington drives the truck and Weehunt talks."

"Damn," said Levin. "The cops told them to stop that."

"He's a veteran," said April.

"So am I," said Levin, "and I don't have a loudspeaker."

"Why," asked Jillian, "does he throw in the black magic stuff?"

"He thinks Hal has summoned up all the ghosts," said April.

"Did you?" Jillian asked the doctor.

"It's not a good idea to have your neighbors think you're a warlock," said Levin, not answering Jillian.

"Let's go talk to him," said Max.

April said, "Be careful, Max. They say he's a gun collector, too. Has a whole cache of them hidden at his home over in Yankee Doodle Acres."

"No need for you to fear none, mam," said Russ Knobler, stepping out of a cluster of shadowy trees. He was dressed as the deputy sheriff of Tombstone. "We'll settle this hombre."

"Go away," said Levin, angrily.

Around Knobler came a giant old man in a shaggy lion skin. "Sit yourself down, Harold, and take your ease," he said in a rumbling, rolling voice. "We'll settle those fellows."

"Where do you guys change clothes?" Max asked Knobler when the cowboy passed him.

"I can't rightly bring back no information from the other side of the veil," drawled Knobler.

Levin put the palms of his hands against the chests of Knobler and William Barbee Platt. "Go back on the other side of the veil quick. I can't keep explaining you to the police."

"Trust us, pard," said Knobler. He brushed Levin out of his path and ran around the side of the house, spurs tinkling, toward the street. Platt followed him, and Max followed them both.

Parked at the curb of the tree-lined street was a sound truck painted in patriotic colors and designs. Mr. Weehunt, who was the man Max had had thrown at him in front of the clinic, had stepped out of the truck and was talking over the amplifiers while standing on the sidewalk. "I was deathly sick for five long months in 1964 with a slipped disc, and I paid for it all out of my savings. George Washington would have done the same thing. To say nothing of Warren G. Harding. Let's rid the community of freeloaders, and

while we're at it, let's throw out the wizards and witches and softies and people who don't take baths often enough."

A police car slowed and parked quietly nose-to-nose with the Pennington truck. A heavysset, medium tall plain-clothes man grunted carefully out. "Mr. Weehunt, Captain Pennington, please go home."

"Let's also get rid of state and federal interference with the fundamental rights of free citizens," added Weehunt.

Platt adjusted his lion skin and charged the Freeload Prevention man. "Let us see who's a softie, you jowly meat-eater."

"No violence, please," said the policeman. He paused, got out a handkerchief and sneezed into it. "These trees," he said to Max, who was nearest him. "Every autumn."

"Ease yourself on down out of that there truck now," Knobler called to Pennington, whose thin hands were still tight on the steering wheel. "Let's us settle this little fracas, pard."

"I'll get out," said Pennington in a high taut voice. He flung the truck open and began tugging a bazooka out of the rear. "I'll get out."

"Please, Captain Pennington," said the policeman, "put that thing back in there and we'll pretend we didn't see it."

"A bazooka," said Max.

"Fight fair," said Knobler,

thumbing the brim of his sombrero up.

Closing in on Pennington, the policeman put his arms on his thin shoulders. "A man with a nice war record like yours, chairman of the board of such nice companies, with such nice friends downtown, Captain Pennington. Please, don't make a fuss."

"He's loosed demons on me," said Pennington. He let the weapon drop back inside his tricolor truck. "Demons and succubi and incubi and worse." He waved a thin hand at Platt and Knobler.

"A couple of eccentrics in costume," said the plain-clothes man. "Take those two back inside to your party, and I'll talk a while with the captain."

"I have more than one arrow in my bow," said Pennington. "Tell your socialized Levin that."

"Don't call my boy names." A plump woman was climbing out of a newly arrived blue station wagon. She was grey-haired, wearing a tan car coat and fawn stretch pants and carrying a small wicker hamper. "Don't call him names in a public street."

"Mom," said Levin, who appeared in the front doorway of his house now. "Mom, you're supposed to be at the wrestling matches over in San Francisco."

"The Portuguese Angel pulled a ligament and stayed home to meditate," said Mom Levin. "So I drove over to case your situation. I see

your lawn's looking sparse, Harold."

"Mom, okay, you can come inside, but you can't stay. We have company, Mom."

"Some entertaining of your friends you can do with cops and lunatics all over your sparse lawn."

"There's really no trouble," the policeman told her. "If everyone will disperse, we'll be fine." He sneezed again.

"Too much time in that dark police car and not enough sunshine," Mom Levin told him. She ticked her plump head at the pair of ghosts and went into the house.

"I reckon as how I'll let this pass," said Knobler.

"There'll be other opportunities to teach you flesh-lovers a lesson," added Platt. He took Knobler by the elbow and they strolled away into the new night.

"The suburbs," said the policeman. "People don't realize what can happen out here." He sneezed into his handkerchief.

Max found Jillian in the backyard, sitting in the dark with her hands folded in her lap. "Mom Levin's inside."

"I know."

"Talking about her favorite philosopher."

In the light thrown from the kitchen, Max found the gin and tonic he'd left unfinished. A mosquito had drowned in it. "Who is?"

"Jorge Barafunda," said his wife,

discouraging a gnat from her leg.

"Who?"

"Jorge Barafunda, the Portuguese Angel."

"The wrestler," Max said. He found a new glass and started another drink.

"He's a mystic, too."

"That's right," said Max. "Wrestler, philosopher, mystic. Self-taught. Sort of a cross between Eric Hoffer and Bishop Pike."

"And he's supposed to be," said Jillian, "a medium."

"Yeah, there was a piece about it in the *Chronicle*. Mystic, spirit medium, wrestler. A Renaissance man."

"You know how California is these days," said his slim wife.

"I keep hearing." Max sat on the footrest of her deck chair. "So maybe Barafunda summoned up the ghosts of Mrs. Levin's three favorite departed heroes for her."

"Who are they?"

"William Barbee Platt, Russ Knobler and Joe 'Roundhouse' Widder. A ghost patrol to defend Hal."

"Who were they?"

"You never heard of them?"

"I'm five years younger than you, remember."

"Russ Knobler, Saturday afternoons in the late '30s and early '40s, was the king of the B movies. You never heard of *Timber Rascal*, *Desert Rogue*, *Speedway Scapegrace*?"

Jillian shook her head. "You told me about Widder on the way over here. He was a senator. And Platt?"

"Physical-culture buff, vegetarian, philosopher."

"Another Jorge Barafunda," said Jillian. "You going to talk to the Portuguese Angel?"

"I guess I will," said Max. "Nobody around here is going to tell me much."

From the kitchen window Mom Levin said, "Come inside, you two young people, before the insects give you malaria."

The sunlight through the stained-glass skylights made pastel splotches on the bare chest of the muscular old man. "Words," said Jorge Barafunda. "Words are a lousy way to think. These college people, they think in words. You take a look at my book *The Vocabulary Of Muscles*, and it's all explained in there."

"I skimmed it in the library this morning," Max told him. "It was full of words."

"They're not ready yet to publish a book that's all pictures of muscles," said Jorge. "Uhn."

"If you put down that weight we could talk better," said Max.

Jorge grunted and kept the hundred-pound weight over his head. "I lift everyday. It helps me think."

"What I was interested in," said Max, "was your work as a medium."

"Yes. That's why I granted you an interview, Senhor Kearny. I've heard of you. Some of your ghost detective work, for a relative novice, is *muito bem*. Very good."

"Did you summon up some ghosts for a Mrs. Levin?" asked Max.

"Oof," said Jorge. His left hand lost its grip on the bar of the weight, and it swung free and thwacked him in the head. "I believe I will put this down." He let the 100 pounds fall to the padded floor of his attic gymnasium. "*Sim*, Senhor Kearny. I helped Mrs. Levin. She is a great admirer of mine. Once when I battled the Grimm Brothers in a tag match, she leaped into the ring and felled one of them with her wicker basket. *Muito bem*, very good."

"You charge her a fee for conjuring up the ghosts?"

"*Sim*," replied the wrestler, snatching up a paisley terry towel. "Being a mystic and a philosopher without a college degree, Senhor Kearny, requires you to have many sidelines in order to make a living. You know how that is."

"Right," said Max. "Now, why don't you send those three ghosts back. Dr. Levin really doesn't want them, doesn't need them."

"I suppose he became a doctor by attending college?"

"Yes."

"College boys," said Jorge. "They don't know how to think with their muscles."

"About the ghosts?" Max asked.

The old wrestler shook his head. "I was paid my fee. I have honor, even though I don't have a diploma. I cannot send them away. No honorable self-taught medium would, Senhor Kearny."

Max said, "Okay. It would be easier if you did. Now I'll have to exorcise them."

The Portuguese Angel laughed. "My magic isn't the usual magic. It has muscles."

"I'll try anyway." Max left his chair. "I'll be getting back. I'm on my lunch hour."

"College boys live to punch clocks and wallow in words."

"I wallow in pictures."

"*Mesmo*," said Jorge. He bent and raised up the fallen weight with one hand. "If the whole country thought with its muscles, we wouldn't be where we are now."

As Max let himself out of the Victorian gym, he heard the weight thwack Jorge again.

"Turn right at Uncle Sam," said Dr. Levin in the passenger seat.

"I keep telling Jillian not to try exorcising ghosts by herself," said Max, gunning the car up to sixty-five. He slowed again, swung onto the off-ramp next to the thirty-foot tall wooden Uncle Sam.

"They used to have Abraham Lincoln," explained Levin, "but they decided it was too controversial. So they painted him over into Uncle Sam."

"I was wondering why he had a black beard and a shawl."

"Anyway, Max, it wasn't Jillian's fault. She was over at our place, as I understand it from the note April left, trying to console my wife about that mess last night."

"Trying to find out more about the ghosts."

"And, sec, my mom came by and said she was tired of Captain Pennington picking on me and was coming over ~~here~~ here to Yankee Doodle Acres to have a showdown with him."

"And bringing the ghost patrol?"

"Yes," said Levin. "Max, mom is really thoughtful, though extreme. My turning thirty still hasn't convinced her I can handle things. That April and I can."

Max said, "April left that note before you got home at five. Its eight now."

"I know," said the doctor. "When I called the Pennington place his houseboy just cried. And I could hear gunshots. Which is why I called the police and then you, Max. I'm sorry. I knew mom was probably using Jorge Barafunda to summon that bunch. I figured, though, if I kept things relatively quiet, the situation would settle down. Eventually."

"What kind of weapons does Pennington have stored at his house?"

"Nobody knows. He has a se-

cret arsenal. The police searched his place twice and couldn't find anything but a Daisy air rifle."

Ahead of them on the road was a replica of Mt. Rushmore. "This the entrance to Yankee Doodle Acres?"

"Yeah. Drive in right next to Teddy Roosevelt's mouth."

There were over a hundred houses in Yankee Doodle Acres, recapitulating American history. Log cabin-style homes, pioneer fort-style homes, California mission-style homes, White House-style homes. "Pennington's is which?"

"403 Liberty Bell Lane. Third fort on the right."

In the warm night, gunfire and shell explosions sounded. "The cops and Pennington must be tangling."

Dr. Levin said, "The captain seems to have exceeded the bounds of conservatism. Even for California."

Around a winding rise and down a gentle incline, they were stopped by a police barricade made of two sawhorses and a Volkswagen. "Little mischief up ahead," said the uniformed policeman. "Nobody can enter this street. We suggest you use Boston Tea Party Drive, two blocks over, as a detour."

"My wife," said Max, "and Dr. Levin's wife. We think they're down at Captain Pennington's."

The policeman flickered his

fingers on his white helmet. "The lieutenant was trying to find you two."

"Are the girls all right?" said Max.

"We think so. They appear to be in the house with the captain, and he's gone blooey some. We tried to humor him as usual, but when he and Weehunt hauled out those mortars, we had to act."

"Is my mother okay?" Levin asked across Max.

The policeman said, "She's barricaded behind her station wagon with a guy in a leopard skin and a guy who looks like a lumberjack and some little coot who keeps trying to make speeches. They're all taking potshots at the captain's fort, which is why we figure he started going really blooey in the first place. Though I'm no psychiatrist."

Max parked the car short of the barricade, and he and Levin ran the block to the captain's home. The allergic plain-clothes man waved them to duck behind his police car. "The girls," began Max.

"They got here a little ahead of your mother, Dr. Levin. They went in to talk to Captain Pennington, warn him and try to avoid trouble. While they were still inside, your mother and her crew started their invasion. At least that's what the neighbors say." He pointed a thumb at the replica of Monticello next to Pennington's two-story ranch-style wooden fort.

Dr. Levin spotted his mother off in the dark. "Mom, stop this and take those guys home."

His mother called, "Don't sit down on the street; you'll catch cold."

"She stopped shooting a half hour ago," said the lieutenant. "But Pennington and Weehunt have kept them pinned down there with rifle fire."

"Is Weehunt berserk, too?"

"You know how it is in the suburbs, one starts and they all follow."

"Death to all freeloaders," broadcast Captain Pennington from his house.

"Look," said Max. "His lawn is opening up."

A great long trench was growing across the front lawn. "The gun cache," said Levin.

"That's where he's got his armory," said the plain-clothes man.

"He's rising up out of the lawn with an antitank gun," said Max.

The lieutenant bobbed his head and waved to the policemen dotted around in the darkness. More spotlights came on and illuminated Captain Pennington as he set up his weapon. "Captain," shouted the lieutenant, "we ask you to surrender or we'll have to use tear gas."

"Pension-loving lackey," replied the red-haired captain.

"Okay," said the plain-clothes man.

As the first tear-gas guns

thumped, Max left cover and zigzagged toward the side of the house, leaping the mechanized trench in the lawn. Things were growing clouded and blurred, and Max's eyes began to burn. He leaped the captain's flower beds and banged into the side window with his shoulder and tucked-down head.

When he landed on a hook rug, Jillian said, "Max, is that you?"

"Yes," said Max, sneezing and coughing.

"I thought maybe it was Knobler, entering that way."

"Mom Levin is keeping the ghosts near her for protection," said Max, coughing. "Out." Jillian and April were crouched behind heavy wooden chairs.

"Is that tear gas they're using?" asked April.

Max sneezed again, nodded. "Back way."

"Mr. Weehunt went climbing up on the roof with a bazooka, and he took the houseboy to help him," said Jillian. "First time we've been alone."

"Up, out," said Max and followed the women through the house and into the patio. "Jill?"

"Yes," said his wife.

"Can you read? My eyes are going bad from the gas."

"I seem to be okay. Read what?"

Max felt his coat, pulled a small leather book out of his breast pocket. "Page 24, I think. This is a ghost raising and exorcising book

written by a 19th-century Spanish circus strongman."

"From our library?" Jillian took the book and Max heard the pages turning. "I don't recognize it."

"From Jorge Barafunda's library. I swiped it while he was lifting weights in the attic. Seems like the kind of muscle-oriented spells he'd pick."

"Do we have to get up close to the ghosts?"

"No, should be able to work the spell from here," said Max. "April?"

"Right here."

"Burn this powder in the barbecue while Jill reads the spell to get rid of the ghosts. There is a barbecue?"

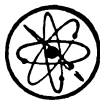
"Of course." April took the packet of yellow powder from Max.

When Max and Jillian reached the street, the police were putting Captain Pennington into the barred part of a police car and trying to coax Weehunt off the roof. "Any ghosts?" asked Max, who still couldn't see too well.

"Gone," said Jillian. "Not behind the station wagon or anywhere in sight. Mom Levin is up the road arguing with the plainclothes cop and Hal. April is running up to join them. You ought to do something about your eyes."

"Might as well get some free advice from Hal," said Max.

"Okay," said Jillian. She took his hand and led him uphill. ◀



LITTLE FOUND SATELLITE

by Isaac Asimov

ONE WEEK AGO (AS I WRITE THIS) I visited Brandeis University with a friend to look over a tremendous exhibit of old Bibles which they had on view. We stopped at one 15th Century Bible, published by Spanish Jews, which was open to the 7th Chapter of Isaiah. This contained the verse which, in the King James version, reads in part, "Behold a virgin shall conceive, and bear a son."

The Hebrew word "almah," which is translated "virgin" in the King James, was not translated in the Spanish Bible we were looking at. It was merely transliterated and left "almah" in Latin letters, a fact pointed out in the information card that accompanied the exhibit.

My friend wondered why that was so and I explained that "almah" didn't really mean "virgin." (In the Revised Standard Version, the verse is translated, "Behold, a young woman shall conceive and bear a son.") Yet it would have been terribly dangerous for Spanish Jews of that period to translate correctly and seem to be denying the Virgin Birth, so they evaded the issue by leaving the word untranslated.

I'm afraid my enthusiasm caught up with me at this point, as it so often does when I am trapped into explaining something. My voice reached its normal window-rattling pitch and I grew oblivious to my surroundings. What's more, I went on to explain my own theories (at considerable length) as to the significance of this chapter of Isaiah and grew eloquent indeed. Finally, after what must have seemed an eternity to my friend, I ran down and passed on to other items in the exhibit. The sequel was told me, with obvious delight, by my friend later.

It seems a Pinkerton guard at the exhibit (which was valued at

\$5,500,000) had been listening to me. After I passed on, the guard said to my friend, "What makes *him* such an expert?"* and my friend, with greater faith in the weight of my name than I myself have, said, portentously, "Do you know who he is?"

The guard thought a little and said, "God?"

Oh, well, I suppose that sort of thing is an occupational hazard for the professional explainer, and I'm not going to let it rattle me. I will continue to practice my profession though I will try to lower my voice next time and, perhaps, somewhat subdue my general air of divine authority.

With that in mind let's take up the subject of the planet Saturn.

Saturn was known as one of the planets from the beginning of astronomical records. Its magnitude at its brightest is -0.4 , and it is then brighter than any star except Canopus and Sirius, so it is easily seen, even though it is dimmer than any of the other planets at *their* brightest.

What made it remarkable, as far as the ancient astronomers were concerned, was that it moved more slowly against the background of the fixed stars than did any other planet. The Moon made a complete circle of the sky in a month; the Sun in a year; Jupiter in 12 years. Saturn, however, did not complete a circle of the sky until 29.5 years had passed.

The Greeks interpreted this slow movement to signify that Saturn was farther from the Earth than was any of the other planets known to them. In other words, it seemed to move so slowly because it was so distant. That would also account for the fact that it was dimmer than the other planets.

In this, the Greeks turned out to be correct. Of course, they had no way of knowing the actual distance of Saturn from the Sun, but it is about 887,000,000 miles. It also, as a matter of fact, moves more slowly about the Sun than any of the other visible planets do. Whereas Mercury's average orbital speed is 29.8 miles per second, and Earth's is 18.5 miles per second, Saturn moves along at a mere 6.0 miles per second.

The Greeks called the planet "Cronos." The myths concerning Cronos are rather unpalatable. He was the son of Ouranos (Uranus), the god of the sky, and Gaia (Gaea), the goddess of the earth. His parents had given birth to a series of monsters whom Ouranos in horror had im-

**You may be wondering the same thing. I'm not, really, but I have written a rather big book about the Bible, the first volume of which is being published by Doubleday in October, 1968, so I'm up on the subject. The title of the book, in case you can hardly wait to buy it, is ASIMOV'S GUIDE TO THE BIBLE. Need I explain that the title is the publisher's and not mine?*

prisoned in hell. Gaia angrily encouraged her non-monstrous son, Cronos, to take vengeance.

Armed with a sharp sickle, Cronos crept up on his father when the latter was asleep, castrated him, and took over the rule of the universe.

But the crime had its aftermath. Cronos feared that his children would serve him as he had served his father. Therefore, each time his wife bore a child, Cronos would swallow it. Finally, when she bore Zeus, she deceived Cronos by giving him a stone dressed in swaddling clothes. Zeus was reared in secret and when he matured, he warred against Cronos, defeated him, made him disgorge his other children, and then replaced him as ruler of the universe.

The planet we call Jupiter was called Zeus by the Greeks. It circles the heavens in just under 12 years. Every 20 years, it catches up to the planet Cronos and passes it. Because Cronos moves so slowly, it is fitting to name it for an old, old god. (And the slow, heavy motion gives us our word "saturnine.") Because Zeus is forever overtaking and passing it, the two seem forever to be reenacting the old myth of Zeus replacing his father on the universal throne.

The Romans identified their god, Saturn, an agricultural deity, with Cronos. (And perhaps they were right to do so, for Cronos himself may have been an agricultural deity to begin with. The sickle he used is an agricultural implement, and the castration myth may refer, symbolically, to the harvesting of grain, where the fertile ears are cut off.)

Cronos and Zeus, by the way, are not Greek words, and both may have been inherited from a pre-Greek population. There is a strong tendency to confuse Cronos with "Chronos," which is a Greek word and which means "time." For that reason, the aged Cronos with his sickle is used to represent "Father Time." It is an excellent representation, as it happens, for the relentless sickle mowing down everything is a chilling picture of what Time does, but we pedants consider it wrong just the same.

In July, 1610, the Italian astronomer, Galileo Galilei, turned his telescope on Saturn. He had already discovered the mountains on the Moon, four satellites of Jupiter, spots on the Sun and new stars everywhere. What could he find out about Saturn?

His telescope was, of course, a primitive one, and Saturn was far away. Galileo couldn't make out clearly what it was he saw, but he saw *something* odd. Saturn wasn't just a round ball, as Jupiter was; there was a bright something or other on either side. Galileo thought they might be a pair of subsidiary bodies, large twin satellites, one on either side.

In 1612, when he had a chance to return to the study of Saturn, he found that the satellites (if that was what they were) had disappeared. He saw nothing but a round ball, like Jupiter, only smaller.

Galileo was quite upset. After all, the telescope was a brand-new instrument, and there were opponents who insisted that what it made visible were merely illusions, sent by the devil to rouse doubt concerning the divinely inspired Biblical account of the universe. If the telescope showed Saturn to be a triple body at some times and a single body at others, it would indeed be a triumph for reaction.

Galileo avoided looking at Saturn after that, and in a letter to a friend, asked, petulantly, "Does Saturn swallow its children?"

(I was once asked quite seriously, whether the Greeks might have been able, somehow, to see Saturn plainly enough to make this out, and named the planet accordingly. Of course not! The Greeks had no telescope and it is as certain as anything can be that they never saw Saturn as anything but a point of light. The matter is a coincidence, though a particularly interesting one.)

Nearly half a century later, the Dutch astronomer, Christian Huygens, with better telescopes at his disposal, began to study Saturn. In 1655, he discovered it had a satellite and named it Titan. (For a general discussion of the names used for the bodies of the Solar system, see *ROLLCALL*, F & SF, December 1963.)

By the next year, he had puzzled out what it was that had so upset Galileo. His telescope ~~wasn't~~ quite good enough to make it out with indisputable clarity, but he, too, could see something extending out on either side of Saturn. Call them a pair of satellites, as Galileo had done. If that was so, then they would have to revolve about Saturn.

That was a slightly risky deduction, for this was before Newton had advanced his law of universal gravitation, which gave a sound theoretical basis for maintaining that a satellite *must* revolve about its planet. Still, the Moon revolved about the Earth; the four satellites of Jupiter each revolved about Jupiter; and Titan revolved about Saturn. Why not suppose that Saturn's twin satellites followed the general rule?

If these twin satellites revolved about Saturn, their appearance should alter from night to night. Eventually one should be behind Saturn and one in front so that both would be invisible.

Could this be what accounted for the fact that Galileo didn't see them in 1612. No! The visibility and invisibility periods should alternate at intervals of a very few days or even hours if the objects were twin satellites and not at intervals of several years.

The only way Huygens could account for the fact that the appearance of the twin satellites remained unaltered for night after night was to suppose that there were a number of satellites so that there were always some in front and back of the planet and some to either side. Indeed, to make the appearance utterly constant, the satellites ought to be in the form of a ring about the planet.

But then how account for the fact that the appearance did *slowly* change over the years and that the satellites disappeared utterly from time to time?

Huygens reasoned that the ring might be a thin one which was tipped to the plane of the ecliptic (to that of Earth's orbit, in other words). This is so, and the angle of inclination is now known to be $26^{\circ} 44'$.

When Saturn is on one side of its orbit, we look down on the rings and see them clearly in front and to either side. When Saturn is on the other side of the orbit, we look up on the rings and again see them clearly.

If we could watch Saturn every night as it swings from one end of its orbit to the other, we would watch the tipping of the ring shift from maximum-down to maximum-up over a period of $14\frac{3}{4}$ years as the planet goes from one end to the other. In another $14\frac{3}{4}$ years it goes back to its initial point and the ring shifts from maximum-up to maximum-down.

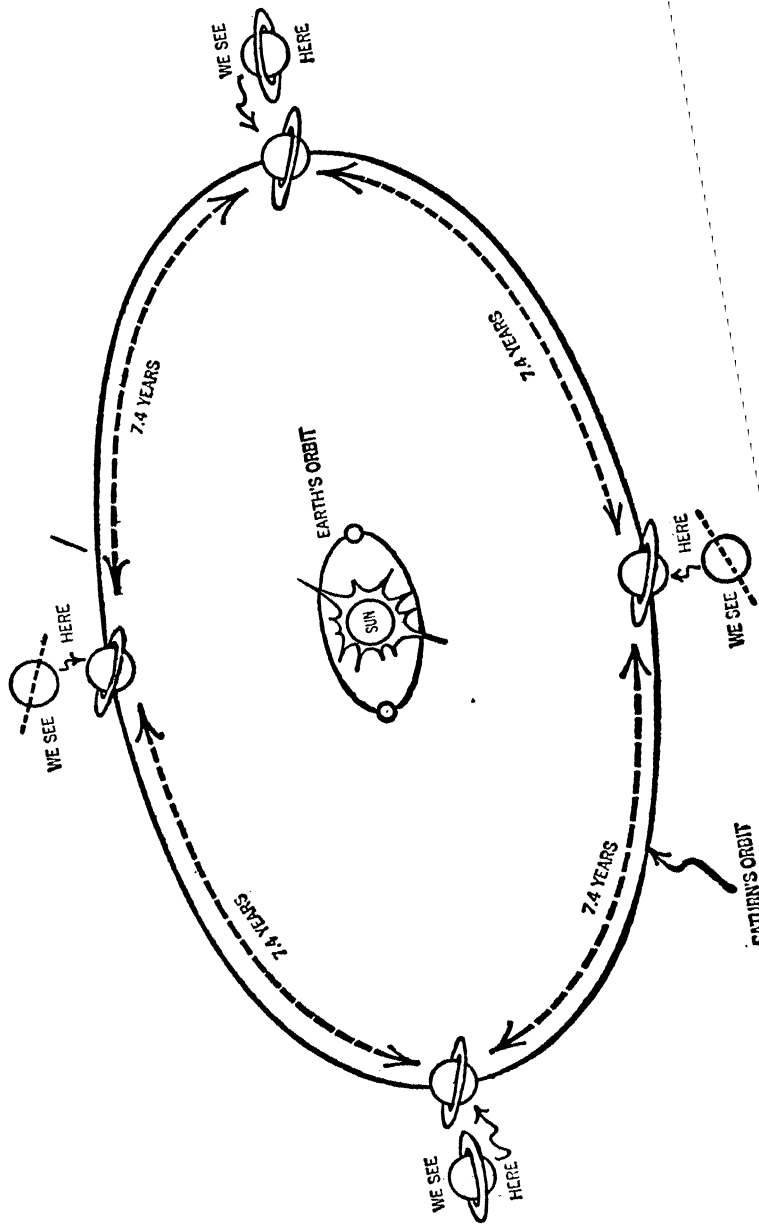
(Actually, the tilt of the rings does not shift. It remains constant with reference to the stars. This constant-tilt-with-reference-to-the-stars combines with Saturn's motion around the Sun to produce an apparent oscillation-of-tilt with respect to the Sun, or Earth. This is not easy to see in the mind alone, so maybe Figure 1 will help.)

Midway between the maximum-up and maximum-down, there must come a time when the rings are seen exactly edge-on. The same thing happens midway between the maximum-down and the maximum-up. This means that every $14\frac{3}{4}$ years, the rings are seen edge on. If they are a thin, flat structure, and our telescopes are not big enough to magnify the rings to the point where the thickness is perceptible—they will seem to disappear. That is what happened to Galileo.

Huygens put his discovery into a few Latin words and then scrambled the letters by putting them in alphabetical order. He wanted to preserve priority if he turned out to be right, while reserving the privilege to withdraw without embarrassment if he were wrong.

By 1659, he was convinced he was right and he published the Latin sentence, which read "Annulo cingitur, tenui plano, nusquam cohaerente ad ecliptam inclinato." Translated freely, it says that Saturn is "surrounded by a thin, flat ring, not touching it anywhere, and tilted to the ecliptic."

Figure 1 — The Tilting of the Rings



Huygens is not to be blamed for his caution. There was simply nothing like Saturn's ring in the heavens, *and there still isn't*. It is absolutely unique among all the heavenly features we can see.

What is the ring? It appears to be a thin, flat, solid structure. Is that all?

Huygens' contemporary, the Italian-French astronomer, Jean Dominique Cassini, was the next great Saturnian. In 1671 and 1672, he discovered two satellites (Iapetus and Rhea and in 1684 two more (Dione and Tethys), so that now five Saturnian satellites were known altogether.

And in 1675, he published his contribution to knowledge concerning the ring. He detected a dark line curving around it about a third of the way in from the outer edge. Huygens thought it was a dark marking on a solid ring. Cassini thought it was a separation, and that there were really two rings, one outside the other. The outer one we can call Ring A and the inner Ring B.

Cassini turned out to be right, and the dark marking he discovered is still called "Cassini's division." As a matter of fact there are other divisions, too, though none are so broad and easy to see as Cassini's. Anyway, since 1675, we speak of the "rings" of Saturn, not the "ring."

New satellites continued to turn up. In 1789, the German-English astronomer, William Herschel, discovered a sixth and seventh satellite (Mimas and Enceladus). He also studied the rotation of Saturn by following spots on its surface. He found that Saturn rotated in $10\frac{1}{4}$ hours and that its axis of rotation was perpendicular to the plane of the rings. The rings, in other words, circle Saturn along the line of its equator. The inner satellites also revolve exactly in the plane of Saturn's equator.

The rings cast a shadow on the planet they circle, so it is easy to suppose they are solid and continuous. On the other hand, they shine brightly even when the Sun is on the other side of them, so they seem transparent and, therefore, discontinuous.

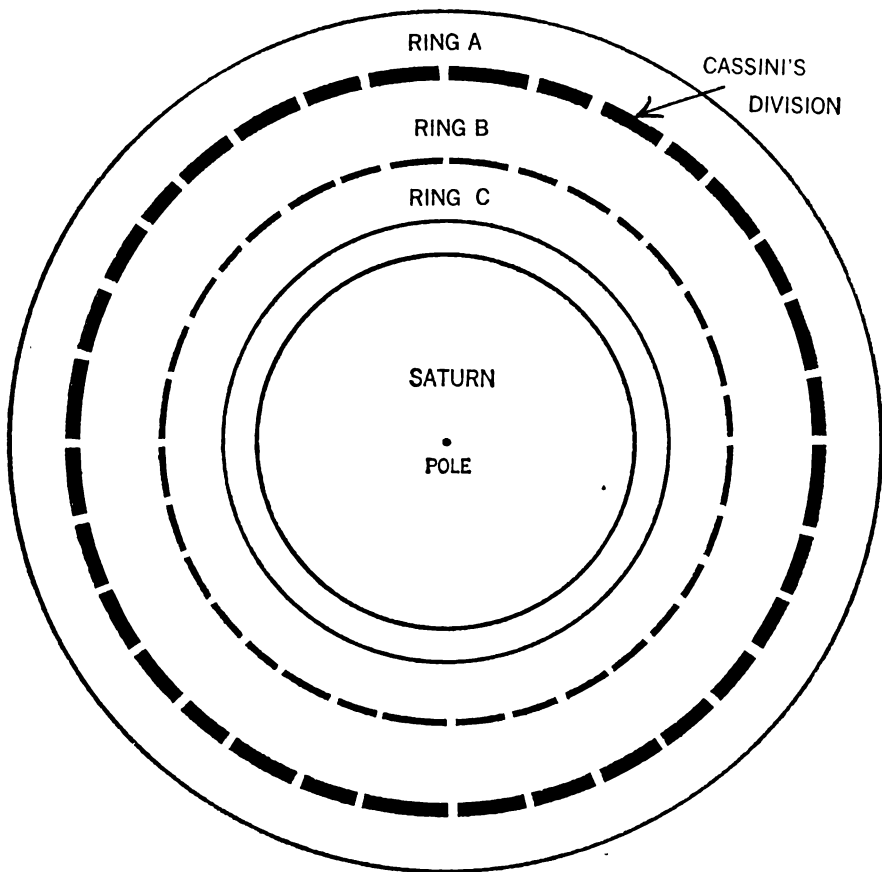
A strong point in favor of the second interpretation came with the work of the American astronomer, William Cranch Bond.

In 1848, Bond detected an eighth satellite of Saturn (Hyperion). He made the discovery on September 16; the English astronomer, William Lassell, independently made it on September 18. Two days is two days — Bond gets the credit.

Next, in 1849, Bond and his son, George Philips Bond, observed that the rings of Saturn extended closer to the planet than had been reported.

There was an innermost ring that was dimmer than the rest and through which stars could be seen. That part (Ring C) certainly couldn't be continuous. The Bonds made their report on November 15. Lassell made an independent report on December 3 and lost out again, poor fellow. (see Figure 2).

Figure 2 — Saturn as seen from above one pole



So much for observation. There was theory, in addition, and that, too, pointed to rings made up of discontinuous particles.

The rings spread out widely in space and were under the influence of a gravitational field that varied in intensity with distance. The inner-

most boundary of the ring system is only 44,000 miles from Saturn's center (and only 7,000 miles above Saturn's surface), while the outermost boundary is 86,000 miles from the center of the planet.

We know Saturn's mass. Newton worked it out first in 1687 from the distance of its satellites and their period of revolution, using his law of universal gravitation, and the figure has had to be corrected only slightly since. Saturn has 95 times the mass of Earth, and from that we can calculate quite easily that the gravitational intensity at the innermost boundary of the rings is 0.8 and at the outermost boundary 0.2 (where the gravitational intensity at the surface of the Earth is taken as 1.0).

In other words, the outermost regions of the ring are under only a quarter the gravitational intensity of the innermost regions. This gives rise to a strong tidal effect that puts a strain on the rings inward and outward.

Then, too, under the lash of the gravitational force, the innermost sections should move at a velocity of $12\frac{1}{2}$ miles per second in their revolution about Saturn, while the outermost sections should move at 10 miles per second. If the rings were solid, they would have to move in one piece with the innermost sections going more slowly than the outermost. This puts a tremendous sideways strain on the system.

In 1857, the Scottish mathematician, James Clerk Maxwell, made a thoroughgoing analysis of the gravitational situation and showed that the rings could not stand the strain if they were continuously solid unless they were many times as rigid as the best steel. They had to consist of separate fragments so thickly strewn as to appear continuous when viewed from the distance of Earth (not so thickly strewn in Ring C).

This has been borne out amply since. The American astronomer, James Edward Keeler, in 1895, showed by spectroscopic observations that the inner portion of the rings did move more quickly than the outer.

Despite everything, though, we still don't know how thick the rings are. As telescopes improved and as the rings *still* remained invisible when seen edge-on, the estimates of maximum thickness decreased. At first, it was felt they had to be less than several hundred miles thick, then less than several dozen miles thick, then less than ten miles thick. Now it is generally felt their thickness must be measured in yards at the most. I have seen some estimates to the effect that they are only a foot thick.

The size of the individual particles in the ring is also not known. The thinner the rings, the smaller the particles might be expected to be. They may be no larger than so much gravel. From the efficiency with which they reflect light and from their infrared spectra, it seems the gravel may

be coated with ice, or even be mainly ice.

But why should Saturn have rings at all? No other planets have them.

Well, in 1849, before Maxwell's definitive analysis, a French astronomer, E. Roche, made a more general approach and showed that when a satellite and its primary are of the same density, tidal forces will break up the satellite if it is closer to the planet's center than 2.44 times the planet's radius. This is called Roche's limit.

There are six planets known to have satellites. If we omit Saturn, here are figures for the distance of Roche's limit for each planet and the distance of its nearest satellite:

<i>Planet</i>	<i>Roche's limit</i>		<i>nearest satellite</i>	
	<i>miles</i>	<i>radii</i>	<i>miles</i>	<i>radii</i>
Earth	9,750	2.44	238,500	60.0
Mars	5,150	2.44	5,800	2.74
Jupiter	105,000	2.44	110,000	2.56
Uranus	37,000	2.44	77,000	5.17
Neptune	35,500	2.44	220,000	15.1

For every one of these planets, the satellite system is outside Roche's limit although, in the case of Mars and Jupiter, the innermost satellite is dangerously close to that limit.

For Saturn, the distance of Roche's limit is 88,500. The innermost known satellite, as of December, 1967, was Mimas, which is 120,000 miles from Saturn's center (3.44 radii). Saturn's satellite system is also safe.

The outermost edge of the rings is, on the other hand, 86,000 miles from Saturn's center or 2.38 radii. The entire ring system, therefore, is inside Roche's limit. Either it represents a satellite which somehow managed to get too close to Saturn and which broke up, or it represents part of the original clouds of matter about Saturn which was too close to Saturn for tidal effects to allow it to coalesce into a satellite in the first place.

If the rings are a disintegrated satellite, it may have been a rather large one. I have seen one estimate which placed the total mass of the rings at one-quarter that of the Moon. If so, the original satellite would have had to have a diameter of about 1300 miles.

And what about Cassini's division? If there were particles in the division (which is about 2500 miles wide, by the way) they would revolve about Saturn in 11 hours. However, Mimas revolves in 22 hours, Enceladus in 33 hours and Tethys in 45 hours.

A particle in Cassini's division would be pulled by Mimas from the same direction every two of the particle's revolutions, by Enceladus every three and by Tethys every four. The same pull from the same direction would permanently slow it down and force it closer to Saturn, or speed it up and force it farther from Saturn until the new distance is such that the synchronization is destroyed. In this way, Cassini's gap is swept clear of particles.

Other gaps are likewise swept by synchronization with the nearer satellites, but nowhere is the sweeping as multiple and as efficient as in Cassini's division.

But now let's consider Saturn's satellites. In 1898, the American astronomer, William Henry Pickering, discovered Phoebe, Saturn's ninth satellite and for almost seventy years after that, nothing new was added. The list of satellites, from Saturn outward, were: Mimas, Enceladus, Tethys, Dione, Rhea, Titan, Hyperion, Iapetus, and Phoebe. It almost seemed as if that were going to be permanent.

To be sure, Pickering reported a tenth satellite in 1905 and named it Themis. He reported it at a distance of 908,000 miles from Saturn, which placed it at nearly the orbit of Hyperion. Two satellites, so near the primary, are not likely to be so closely spaced. Of course, Themis was reported to have a high inclination of 39° and a rather high eccentricity as well, so that it wasn't likely to collide with Hyperion. However, a high inclination and eccentricity for a satellite that close to Saturn are also unlikely. It is a suspicious satellite all around, and it is not at all surprising that Themis was never seen again. Pickering must have been mistaken, that's all.

So the list of Saturn's satellites seemed permanent and immovable, and then, in December 1967, something dramatic happened. This was a time when Saturn's rings showed edge-on and disappeared, and such a once-in-fifteen-year opportunity can be important. The rings are brighter than Saturn itself, area for area, and objects in the near vicinity of the rings are hard to see *except* when the rings are edge-on.

In that December, a French astronomer, Audoin Dollfus, located a tenth satellite of Saturn, closer to the planet than Mimas, even. The little found satellite proved to be 98,000 miles from the planet's center, (2.73 radii), which puts it 22,000 miles closer than Mimas, but still 10,000

safe miles outside Roche's limit and 12,000 miles beyond the outer edge of the rings. The new satellite revolves about Saturn in 18 hours.

Dollfuss named it Janus, after a Roman god who is pictured with a double face, one looking forward and one backward. Janus is the god of beginnings and endings, of arrivals and departures, of entrances and exits, of doors in and doors out (which is why the guardian of the doors, and, eventually, of the house generally, is called a "janitor"). In this case, the new satellite is the last to be discovered and the first on the list reading from Saturn outward, so it is "Janus."

Janus's diameter is estimated at 300 miles, which would make it the largest satellite discovered in over a hundred years. Considering how telescopes have improved in that interval, you can see that Janus would surely have been discovered long ago if it hadn't been for the rings.

Janus's invisibility is another case of Saturn (and of its rings) seeming to swallow its children. Dollfuss was the Zeus that made it disgorge.

ADDENDUM

Every once in a while I could kick myself from here to Christmas for a perfectly delightful idea that I should have thought of but didn't. I am then very grateful, in a chagrined sort of way, when a Gentle Reader supplies it to me.

Mr. Richard H. Weil of New York City writes in connection with my article LITTLE LOST SATELLITE (July 1968) that an answer to the puzzling nature of Vesta might be just this: that it was indeed a satellite, but one that belonged to the planet that was once between the orbits of Mars and Jupiter—the one that exploded to give us our asteroids.

It is not certain, of course, that such a planet ever existed, but if it did, the temptation to believe that Vesta was its satellite and is now sadly wandering, intact, in its old orbit amid the debris of its exploded primary, is just too attractive not to be considered.

Now *why* didn't I think of that?

—ISAAC ASIMOV

Robert Silverberg is an elected official whose constituency includes most of the writers in this issue. He is president of the Science Fiction Writers of America and presides over that organization's annual awards dinner with uncommon wit and restraint. He will be master of ceremonies at this year's World SF Convention. When not officiating, Mr. Silverberg writes: recent releases include HAWKSBILL STATION (Doubleday), THE MASKS OF TIME, and THORNS (Ballantine), the latter nominated for a Hugo award. His short fiction has been extremely limited in recent years, a situation that we are pleased to help correct by offering the good story below.

THE FANGS OF THE TREES

by Robert Silverberg

FROM THE PLANTATION HOUSE atop the gray, needle-sharp spire of Dolan's Hill, Zen Holbrook could see everything that mattered: the groves of juice-trees in the broad valley, the quick-rushing stream where his niece Naomi liked to bathe, the wide, sluggish lake beyond. He could also see the zone of suspected infection in Sector C at the north end of the valley, where—or was it just his imagination?—the lustrous blue leaves of the juice-trees already seemed flecked with the orange of the rust disease.

If his world started to end, that was where the end would start.

He stood by the clear, curved window of the info center at the top of the house. It was early morning; two pale moons still hung in a

dawn-streaked sky, but the sun was coming up out of the hill country. Naomi was already up and out, cavorting in the stream. Before Holbrook left the house each morning, he ran a check on the whole plantation. Scanners and sensors offered him remote pickups from every key point out there. Hunching forward, Holbrook ran thick-fingered hands over the command nodes and made the relay screens flanking the window light up. He owned 40,000 acres of juice-trees—a fortune in juice, though his own equity was small and the notes he had given were immense. His kingdom. His empire. He scanned Sector C, his favorite. Yes. The screen showed long rows of trees, fifty feet high, shifting their ropy

limbs restlessly. This was the endangered zone, the threatened sector. Holbrook peered intently at the leaves of the trees. Going rusty yet? The lab reports would come in a little later. He studied the trees, saw the gleam of their eyes, the sheen of their fangs. Some good trees in that sector. Alert, keen, good producers.

His pet trees. He liked to play a little game with himself, pretending the trees had personalities, names, identities. It didn't take much pretending.

Holbrook turned on the audio. "Morning, Caesar," he said. "Alcibiades. Hector. Good morning, Plato."

The trees knew their names. In response to his greeting, their limbs swayed as though a gale were sweeping through the grove. Holbrook saw the fruit, almost ripe, long and swollen and heavy with the hallucinogenic juice. The eyes of the trees—glittering scaly plates embedded in crisscrossing rows on their trunks—flickered and turned, searching for him. "I'm not in the grove, Plato," Holbrook said. "I'm still in the plantation house. I'll be down soon. It's a gorgeous morning, isn't it?"

Out of the musty darkness at ground level came the long, raw pink snout of a juice-stealer, jutting uncertainly from a heap of castoff leaves. In distaste Holbrook watched the audacious little rodent cross the floor of the grove in four

quick bounds and leap onto Caesar's massive trunk, clambering cleverly upward between the big tree's eyes. Caesar's limbs fluttered angrily, but he could not locate the little pest. The juice-stealer vanished in the leaves and reappeared thirty feet higher, moving now in the level where Caesar carried his fruit. The beast's snout twitched. The juice-stealer reared back on its four hind limbs and got ready to suck eight dollars' worth of dreams from a nearly ripe fruit.

From Alcibiades' crown emerged the thin, sinuous serpentine form of a grasping tendril. Whiplash-fast it crossed the interval between Alcibiades and Caesar and snapped into place around the juice-stealer. The animal had time only to whimper in the first realization that it had been caught before the tendril choked the life from it. On a high arc the tendril returned to Alcibiades' crown; the gaping mouth of the tree came clearly into view as the leaves spread; the fangs parted; the tendril uncoiled, and the body of the juice-stealer dropped into the tree's maw. Alcibiades gave a wriggle of pleasure: a mincing, camping quiver of his leaves, arch and coy, in self-congratulation for his quick reflexes which had brought him so tasty a morsel. He was a clever tree, and a handsome one, and very pleased with himself. Forgivable vanity, Holbrook thought. You're a good tree, Alcibiades. All the trees

in Sector C are good trees. What if you have the rust, Alcibiades? What becomes of your shining leaves and sleek limbs if I have to burn you out of the grove?

"Nice going," he said. "I like to see you wide-awake like that."

Alcibiades went on wriggling. Socrates, four trees diagonally down the row, pulled his limbs tightly together in what Holbrook knew was a gesture of displeasure, a grumpy harrumph. Not all the trees cared for Alcibiades' vanity, his preening, his quickness.

Suddenly Holbrook could not bear to watch Sector C any longer. He jammed down on the command nodes and switched to Sector K, the new grove, down at the southern end of the valley. The trees here had no names, and would not get any. Holbrook had decided long ago that it was a silly affectation to regard the trees as though they were friends or pets. They were income-producing property. It was a mistake to get this involved with them—as he realized more clearly now that some of his oldest friends were threatened by the rust that was sweeping from world to world to blight the juice-tree plantations.

With more detachment he scanned Sector K.

Think of them as trees, he told himself. Not animals. Not people. *Trees*. Long tap roots, going sixty feet down into the chalky soil, pulling up nutrients. They cannot move from place to place. They

photosynthesize. They blossom and are pollinated and produce bulging phallic fruit loaded with weird alkaloids that cast interesting shadows in the minds of men. Trees. Trees. *Trees*.

But they have eyes and teeth and mouths. They have prehensile limbs. They can think. They can react. They have souls. When pushed to it, they can cry out. They are adapted for preying on small animals. They digest meat. Some of them prefer lamb to beef. Some are thoughtful and solemn; some volatile and jumpy; some placid, almost bovine. Though each tree is bisexual, some are plainly male by personality, some female, some ambivalent. Souls. Personalities.

Trees.

The nameless trees of Sector K tempted him to commit the sin of involvement. That fat one could be Buddha, and there's Abe Lincoln, and you, you're William the Conqueror, and—

Trees.

He made the effort and succeeded. Coolly he surveyed the grove, making sure there had been no damage during the night from prowling beasts, checking on the ripening fruit, reading the info that came from the sap sensors, the monitors that watched sugar levels, fermentation stages, manganese intake, all the intricately balanced life processes on which the output of the plantation depended. Holbrook handled practically

everything himself. He had a staff of three human overseers and three dozen robots; the rest was done by telemetry, and usually all went smoothly. Usually. Properly guarded, coddled and nourished, the trees produced their fruit three seasons a year. Holbrook marketed the goods at the pickup station near the coastal spaceport, where the juice was processed and shipped to Earth. Holbrook had no part in that; he was simply a fruit producer. He had been here ten years, and had no plans for doing anything else. It was a quiet life, a lonely life, but it was the life he had chosen.

He swung the scanners from sector to sector, until he had assured himself that all was well throughout the plantation. On his final swing he cut to the stream and caught Naomi just as she was coming out from her swim. She scrambled to a rocky ledge overhanging the swirling water and shook out her long, straight, silken golden hair. Her back was to the scanner. With pleasure Holbrook watched the rippling of her slender muscles. Her spine was clearly outlined by shadow; sunlight danced across the narrowness of her waist, the sudden flare of her hips, the taut mounds of her buttocks. She was fifteen; she was spending a month of her summer vacation here with Uncle Zen; she was having the time of her life among the juicetrees. Her father was Holbrook's

older brother. Holbrook had seen Naomi only twice before, once when she was a baby, once when she was about six. He had been a little uneasy about having her come here, since he knew nothing about children and in any case had no great hunger for company. But he had not refused his brother's request. Nor was she a child. She turned now, and his screens gave him apple-round breasts and flat belly and deep-socketed navel and strong sleek thighs. Fifteen. No child. A woman. She was unself-conscious about her nudity, swimming like this every morning; she knew there were scanners. Holbrook was not so easy about watching her. Should I look? Not really proper. The sight of her roiled him suspiciously. What the hell: I'm her uncle. A muscle twitched in his cheek. He told himself that the only emotions he felt when he saw her this way were pleasure and pride that his brother had created something so lovely. Only admiration; that was all he let himself feel. She was tanned, honey-colored, with islands of pink and gold. She seemed to give off a radiance more brilliant than that of the early sun. Holbrook clenched the command node. I've lived too long alone. My niece. My niece. Just a kid. Fifteen. Lovely. He closed his eyes, opened them slit-wide, chewed his lip. Come on, Naomi, cover yourself up!

When she put her shorts and

halter back on, it was like a solar eclipse. Holbrook cut off the info center and went down through the plantation house, grabbing a couple of breakfast capsules on his way. A gleaming little bug rolled from the garage; he jumped into it and rode out to give her her morning hello.

She was still near the stream, playing with a kitten-sized, many-legged furry thing that was twined around an angular little shrub. "Look at this, Zen!" she called to him. "Is it a cat or a caterpillar?"

"Get away from it!" he yelled with such vehemence that she jumped back in shock. His needler was already out and his finger was on the firing stud. The small animal, unconcerned, continued to twist its legs about branches.

Close against him, Naomi gripped his arm and said huskily, "Don't kill it, Zen. Is it dangerous?"

"I don't know."

"Please don't kill it."

"Rule of thumb on this planet," he said. "Anything with a backbone and more than a dozen legs is probably deadly."

"Probably!" Mockingly.

"We still don't know every animal here. That's one I've never seen before, Naomi."

"It's too cute to be deadly. Won't you put the needler away?"

He holstered it and went close to the beast. No claws, small teeth, weak body. Bad signs: a critter like

that had no visible means of support, so the odds were good that it hid a venomous sting in its furry little tail. Most of the various many-leggers here did. Holbrook snatched up a yard-long twig and tentatively poked it toward the animal's midsection.

Fast response. A hiss and a snarl and the rear end coming around, *wham!* and a wicked-looking stinger slamming into the bark of the twig. When the tail pulled back, a few drops of a reddish fluid trickled down the twig. Holbrook stepped away; the animal eyed him warily and seemed to be begging him to come within striking range.

"Cuddly," Holbrook said. "Cute. Naomi, don't you want to live to be Sweet Sixteen?"

She was standing there looking pale, shaken, almost stunned by the ferocity of the little beast's attack. "It seemed so gentle," she said. "Almost tame."

He turned the needler aperture to fine and gave the animal a quick burn through the head. It dropped from the shrub and curled up and did not move again. Naomi stood with her head averted. Holbrook let his arm slide around her shoulders.

"I'm sorry, honey," he said. "I didn't want to kill your little friend. But another minute and he'd have killed you. Count the legs, when you play with wildlife here. I told you. Count the legs."

She nodded. It would be a useful lesson for her in not trusting appearances. Cuddly is as cuddly does. Holbrook scuffed at the coppery-green turf and thought for a moment about what it was like to be fifteen and awakening to the dirty truths of the universe. Very gently he said, "Let's go visit Plato, eh?"

Naomi brightened at once. The other side of being fifteen: you have resilience.

They parked the bug just outside the Sector C grove and went in on foot. The trees didn't like motor vehicles moving among them; they were connected only a few inches below the loam of the grove floor by a carpet of mazy filaments that had some neurological function for them, and though the weight of a human didn't register on them, a bug riding down a grove would wrench a chorus of screams from the trees. Naomi went barefoot. Holbrook, beside her, wore kneeboots. He felt impossibly big and lumpy when he was with her; he was hulking enough as it was, but her litheness made it worse by contrast.

She played his game with the trees. He had introduced her to all of them, and now she skipped along, giving her morning greeting to Alcibiades and Hector, to Seneca, to Henry the Eighth and Thomas Jefferson and King Tut. Naomi knew all the trees as well

as he did, perhaps better; and they knew her. As she moved among them they rippled and twittered and groomed themselves, every one of them holding itself tall and arraying its limbs and branches in comely fashion; even dour old Socrates, lopsided and stumpy, seemed to be trying to show off. Naomi went to the big gray storage box in midgrove where the robots left chunks of meat each night, and hauled out some snacks for her pets. Cubes of red, raw flesh; she filled her arms with the bloody gobbets and danced gaily around the grove, tossing them to her favorites. Nymph in thy orisons, Holbrook thought. She flung the meat high, hard, vigorously. As it sailed through the air, tendrils whipped out from one tree or another to seize it in midflight and stuff it down the waiting gullet. The trees did not *need* meat, but they liked it, and it was common lore among the growers that well-fed trees produced the most juice. Holbrook gave his trees meat three times a week, except for Sector C, which rated a daily ration.

"Don't skip anyone," Holbrook called to her.

"You know I won't."

No piece fell uncaught to the floor of the grove. Sometimes two trees at once went for the same chunk and a little battle resulted. The trees weren't necessarily friendly to one another; there was bad blood between Caesar and

Henry the Eighth, and Cato clearly despised both Socrates and Alcibiades, though for different reasons. Now and then Holbrook or his staff found lopped-off limbs lying on the ground in the morning. Usually, though, even trees of conflicting personalities managed to tolerate one another. They had to, condemned as they were to eternal proximity. Holbrook had once tried to separate two Sector F trees that were carrying on a vicious feud, but it was impossible to dig up a full-grown tree without killing it and deranging the nervous systems of its thirty closest neighbors, as he had learned the hard way.

While Naomi fed the trees and talked to them and caressed their scaly flanks, petting them the way one might pet a tame rhino, Holbrook quietly unfolded a telescoping ladder and gave the leaves a new checkout for rust. There wasn't much point to it, really. Rust didn't become visible on the leaves until it had already penetrated the root structure of the tree, and the orange spots he thought he saw were probably figments of a jumpy imagination. He'd have the lab report in an hour or two, and that would tell him all he'd need to know, one way or the other. Still, he was unable to keep from looking. He cut a bundle of leaves from one of Plato's lower branches, apologizing, and turned them over in his hands, rubbing

their glossy undersurfaces. What's this here, these minute colonies of reddish particles? His mind tried to reject the possibility of rust. A plague striding across the world, striking him so intimately, wiping him out? He had built this plantation on leverage: a little of his money, a lot from the bank. Leverage worked the other way too. Let rust strike the plantation and kill enough trees to sink his equity below the level considered decent for collateral, and the bank would take over. They might hire him to stay on as manager. He had heard of such things happening.

Plato rustled uneasily.

"What is it, old fellow?" Holbrook murmured. "You've got it, don't you? There's something funny swimming in your guts, eh? I know. I know. I feel it in my guts too. We have to be philosophers, now. Both of us."

He tossed the leaf sample to the ground and moved the ladder up the row to Alcibiades. "Now, my beauty, now. Let me look. I won't cut any leaves off you." He could picture the proud tree snorting, stamping in irritation. "A little bit speckled under there, no? You have it too. Right?" The tree's outer branches clamped tight, as though Alcibiades were huddling into himself in anguish. Holbrook rolled onward, down the row. The rust spots were far more pronounced than the day before. No imagination, then. Sector C had

it. He did not need to wait for the lab report. He felt oddly calm at this confirmation, even though it announced his own ruin.

"Zen?"

He looked down. Naomi stood at the foot of the ladder, holding a nearly ripened fruit in her hand. There was something grotesque about that; the fruits were botany's joke, explicitly phallic, so that a tree in ripeness with a hundred or more jutting fruits looked like some archetype of the ultimate male, and all visitors found it hugely amusing. But the sight of a fifteen-year old girl's hand so thoroughly filled with such an object was obscene, not funny. Naomi had never remarked on the shape of the fruits, nor did she show any embarrassment now. At first he had ascribed it to innocence or shyness, but as he came to know her better, he began to suspect that she was deliberately pretending to ignore that wildly comic biological coincidence to spare *his* feelings. Since he clearly thought of her as a child, she was tactfully behaving in a childlike way, he supposed; and the fascinating complexity of his interpretation of her attitudes had kept him occupied for days.

"Where did you find that?" he asked.

"Right here. Alcibiades dropped it."

The dirty-minded joker, Holbrook thought. "What of it?"

"It's ripe. It's time to harvest this grove now, isn't it?" She squeezed the fruit; Holbrook felt his face flaring. "Take a look," she said, and tossed it up to him.

She was right: harvest time was about to begin in Sector C, five days early. He took no joy in it; it was a sign of the disease that he now knew infested these trees.

"What's wrong?" she asked.

He jumped down beside her and held out the bundle of leaves he had cut from Plato. "You see these spots? It's rust. A blight that strikes juice-trees."

"No!"

"It's been going through one system after another for the past fifty years. And now it's here despite all quarantines."

"What happens to the trees?"

"A metabolic speed-up," Holbrook said. "That's why the fruit is starting to drop. They accelerate their cycles until they're going through a year in a couple of weeks. They become sterile. They defoliate. Six months after the onset, they're dead." Holbrook's shoulders sagged. "I've suspected it for two or three days. Now I know."

She looked interested, but not really concerned. "What causes it, Zen?"

"Ultimately, a virus. Which passes through so many hosts that I can't tell you the sequence. It's an interchange-vector deal, where the virus occupies plants and gets

into their seeds, is eaten by rodents, gets into their blood, gets picked up by stinging insects, passed along to a mammal, then—oh, hell, what do the details matter? It took eighty years just to trace the whole sequence. You can't quarantine your world against everything, either. The rust is bound to slip in, piggybacking on some kind of living thing. And here it is."

"I guess you'll be spraying the plantation, then?"

"No."

"To kill the rust? What's the treatment?"

"There isn't any," Holbrook said.

"But—"

"Look, I've got to go back to the plantation house. You can keep yourself busy without me, can't you?"

"Sure." She pointed to the meat. "I haven't even finished feeding them yet. And they're especially hungry this morning."

He started to tell her that there was no point in feeding them now, that all the trees in this sector would be dead by nightfall. But an instinct warned him that it would be too complicated to start explaining that to her now. He flashed a quick, sunless smile and trotted to the bug. When he looked back at her, she was hurling a huge slab of meat toward Henry the Eighth, who seized it expertly and stuffed it in his mouth.

The lab report came sliding from the wall output about two hours later, and it confirmed what Holbrook already knew: rust. At least half the planet had heard the news by then, and Holbrook had had a dozen visitors so far. On a planet with a human population of slightly under four hundred, that was plenty. The district governor, Fred Leitfried, showed up first, and so did the local agricultural commissioner, who also happened to be Fred Leitfried. A two-man delegation from the Juice-Growers' Guild arrived next. Then came Mortensen, the rubbery-faced little man who ran the processing plant, and Heemskerck of the export line, and somebody from the bank, along with a representative of the insurance company. A couple of neighboring growers dropped over a little later; they offered sympathetic smiles and comradely graspings of the shoulder, but not very far beneath their commiserations lay potential hostility. They wouldn't come right out and say it, but Holbrook didn't need to be a telepath to know what they were thinking: *get rid of those rusty trees before they infect the whole damned planet.*

In their position he'd think the same. Even though the rust vectors had reached this world, the thing wasn't all that contagious. It could be confined; neighboring plantations could be saved, and even the

unharmd groves of his own place—if he moved swiftly enough. If the man next door had rust on his trees, Holbrook would be as itchy as these fellows were about getting it taken care of quickly.

Fred Leitfried, who was tall and bland-faced and blue-eyed and depressingly somber even on a cheerful occasion, looked about ready to burst into tears now. He said, "Zen, I've ordered a planet-wide rust alert. The biologicals will be out within thirty minutes to break the carrier chain. We'll begin on your property and work in a widening radius until we've isolated this entire quadrant. After that we'll trust to luck."

"Which vector are you going after?" Mortensen asked, tugging tensely at his lower lip.

"Hoppers," said Leitfried. "They're biggest and easiest to knock off, and we know that they're potential rust carriers. If the virus hasn't been transmitted to them yet, we can interrupt the sequence there and maybe we'll get out of this intact."

Holbrook said hollowly, "You know that you're talking about exterminating maybe a million animals."

"I know, Zen."

"You think you can do it?"

"We have to do it. Besides," Leitfried added, "the contingency plans were drawn a long time ago, and everything's ready to go. We'll have a fine mist of hopper-

lethals covering half the continent before nightfall."

"A damned shame," muttered the man from the bank. "They're such peaceful animals."

"But now they're threats," said one of the growers. "They've got to go."

Holbrook scowled. He liked hoppers himself; they were big rabbit things, almost the size of bears, that grazed on worthless scrub and did no harm to humans. But they had been identified as susceptible to infection by the rust virus, and it had been shown on other worlds that by knocking out one basic stage in the transmission sequence, the spread of the rust could be halted, since the viruses would die if they were unable to find an adequate host for the next stage in their life cycle. Naomi is fond of the hoppers, he thought. She'll think we're bastards for wiping them out. But we have our trees to save. And if we were real bastards, we'd have wiped them out before the rust ever got here, just to make things a little safer for ourselves.

Leitfried turned to him. "You know what you have to do now, Zen?"

"Yes."

"Do you want help?"

"I'd rather do it myself."

"We can get you ten men."

"It's just one sector, isn't it?" he asked. "I can do it. I *ought* to do it. They're my trees."

"How soon will you start?" asked Borden, the grower whose plantation adjoined Holbrook's on the east. There was fifty miles of brush country between Holbrook's land and Borden's, but it wasn't hard to see why the man would be impatient about getting the protective measures under way.

Holbrook said, "Within an hour, I guess. I've got to calculate a little, first. Fred, suppose you come upstairs with me and help me check the infected area on the screen."

"Right."

The insurance man stepped forward. "Before you go, Mr. Holbrook—"

"Eh?"

"I just want you to know, we're in complete approval. We'll back you all the way."

Damn nice of you, Holbrook thought sourly. What was insurance for, if not to back you all the way? But he managed an amiable grin and a quick murmur of thanks.

The man from the bank said nothing. Holbrook was grateful for that. There was time later to talk about refurbishing the collateral, renegotiation of notes, things like that. First it was necessary to see how much of the plantation would be left after Holbrook had taken the required protective measures.

In the info center, he and

Leitfried got all the screens going at once. Holbrook indicated Sector C and tapped out a grove simulation on the computer. He fed in the data from the lab report. "These are the infected trees," he said, using a light-pen to circle them on the output screen. "Maybe fifty of them altogether." He drew a larger circle. "This is the zone of possible incubation. Another eighty or a hundred trees. What do you say, Fred?"

The district governor took the light-pen from Holbrook and touched the stylus tip to the screen. He drew a wider circle that reached almost to the periphery of the sector.

"These are the ones to go, Zen."

"That's four hundred trees."

"How many do you have altogether?"

Holbrook shrugged. "Maybe seven, eight thousand."

"You want to lose them all?"

"Okay," Holbrook said. "You want a protective moat around the infection zone, then. A sterile area."

"Yes."

"What's the use? If the virus can come down out of the sky, why bother to —"

"Don't talk that way," Leitfried said. His face grew longer and longer, the embodiment of all the sadness and frustration and despair in the universe. He looked the way Holbrook felt. But his tone was incisive as he said, "Zen,

you've got just two choices here. You can get out into the groves and start burning, or you can give up and let the rust grab everything. If you do the first, you've got a chance to save most of what you own. If you give up, we'll burn you out anyway, for our own protection. And we won't stop just with four hundred trees."

"I'm going," Holbrook said. "Don't worry about me."

"I wasn't worried. Not really."

Leitfried slid behind the command nodes to monitor the entire plantation while Holbrook gave his orders to the robots and requisitioned the equipment he would need. Within ten minutes he was organized and ready to go.

"There's a girl in the infected sector," Leitfried said. "That niece of yours, huh?"

"Naomi. Yes."

"Beautiful. What is she, eighteen, nineteen?"

"Fifteen."

"Quite a figure on her, Zen."

"What's she doing now?" Holbrook asked. "Still feeding the trees?"

"No, she's sprawled out underneath one of them. I think she's talking to them. Telling them a story, maybe? Should I cut in the audio?"

"Don't bother. She likes to play games with the trees. You know, give them names, and imagine that they have personalities. Kid stuff."

"Sure," said Leitfried. Their eyes met briefly and evasively. Holbrook looked down. The trees *did* have personalities, and every man in the juice business knew it, and probably there weren't many growers who didn't have a much closer relationship to their groves than they'd ever admit to another man. Kid stuff. It was something you didn't talk about.

Poor Naomi, he thought.

He left Leitfried in the info center and went out the back way. The robots had set everything up just as he had programmed: the spray truck with the fusion gun mounted in place of the chemical tank. Two or three of the gleaming little mechanicals hovered around, waiting to be asked to hop aboard, but he shook them off and slipped behind the steering panel. He activated the data output and the small dashboard screen lit up; from the info center above, Leitfried greeted him and threw him the simulated pattern of the infection zone, with the three concentric circles glowing to indicate the trees with rust, those that might be incubating, and the safety-margin belt that Leitfried had insisted on creating around the entire sector.

The truck rolled off toward the groves.

It was midday, now, of what seemed to be the longest day he had ever known. The sun, bigger and a little more deeply tinged

with orange than the sun under which he had been born, lolled lazily overhead, not quite ready to begin its tumble into the distant plains. The day was hot, but as soon as he entered the groves, where the tight canopy of the adjoining trees shielded the ground from the worst of the sun's radiation, he felt a welcome coolness seeping into the cab of the truck. His lips were dry. There was an ugly throbbing just back of his left eyeball. He guided the truck manually, taking it on the access track around Sectors A, D, and G. The trees, seeing him, flapped their limbs a little. They were eager to have him get out and walk among them, slap their trunks, tell them what good fellows they were. He had no time for that now.

In fifteen minutes he was at the north end of his property, at the edge of Sector C. He parked the spray truck on the approach lip overlooking the grove; from here he could reach any tree in the area with the fusion gun. Not quite yet, though.

He walked into the doomed grove.

Naomi was nowhere in sight. He would have to find her before he could begin firing. And even before that, he had some farewells to make. Holbrook trotted down the main avenue of the sector. How cool it was here, even at noon! How sweet the loamy air

smelled! The floor of the grove was littered with fruit; dozens had come down in the past couple of hours. He picked one up. Ripe: he split it with an expert snap of his wrist and touched the pulpy interior to his lips. The juice, rich and sweet, trickled into his mouth. He tasted just enough of it to know that the product was first class. His intake was far from a hallucinogenic dose, but it would give him a mild euphoria, sufficient to see him through the ugliness ahead.

He looked up at the trees. They were tightly drawn in, suspicious, uneasy.

"We have troubles, fellows," Holbrook said. "You, Hector, you know it. There's a sickness here. You can feel it inside you. There's no way to save you. All I can hope to do is save the other trees, the ones that don't have the rust yet. Okay? Do you understand? Plato? Caesar? I've got to do this. It'll cost you only a few weeks of life, but it may save thousands of other trees."

An angry rustling in the branches. Alcibiades had pulled his limbs away disdainfully. Hector, straight and true, was ready to take his medicine. Socrates, lumpy and malformed, seemed prepared also. Hemlock or fire, what did it matter? Crito, I owe a cock to Asclepius. Caesar seemed enraged; Plato was actually cringing. They understood, all of

them. He moved among them, patting them, comforting them. He had begun his plantation with this grove. He had expected these trees to outlive him.

He said, "I won't make a long speech. All I can say is goodbye. You've been good fellows, you've lived useful lives, and now your time is up, and I'm sorry as hell about it. That's all. I wish this wasn't necessary." He cast his glance up and down the grove. "End of speech. So long."

Turning away, he walked slowly back to the spray truck. He punched for contact with the info center and said to Leitfried, "Do you know where the girl is?"

"One sector over from you to the south. She's feeding the trees." He flashed the picture on Holbrook's screen.

"Give me an audio line, will you?"

Through his speakers Holbrook said, "Naomi? It's me, Zen."

She looked around, halting just as she was about to toss a chunk of meat. "Wait a second," she said. "Catherine the Great is hungry, and she won't let me forget it." The meat soared upward, was snared, disappeared into the mouth of a tree. "Okay," Naomi said. "What is it, now?"

"I think you'd better go back to the plantation house."

"I've still got lots of trees to feed."

"Do it this afternoon."

"Zen, what's going on?"

"I've got some work to do, and I'd rather not have you in the groves when I'm doing it."

"Where are you now?"

"C."

"Maybe I can help you, Zen. I'm only in the next sector down the line. I'll come right over."

"No. Go back to the house." The words came out as a cold order. He had never spoken to her like that before. She looked shaken and startled, but she got obediently into her bug and drove off. Holbrook followed her on his screen until she was out of sight.

"Where is she now?" he asked Leitfried.

"She's coming back. I can see her on the access track."

"Okay," Holbrook said. "Keep her busy until this is over. I'm going to get started."

He swung the fusion gun around, aiming its stubby barrel into the heart of the grove. In the squat core of the gun a tiny pinch of sun-stuff was hanging suspended in a magnetic pinch, available infinitely for an energy tap more than ample for his power needs today. The gun had no sight, for it was not intended as a weapon; he thought he could manage things, though. He was shooting at big targets. Sighting by eye, he picked out Socrates at the edge of the grove, fiddled with the gun mounting for a couple of moments of deliberate hesitation,

considered the best way of doing this thing that awaited him, and put his hand to the firing control. The tree's neural nexus was in its crown, back of the mouth. One quick blast there—

Yes.

An arc of white flame hissed through the air. Socrates' misshapen crown was bathed for an instant in brilliance. A quick death, a clean death, better than rotting with rust. Now Holbrook drew his line of fire down from the top of the dead tree, along the trunk. The wood was sturdy stuff; he fired again and again, and limbs and branches and leaves shriveled and dropped away, while the trunk itself remained intact and great oily goutts of smoke rose above the grove. Against the brightness of the fusion beam, Holbrook saw the darkness of the naked trunk outlined, and it surprised him how straight the old philosopher's trunk had been, under the branches. Now the trunk was nothing more than a pillar of ash; and now it collapsed and was gone.

From the other trees of the grove came a terrible moaning.

They knew that death was among them, and they felt the pain of Socrates' absence through the network of root-nerves in the ground. They were crying out in fear and anguish and rage.

Doggedly Holbrook turned the fusion gun on Hector.

Hector was a big tree, impassive, stoic, neither a complainer nor a preener. Holbrook wanted to give him the good death he deserved, but his aim went awry; the first bolt struck at least eight feet below the tree's brain center, and the echoing shriek that went up from the surrounding trees revealed what Hector must be feeling. Holbrook saw the limbs waving frantically, the mouth opening and closing in a horrifying rictus of torment. The second bolt put an end to Hector's agony. Almost calmly, now, Holbrook finished the job of extirpating that noble tree.

He was nearly done before he became aware that a bug had pulled up beside his truck and that Naomi had erupted from it, flushed, wide-eyed, close to hysteria. "Stop!" she cried. "Stop it, Uncle Zen! Don't burn them!"

As she leaped into the cab of the spray truck, she caught his wrists with surprising strength and pulled herself up against him. She was gasping, panicky, her breasts heaving, her nostrils wide.

"I told you to go to the plantation house," he snapped.

"I did. But then I saw the flames."

"Will you get out of here?"

"Why are you burning the trees?"

"Because they're infected with rust," he said. "They've got to be burned out before it spreads."

"That's *murder*."

"Naomi, look, will you get back to—"

"You killed Socrates!" she muttered, looking into the grove. "And—and Caesar? No. Hector. Hector's gone too. You burned them right out!"

"They aren't people. They're trees. Sick trees that are going to die soon anyway. I want to save the others."

"But why kill them? There's got to be some kind of drug you can use, Zen. Some kind of spray. There's a drug to cure everything now."

"Not this."

"There has to be."

"Only the fire," Holbrook said. Sweat rolled coldly down his chest, and he felt a quiver in a thigh muscle. It was hard enough doing this without her around. He said as calmly as he could manage it, "Naomi, this is something that must be done, and fast. There's no choice about it. I love these trees as much as you do, but I've got to burn them out. It's like that little leggy thing with the sting in its tail: I couldn't afford to be sentimental about it, simply because it looked cute. It was a menace. And right now Plato and Caesar and the others are menaces to everything I own. They're plague-bearers. Go back to the house and lock yourself up somewhere until it's over."

"I won't let you kill them!"

Exasperated, he grabbed her shoulders, shook her two or three times, pushed her from the truck cab. She tumbled backward but landed lithely. Jumping down beside her, Holbrook said, "Dammit, don't make me hit you, Naomi. This is none of your business. I've got to burn out those trees, and if you don't stop interfering—"

"There's got to be some other way. You let those other men panic you, didn't you, Zen? They're afraid the infection will spread, so they told you to burn the trees fast, and you aren't even stopping to think, to get other opinions; you're just coming in here with your gun and killing intelligent, sensitive, loveable—"

"Trees," he said. "This is incredible, Naomi. For the last time—"

Her reply was to leap up on the truck and press herself to the snout of the fusion gun, breasts close against the metal. "If you fire, you'll have to shoot through me!"

Nothing he could say would make her come down. She was lost in some romantic fantasy, Joan of Arc of the juice-trees, defending the grove against his barbaric assault. Once more he tried to reason with her; once more she denied the need to extirpate the trees. He explained with all the force he could summon the total impossibility of saving these

trees; she replied with the power of sheer irrationality that there must be some way. He cursed. He called her a stupid hysterical adolescent. He begged. He wheedled. He commanded. She clung to the gun.

"I can't waste any more time," he said finally. "This has to be done in a matter of hours or the whole plantation will go." Drawing his needler from its holster, he dislodged the safety and gestured at her with the weapon. "Get down from there," he said icily.

She laughed. "You expect me to think you'd shoot me?"

Of course, she was right. He stood there sputtering impotently, red-faced, baffled. The lunacy was spreading: his threat had been completely empty, as she had seen at once. Holbrook vaulted up beside her on the truck, seized her, tried to pull her down.

She was strong, and his perch was precarious. He succeeded in pulling her away from the gun, but had surprisingly little luck in getting her off the truck itself. He didn't want to hurt her, and in his solicitousness he found himself getting second best in the struggle. A kind of hysterical strength was at her command; she was all elbows, knees, clawing fingers. He got a grip on her at one point, found with horror that he was clutching her breasts, and let go in embarrassment and confusion. She hopped away from

him. He came after her, seized her again, and this time was able to push her to the edge of the truck. She leaped off, landed easily, turned, ran into the grove.

So she still was out-thinking him. He followed her in; it took him a moment to discover where she was. He found her hugging Caesar's base and staring in shock at the charred places where Socrates and Hector had been.

"Go on," she said. "Burn up the whole grove! But you'll burn me with it!"

Holbrook lunged at her. She stepped to one side and began to dart past him, across to Alcibiades. He pivoted and tried to grab her, lost his balance, and went sprawling, clutching at the air for purchase. He started to fall.

Something wiry and tough and long slammed around his shoulders.

"Zen!" Naomi yelled. "The tree—Alcibiades—"

He was off the ground now. Alcibiades had snared him with a grasping tendril and was lifting him toward his crown. The tree was struggling with the burden, but then a second tendril gripped him too, and Alcibiades had an easier time. Holbrook thrashed about a dozen feet off the ground.

Cases of trees attacking humans were rare. It had happened perhaps five times altogether, in the generations that men had been cultivating juice-trees here. In

each instance the victim had been doing something that the grove regarded as hostile—such as removing a diseased tree.

A man was a big mouthful for a juice-tree. But not beyond its appetite.

Naomi screamed, and Alcibiades continued to lift. Holbrook could hear the clashing of fangs above; the tree's mouth was getting ready to receive him. Alcibiades the vain, Alcibiades the mercurial, Alcibiades the unpredictable—well-named, indeed. But was it treachery to act in self-defense? Alcibiades had a strong will to survive. He had seen the fates of Hector and Socrates. Holbrook looked up at the ever closer fangs. So this is how it happens, he thought. Eaten by one of my own trees. My friends. My pets. Serves me right for sentimentalizing them. They're carnivores. Tigers with roots.

Alcibiades screamed.

In the same instant one of the tendrils wrapped around Holbrook's body lost its grip. He dropped about twenty feet in a single dizzying plunge before the remaining tendril steadied itself, leaving him dangling a few yards above the floor of the grove. When he could breathe again, Holbrook looked down and saw what had happened. Naomi had picked up the needler that he had dropped when he had been seized by the tree, and she had burned away one

tendril. She was taking aim again. There was another scream from Alcibiades; Holbrook was aware of a great commotion in the branches above him; he tumbled the rest of the way to the ground and landed hard in a pile of mulched leaves. After a moment he rolled over and sat up. Nothing broken. Naomi stood above him, arms dangling, the needler still in her hand.

"Are you all right?" she asked soberly.

"Shaken up a little is all." He started to get up. "I owe you a lot," he said. "Another minute and I'd have been in Alcibiades' mouth."

"I almost let him eat you, Zen. He was just defending himself. But I couldn't. So I shot off the tendrils."

"Yes. Yes. I owe you a lot." He stood up and took a couple of faltering steps toward her. "Here," he said, "you better give me that needler before you burn a hole in your foot." He stretched out his hand.

"Wait a second," she said, glacially calm. She stepped back as he neared her.

"What?"

"A deal, Zen. I rescued you, right? I didn't have to. Now you leave those trees alone. At least check up on whether there's a spray, okay? A deal."

"But—"

"You owe me a lot, you said. So pay me. What I want from you

is a promise, Zen. If I hadn't cut you down, you'd be dead now. Let the trees live too."

He wondered if she would use the needler on him.

He was silent a long moment, weighing his options. Then he said, "All right, Naomi. You saved me, and I can't refuse you what you want. I won't touch the trees. I'll find out if something can be sprayed on them to kill the rust."

"You mean that, Zen?"

"I promise. By all that's holy. Will you give me that needler, now?"

"Here," she cried, tears running down her reddened face. "Here! Take it! Oh God, Zen, how awful all this is!"

He took the weapon from her and holstered it. She seemed to go limp, all resolve spent, once she surrendered it. She stumbled into his arms, and he held her tight, feeling her tremble against him. He trembled too, pulled her close to him, aware of the ripe cones of her young breasts jutting into his chest. A powerful wave of what he recognized bluntly as desire surged through him. Filthy, he thought. He winced as this morning's images danced in his brain, Naomi nude and radiant from her swim, apple-round breasts, firm thighs. My niece. Fifteen. God help me. Comforting her, he ran his hands across her shoulders, down to the small of her back. Her clothes were light;

her body was all too present within them.

He threw her roughly to the ground.

She landed in a heap, rolled over, put her hand to her mouth as he fell upon her. Her screams rose, shrill and piercing, as his body pressed down on her. Her terrified eyes plainly told that she feared he would rape her, but he had other perfidies in mind. Quickly he flung her on her face, catching her right hand and jerking her arm up behind her back. Then he lifted her to a sitting position.

"Stand up," he said. He gave her arm a twist by way of persuasion. She stood up.

"Now walk. Out of the grove, back to the truck. I'll break your arm if I have to."

"What are you doing?" she asked in a barely audible whisper.

"Back to the truck," he said. He levered her arm up another notch. She hissed in pain. But she walked.

At the truck, he maintained his grip on her and reached in to call Leitfried at his info center.

"What was that all about, Zen? We tracked most of it, and—"

"It's too complicated to explain. The girl's very attached to the trees, is all. Send some robots out here to get her right away, okay?"

"You *promised*," Naomi said.

The robots arrived quickly. Steely-fingered, efficient, they kept

Naomi pinioned as they hustled her into a bug and took her to the plantation house. When she was gone, Holbrook sat down for a moment beside the spray truck, to rest and clear his mind. Then he climbed into the truck cab again.

He aimed the fusion gun first at Alcibiades.

It took a little over three hours. When he was finished, Sector C was a field of ashes, and a broad belt of emptiness stretched from the outer limit of the devastation to the nearest grove of healthy trees. He wouldn't know for a while whether he had succeeded in saving the plantation. But he had done his best.

As he rode back to the plantation house, his mind was less on the work of execution he had just done than on the feel of Naomi's body against his own, and on the things he had thought in that moment when he hurled her to the ground. A woman's body, yes. But a child. A child still, in love with her pets. Unable yet to see how in the real world one weighs the need against the bond, and does one's best. What had she learned in Sector C today? That the universe often offers only brutal choices? Or merely that the uncle she worshipped was capable of treachery and murder?

They had given her sedation, but she was awake in her room, and when he came in she drew

the covers up. Her eyes were cold.

"You promised," she said bitterly. "And then you tricked me."

"I had to save the other trees. You'll understand, Naomi."

"I understand that you lied to me, Zen."

"I'm sorry. Forgive me?"

"You can go to hell," she said, and those adult words coming from her not yet adult face were chilling. He could not stay longer with her. He went out, upstairs, to Fred Leitfried in the info center. "It's all over," he said softly.

"You did it like a man, Zen."

"Yeah. Yeah."

In the screen he scanned the sector of ashes. He felt the warmth of Naomi against him. He saw her sullen eyes. Night would come, the moons would do their dance across the sky, the constellations to which he had never grown accustomed would blaze forth. He would talk to her again, maybe. Try to make her understand. And then he would send her away, until she was finished becoming a woman.

"Starting to rain," Leitfried said. "That'll help the ripening along."

"Most likely."

"You feel like a killer, Zen?"

"What do you think?"

"I know. I know."

Holbrook began to shut off the scanners. He had done all he meant to do today. He said quietly, "Fred, they were trees. Only trees. Trees, Fred, *trees*." ◀

129

REAL ESTATE

CALIFORNIA acreage. \$20 down; \$20 monthly.
Lands, Box 35291, Los Angeles, 90035.

STAMPS

500 DIFFERENT STAMPS, \$1.00. Smith, 508-Z
Brooks, College Station, Texas, 77840.

MISCELLANEOUS

Surprise Yourself! Send \$1.00 for Treasure Box
of Gadgets. Satisfaction guaranteed. Arno
Lorshbough, 2103 Fairmount, St. Paul, Minne-
sota 55105.

Amateur Astronomers—Join the Space Patrol.
Contact Capt. Moses, 1203 Woodall Lane, Hunts-
ville, Ala. 35805.

THEY RULED THE EARTH! TRILOBITES were domi-
nant life form eons before Dinosaurs. Pocket-
sized fossil Trilobite plus data: \$2.00. Collins
Lab., Box 5746-S, Santa Monica, California
90405.

FOREIGN EDITIONS of Fantasy and Science Fic-
tion. A few copies of French, Spanish, German,
and Italian editions available at 60¢ each. Also
some British F&SF at 60¢ each. Mercury Press,
Box 271, Rockville Centre, N.Y. 11571.

MOON SHOP PUBLICATIONS. Set of 9 Russian
Moon Charts. Mercator's proj., English Russian
index. Forms a 7-by-5 Ft. wall chart. Incl. is a
copy of U.S. Far-Side chart for comparison and
a U.S. Army index sheet of 5,000 formations. A
fantastic Lunar offer. \$8.00 postpaid. Herbert S.
Ross, Box 117, South Walpole, Mass. 02071,
U.S.A. (Dept. F.S.)

OLD RADIO PROGRAMS on tape. "Inner Sanc-
tum," "Jack Armstrong," "Whistler", etc. Sam-
ple 2-hr. \$6.00, 4-hr. \$9.00 Hundreds more
(Catalog \$1.25 or free with tape order). NOS-
TALGIA, DEPT. SF, 9875 SW 212 St., Miami, Fla.



YOUR MARKET PLACE

A market is people—alert, intelligent, active people.

Here you can reach 180,000 people (averaging three readers per copy—60,000 paid circulation). Many of them are enthusiastic hobbyists—collecting books, magazines, stamps, coins, model rockets, etc.—actively interested in photography, music, astronomy, painting, sculpture, electronics.

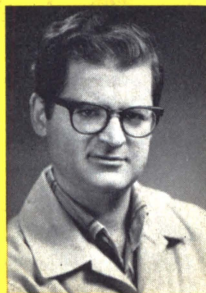
If you have a product or service of merit, tell them about it. The price is right: \$3.00 for a minimum of ten (10) words, plus 30¢ for each additional word. To keep the rate this low, we must request remittance with the order.

Advertising Dept., Fantasy & Science Fiction
347 East 53 St., New York, N. Y. 10022

PEOPLE WITH IMAGINATION READ THE MAGAZINE OF FANTASY AND SCIENCE FICTION

F&SF's readers are both young (84% under 45) and educated (62% have attended college). When they want relaxation or stimulation in reading, they turn to the best works of imagination and to FANTASY AND SCIENCE FICTION. "F&SF regularly supplies the finest the field has to offer in the way of short fiction"—Clifton Fadiman. Compelling fiction, along with informative and stimulating features on Books (Judith Merrill) and Science (Isaac Asimov), have earned F&SF its reputation as tops in the field.

AND WRITERS WITH IMAGINATION APPEAR REGULARLY IN F&SF



Larry Niven is a Californian with an MA in math from UCLA. He started writing science fiction five years ago and has published a novel, *WORLD OF PTAVVS*, and many short stories, including "Becalmed in Hell" (F&SF, July 1965), a runner-up for a Nebula award, and "Neutron Star," winner of last year's Hugo award for best short story. His latest story begins on page 4.