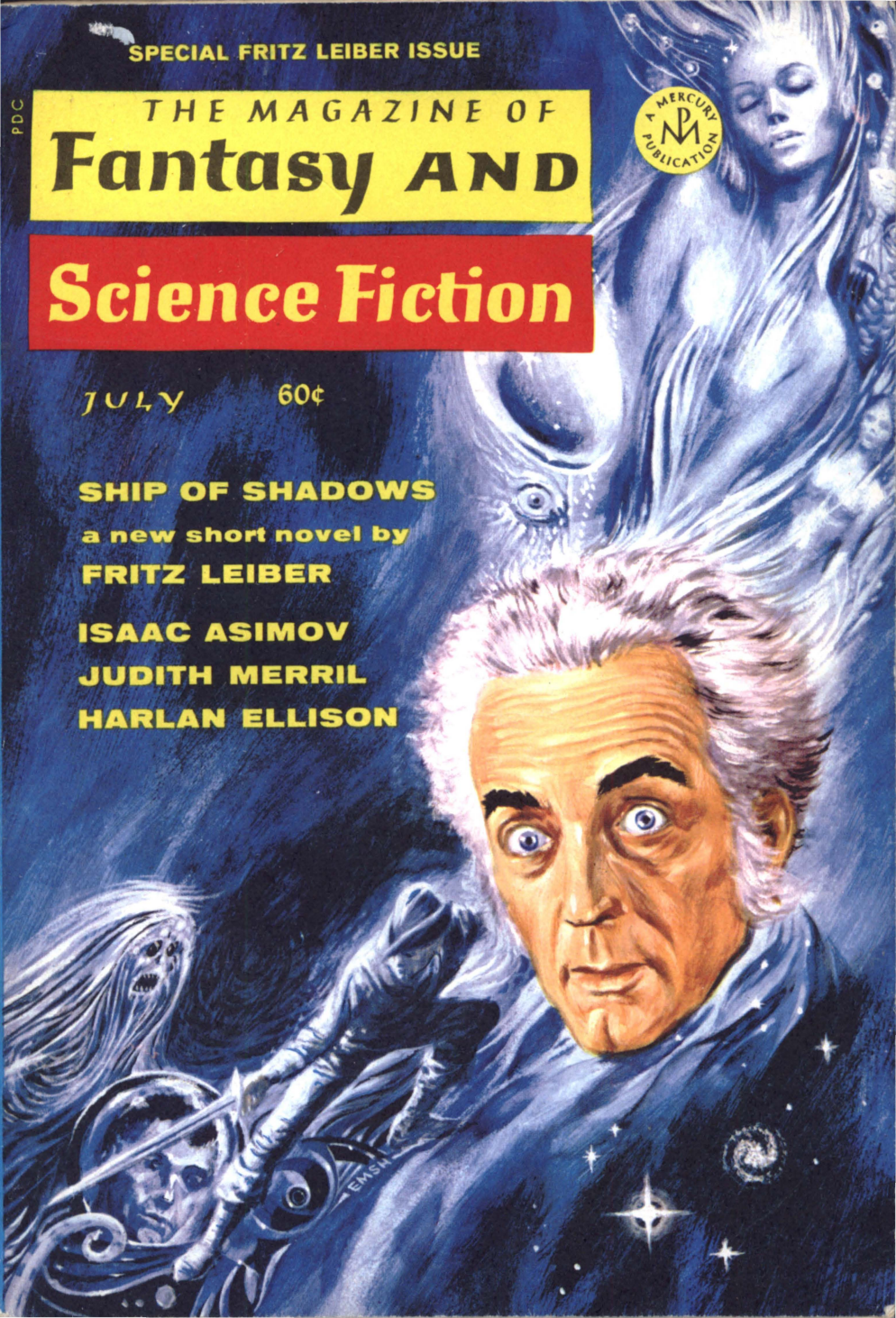
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SHIP OF SHADOWS
a new short novel by
FRITZ LEIBER
ISAAC ASIMOV
JUDITH MERRIL
HARLAN ELLISON
EMSH

Fantasy and Science Fiction

JULY

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This story—written especially for this issue—might be described as supernatural science fiction. (It takes place on a space ship, but one with a witch cat and vampires numbered among its passengers!) Like much of Mr. Leiber's fiction, it does not fit easily into a category, but it is full of the colorful and inventive ideas and richness of style that has long identified his work. In the profile that follows the story, Judith Merril says, "There are good reasons why the sixties should be a time of recognition for Fritz Leiber." We are pleased to be able to offer this special issue as one form of that recognition.

SHIP OF SHADOWS

by Fritz Leiber

"ISSIOT! FFFOOL! LUSHSHSH!" hissed the cat and bit Spar somewhere.

The fourfold sting balanced the gut-wretchedness of his looming hangover, so that Spar's mind floated as free as his body in the blackness of Windrush, in which shone only a couple of running lights dim as churning dream-glow and infinitely distant as the Bridge or the Stern.

The vision came of a ship with all sails set creaming through blue, wind-ruffled sea against a blue sky. The last two nouns were not obscene now. He could hear the whistle of the salty wind through shrouds and stays, its drumming against the taut sails, and the creak of the three masts and all the rest of the ship's wood.

What was wood? From somewhere came the answer: plastic alive-o.

And what force flattened the water and kept it from breaking up into great globules and the ship from spinning away, keel over masts, in the wind?

Instead of being blurred and rounded like reality, the vision was sharp-edged and bright—the sort Spar never told, for fear of

being accused of second sight and so of witchcraft.

Windrush was a ship too, was often called the Ship. But it was a strange sort of ship, in which the sailors lived forever in the shrouds inside cabins of all shapes made of translucent sails welded together.

The only other things the two ships shared were the wind and the unending creaking. As the vision faded, Spar began to hear the winds of Windrush softly moaning through the long passageways, while he felt the creaking in the vibrant shroud to which he was clipped wrist and ankle to keep him from floating around in the Bat Rack.

Sleepday's dreams had begun good, with Spar having Crown's three girls at once. But Sleepday night he had been half-waked by the distant grinding of Hold Three's big chewer. Then werewolves and vampires had attacked him, solid shadows diving in from all six sides, while witches and their familiars tittered in the black shadowy background. Somehow he had been protected by the cat, familiar of a slim witch whose bared teeth had been an ivory blur in the larger silver blur of her wild hair. Spar pressed his rubbery gums together. The cat had been the last of the supernatural creatures to fade. Then had come the beautiful vision of the ship.

His hangover hit him suddenly and mercilessly. Sweat shook off him until he must be surrounded by a cloud of it. Without warning his gut reversed. His free hand found a floating waste tube in time to press its small trumpet to his face. He could hear his acrid vomit gurgling away, urged by a light suction.

His gut reversed again, quick as the flap of a safety hatch when a gale blows up in the corridors. He thrust the waste tube inside the leg of his short, loose slopsuit and caught the dark stuff, almost as watery and quite as explosive as his vomit. Then he had the burning urge to make water.

Afterwards, feeling blessedly weak, Spar curled up in the equally blessed dark and prepared to snooze until Keeper woke him.

"Sssot!" hissed the cat. "Sssleep no more! Sssee! Sssee shshsharply!"

In his left shoulder, through the worn fabric of his slopsuit, Spar could feel four sets of prickles, like the touch of small thorn clusters in the Gardens of Apollo or Diana. He froze.

"Sspar," the cat hissed more softly, quitting to prickle. "I wishsh you all besst. Mosst ashshuredly."

Spar warily reached his right hand across his chest, touched short fur softer than Suzy's, and stroked gingerly.

The cat hissed very softly, almost purring, "Ssturdy Sspar!

Ssee ffar! Ssee fforever! Fforessee! Afftssee!"

Spar felt a surge of irritation at this constant talk of seeing—bad manners in the cat!—followed by an irrational surge of hope about his eyes. He decided that this was no witch cat left over from his dream, but a stray which had wormed its way through a wind tube into the Bat Rack, setting off his dream. There were quite a few animal strays in these days of the witch panic and the depopulation of the Ship, or at least of Hold Three.

Dawn struck the Bow then, for the violet fore-corner of the Bat Rack began to glow. The running lights were drowned in a growing white blaze. Within twenty heartbeats Windrush was bright as it ever would be on Workday or any other morning.

Out along Spar's arm moved the cat, a black blur to his squinting eyes. In teeth Spar could not see, it held a smaller gray blur. Spar touched the latter. It was even shorter furred, but cold.

As if irked, the cat took off from his bare forearm with a strong push of hind legs. It landed expertly on the next shroud, a wavery line of gray that vanished in either direction before reaching a wall.

Spar unclipped himself, curled his toes round his own pencil-thin shroud, and squinted at the cat.

The cat stared back with eyes that were green blurs which almost coalesced in the black blur of its outsize head.

Spar asked, "Your child? Dead?"

The cat loosed its gray burden, which floated beside its head.

"Chchchchild!" All the former scorn and more were back in the sibilant voice. "It izzzz a rat I sssslew her, issssiot!"

Spar's lips puckered in a smile. "I like you, cat. I will call you Kim."

"Kim-shlim!" the cat spat. "I'll call you Lushshsh! Or Sssot!"

The creaking increased, as it always did after dayspring and noon. Shrouds twanged. Walls crackled.

Spar swiftly swiveled his head. Though reality was by its nature a blur, he could unerringly spot movement.

Keeper was slowly floating straight at him. On the round of his russet body was mounted the great, pale round of his face, its bright pink target-center drawing attention from the tiny, wide-set, brown blurs of his eyes. One of his fat arms ended in the bright gleam of pliofilm, the other in the dark gleam of steel. Far beyond him was the dark red aft corner of the Bat Rack, with the great gleaming torus, or doughnut, of the bar midway between.

"Lazy, pampered he-slut," Keeper greeted. "All Sleepday you snored while I stood guard, and

now I bring your morning pouch of moonmist to your sleeping shroud.

"A bad night, Spar," he went on, his voice growing sententious. "Werewolves, vampires, and witches loose in the corridors. But I stood them off, not to mention rats and mice. I heard through the tubes that the vamps got Girlie and Sweetheart, the silly sluts! Vigilance, Spar! Now suck your moonmist and start sweeping. The place stinks."

He stretched out the pliofilm-gleaming hand.

His mind hissing with Kim's contemptuous words, Spar said, "I don't think I'll drink this morning, Keeper. Corn gruel and moonbrew only. No, water."

"What, Spar?" Keeper demanded. "I don't believe I can allow that. We don't want you having convulsions in front of the customers. Earth strangle me!—what's that?"

Spar instantly launched himself at Keeper's steel-gleaming hand. Behind him his shroud twanged. With one hand he twisted a cold, thick barrel. With the other he pried a plump finger from a trigger.

"He's not a witch cat, only a stray," he said as they tumbled over and kept slowly rotating.

"Unhand me, underling!" Keeper blustered. "I'll have you in irons. I'll tell Crown."

"Shooting weapons are as much against the law as knives or needles," Spar countered boldly, though he already was feeling dizzy and sick. "It's you should fear the brig." He recognized beneath the bullying voice the awe Keeper always had of his ability to move swiftly and surely, though half-blind.

They bounced to rest against a swarm of shrouds. "Loose me, I say," Keeper demanded, struggling weakly. "Crown gave me this pistol. And I have a permit for it from the Bridge." The last at least, Spar guessed, was a lie. Keeper continued, "Besides, it's only a line-shooting gun reworked for heavy, elastic ball. Not enough to rupture a wall, yet sufficient to knock out drunks—or knock in the head of a witch cat!"

"Not a witch cat, Keeper," Spar repeated, although he was having to swallow hard to keep from spewing. "Only a well-behaved stray, who has already proved his use to us by killing one of the rats that have been stealing our food. His name is Kim. He'll be a good worker."

The distant blur of Kim lengthened and showed thin blurs of legs and tail, as if he were standing out rampant from his line. "Assset izz I," he boasted. "Ssanitary. Uzze wasste tubes. Sslay ratss, micece! Sspy out witchchess, vampss ffor you!"

"He speaks!" Keeper gasped. "Witchcraft!"

"Crown has a dog who talks," Spar answered with finality. "A talking animal's no proof of anything."

All this while he had kept firm hold of barrel and finger. Now he felt through their grappled bodies a change in Keeper, as though inside his blubber the master of the Bat Rack were transforming from stocky muscle and bone into a very thick, sweet syrup that could conform to and flow around anything.

"Sorry, Spar," he whispered unctuously. "It was a bad night and Kim startled me. He's black like a witch cat. An easy mistake on my part. We'll try him out at catcher. He must earn his keep! Now take your drink."

The pliant double pouch filling Spar's palm felt like the philosopher's stone. He lifted it toward his lips, but at the same time his toes unwittingly found a shroud, and he dove swiftly toward the shining torus, which had a hole big enough to accommodate four barmen at a pinch.

Spar collapsed against the opposite inside of the hole. With a straining of its shrouds, the torus absorbed his impact. He had the pouch to his lips, its cap unscrewed, but had not squeezed. He shut his eyes and with a tiny sob blindly thrust the pouch back into the moonmist cage.

Working chiefly by touch, he took a pouch of corn gruel from the hot closet, snitching at the same time a pouch of coffee and thrusting it into an inside pocket. Then he took a pouch of water, opened it, shoved in five salt tablets, closed it, and shook and squeezed it vigorously.

Keeper, having drifted behind him, said into his ear, "So you drink anyhow. Moonmist not good enough, you make yourself a cocktail. I should dock it from your scrip. But all drunks are liars, or become so."

Unable to ignore the taunt, Spar explained, "No, only salt water to harden my gums."

"Poor Spar, what'll you ever need hard gums for? Planning to share rats with your new friend? Don't let me catch you roasting them in my grill! I should dock you for the salt. To sweeping, Spar!" Then turning his head toward the violet fore-corner and speaking loudly, "And you! Catch mice!"

Kim had already found the small chewer tube and thrust the dead rat into it, gripping tube with foreclaws and pushing rat with aft. At the touch of the rat's cadaver against the solid wrist of the tube, a grinding began there which would continue until the rat was macerated and slowly swallowed away toward the great cloaca which fed the Gardens of Diana.

Three times Spar manfully swished salt water against his

gums and spat into a waste tube, vomiting a little after the first gargle. Then facing away from Keeper as he gently squeezed the pouches, he forced into his throat the coffee—dearer than moonmist, the drink distilled from moonbrew—and some of the corn gruel.

He apologetically offered the rest to Kim, who shook his head. "Jusst had a mousse."

Hastily Spar made his way to the green starboard corner. Outside the hatch he heard some drunks calling with weary and mournful anger, "Unzip!"

Grasping the heads of two long waste tubes, Spar began to sweep the air, working out from the green corner in a spiral, quite like an orb spider building her web.

From the torus, where he was idly polishing its thin titanium, Keeper upped the suction on the two tubes, so that reaction sped Spar in his spiral. He need use his body only to steer course and to avoid shrouds in such a way that his tubes didn't tangle.

Soon Keeper glanced at his wrist and called, "Spar, can't you keep track of the time? Open up!" He threw a ring of keys which Spar caught, though he could see only the last half of their flight. As soon as he was well headed toward the green door, Keeper called again and pointed aft and aloft. Spar obediently unlocked and unzipped the dark and also the blue hatch, though there was no one at either, before opening the green. In each case he avoided the hatch's gummy margin and the sticky emergency hatch hinged close beside.

In tumbled three brewos, old customers, snatching at shrouds and pushing off from each other's bodies in their haste to reach the torus, and meanwhile cursing Spar.

"Sky strangle you!"

"Earth bury you!"

"Seas sear you!"

"Language, boys!" Keeper reproved. "Though I'll agree my helper's stupidity and sloth tempt a man to talk foul."

Spar threw the keys back. The brewos lined up elbow to elbow around the torus, three grayish blobs with heads pointing toward the blue corner.

Keeper faced them. "Below, below!" he ordered indignantly. "You think you're gents?"

"But you're serving no one aloft yet."

"There's only us three."

"No matter," Keeper replied. "Propriety, suckers! Unless you mean to buy by the pouch, invert."

With low grumbles the brewos reversed their bodies so that their heads pointed toward the black corner.

Himself not bothering to invert, Keeper tossed them a slim and twisty faint red blur with

three branches. Each grabbed a branch and stuck it in his face.

The pudge of his fat hand on glint of valve, Keeper said, "Let's see your scrip first."

With angry mumbles each unwadded something too small for Spar to see clearly, and handed it over. Keeper studied each item before feeding it to the cashbox. Then he decreed, "Six seconds of moonbrew. Suck fast," and looked at his wrist and moved the other hand.

One of the brewos seemed to be strangling, but he blew out through his nose and kept sucking bravely.

Keeper closed the valve.

Instantly one brewo splutteringly accused, "You cut us off too soon. That wasn't six."

The treacle back in his voice, Keeper explained, "I'm squirting it to you four and two. Don't want you to drown. Ready again?"

The brewos greedily took their second squirt and then, at times wistfully sucking their tubes for remnant drops, began to shoot the breeze. In his distant circling, Spar's keen ears heard most of it.

"A dirty Sleepday, Keeper."

"No, a good one, brewo—for a drunken sucker to get his blood sucked by a lust-tickling vamp."

"I was dossed safe at Pete's, you fat ghoul."

"Pete's safe? That's news!"

"Dirty Atoms to you! But vamps did get Girlie and Sweetheart. Right in the starboard main drag, if you can believe it. By Cobalt Ninety, Windrush is getting lonely! Third Hold, anyhow. You can swim a whole passageway by day without meeting a soul."

"How do you know that about the girls?" the second brewo demanded. "Maybe they've gone to another hold to change their luck."

"Their luck's run out. Suzy saw them snatched."

"Not Suzy," Keeper corrected, now playing umpire. "But Mable did. A proper fate for drunken sluts."

"You've got no heart, Keeper."

"True enough. That's why the vamps pass me by. But speaking serious, boys, the werethings and witches are running too free in Three. I was awake all Sleepday guarding. I'm sending a complaint to the Bridge."

"You're kidding."

"You wouldn't."

Keeper solemnly nodded his head and crossed his left chest. The brewos were impressed.

Spar spiraled back toward the green corner, sweeping farther from the wall. On his way he overtook the black blob of Kim, who was circling the periphery himself, industriously leaping from shroud to shroud and occasionally making dashes along them.

A fair-skinned, plump shape twice circled by blue—bra and culottes—swam in through the green hatch.

"Morning, Spar," a soft voice greeted. "How's it going?"

"Fair and foul," Spar replied. The golden cloud of blonde hair floating loose touched his face. "I'm quitting moonmist, Suzy."

"Don't be too hard on yourself, Spar. Work a day, loaf a day, play a day, sleep a day—that way it's best."

"I know. Workday, Loafday, Playday, Sleepday. Ten days make a terranth, twelve terranths make a sunth, twelve sunths make a starth, and so on, to the end of time. With corrections, some tell me. I wish I knew what all those names mean."

"You're too serious. You should —Oh, a kitten! How darling!"

"Kitten-shmitten!" the big-headed black blur hissed as it leapt past them. "Izzz cat. IZZZ Kim."

"Kim's our new catcher," Spar explained. "He's serious too."

"Quit wasting time on old Toothless Eyeless, Suzy," Keeper called, "and come all the way in."

As Suzy complied with a sigh, taking the easy route of the ratlines, her soft taper fingers brushed Spar's crumpled cheek. "Dear Spar . . ." she murmured. As her feet passed his face, there was a jingle of her charm-anklet —all gold-washed hearts, Spar knew.

"Hear about Girlie and Sweetheart?" a brewo greeted ghoulishly. "How'd you like your carotid or outside iliac sliced, your—?"

"Shut up, sucker!" Suzy wearily cut him off. "Gimme a drink, Keeper."

"Your tab's long, Suzy. How you going to pay?"

"Don't play games, Keeper, please. Not in the morning, anyhow. You know all the answers, especially to that one. For now, a pouch of moonbrew, dark. And a little quiet."

"Pouches are for ladies, Suzy. I'll serve you aloft, you got to meet your marks, but—"

There was a shrill snarl which swiftly mounted to a scream of rage. Just inside the aft hatch, a pale figure in vermilion culottes and bra—no, wider than that, jacket or short coat—was struggling madly, somersaulting and kicking.

Entering carelessly, likely too swiftly, the slim girl had got parts of herself and her clothes stuck to the hatch's inside margin and the emergency hatch.

Breaking loose by frantic main force while Spar dove toward her and the brewos shouted advice, she streaked toward the torus, jerking at the ratlines, black hair streaming behind her.

Coming up with a *bong* of hip against titanium, she grabbed together her vermilion—yes, clutch coat with one hand and thrust the other across the rocking bar.

Drifting in close behind, Spar heard her say, "Double pouch of

moonmist, Keeper. Make it fast."

"The best of mornings to you, Rixende," Keeper greeted. "I would gladly serve you goldwater, except, well—" The fat arms spread "—Crown doesn't like his girls coming to the Bat Rack by themselves. Last time he gave me strict orders to—"

"What the smoke! It's on Crown's account I came here, to find something he lost. Meanwhile, moonmist. Double!" She pounded on the bar until reaction started her aloft, and she pulled back into place with Spar's unthanked help.

"Softly, softly, lady," Keeper gentled, the tiny brown blurs of his eyes vanishing with his grinning. "What if Crown comes in while you're squeezing?"

"He won't!" Rixende denied vehemently, though glancing past Spar quickly—black blur, blur of pale face, black blur again. "He's got a new girl. I don't mean Phanette or Doucette, but a girl you've never seen. Name of Almodie. He'll be busy with the skinny bitch all morning. And now uncage that double moonmist, you dirty devil!"

"Softly, Rixie. All in good time. What is it Crown lost?"

"A little black bag. About so big." She extended her slender hand, fingers merged. "He lost it here last Playday night, or had it lifted."

"Hear that, Spar?" Keeper said.

"No little black bags," Spar said very quickly. "But you did leave your big orange one here last night, Rixende. I'll get it." He swung inside the torus.

"Oh, damn both bags. Gimme that double!" the black-haired girl demanded frantically. "Earth Mother!"

Even the brewos gasped. Touching hands to the sides of his head, Keeper begged. "No big obscenities, please. They sound worse from a dainty girl, gentle Rixende."

"Earth Mother, I said! Now cut the fancy, Keeper, and give, before I scratch your face off and rummage your cages!"

"Very well, very well. At once, at once. But how will you pay? Crown told me he'd get my license revoked if I ever put you on his tab again. Have you scrip? Or . . . coins?"

"Use your eyes! Or you think this coat's got inside pockets?" She spread it wide, flashing her upper body, then clutched it tight again. "Earth Mother! Earth Mother! Earth Mother!" The brewos babbled scandalized. Suzy snorted mildly in boredom.

With one fat hand-blob Keeper touched Rixende's wrist where a yellow blur circled it closely. "You've got gold," he said in hushed tones, his eyes vanishing again, this time in greed.

"You know damn well they're welded on. My anklets too."

"But these?" His hand went to a golden blur close beside her head.

"Welded too. Crown had my ears pierced."

"But . . ."

"Oh, you atom-dirty devil! I get you, all right. Well, then, *all right!*" The last words ended in a scream more of anger than pain as she grabbed a gold blur and jerked. Blood swiftly blobbed out. She thrust forward her fisted hand. "Now *give!* Gold for a double moonmist."

Keeper breathed hard but said nothing as he scrabbled in the moonmist cage, as if knowing he had gone too far. The brewos were silent too. Suzy sounded completely unimpressed as she said, "*And* my dark." Spar found a fresh dry sponge and expertly caught up the floating scarlet blobs with it before pressing it to Rixende's torn ear.

Keeper studied the heavy gold pendant, which he held close to his face. Rixende milked the double pouch pressed to her lips and her eyes vanished as she sucked blissfully. Spar guided Rixende's free hand to the sponge, and she automatically took over the task of holding it to her ear. Suzy gave a hopeless sigh, then reached her whole plump body across the bar, dipped her hand into a cool cage, and helped herself to a double of dark.

A long, wiry, very dark brown figure in skintight dark violet jumpers mottled with silver arrowed in from the dark red hatch at a speed half again as great as Spar ever dared and without brushing a single shroud by accident or intent. Midway the newcomer did a half somersault as he passed Spar, his long, narrow bare feet hit the titanium next to Rixende. He accordioned up so expertly that the torus hardly swayed.

One very dark brown arm snaked around her. The other plucked the pouch from her mouth, and there was a snap as he spun the cap shut.

A lazy musical voice inquired, "What'd we tell you would happen, baby, if you ever again took a drink on your own?"

The Bat Rack held very still. Keeper was backed against the opposite side of the hole, one hand behind him. Spar had his arm in his lost-and-found nook behind the moonbrew and moonmist cages and kept it there. He felt fear-sweat beading on him. Suzy kept her dark close to her face.

A brewo burst into violent coughing, choked it to a wheezing end, and gasped subserviently, "Excuse me, coroner. Salutations."

Keeper chimed dully, "Morning . . . Crown."

Crown gently pulled the clutch coat off Rixende's far shoulder and began to stroke her. "Why, you're all gooseflesh, honey, and

rigid as a corpse. What frightened you? Smooth down, skin. Ease up, muscles. Relax, Rix, and we'll give you a squirt."

His hand found the sponge, stopped, investigated, found the wet part, then went toward the middle of his face. He sniffed.

"Well, boys, at least we know none of you are vamps," he observed softly. "Else we'd found you sucking at her ear."

Rixende said very rapidly in a monotone, "I didn't come for a drink, I swear to you. I came to get that little bag you lost. Then I was tempted. I didn't know I would be. I tried to resist, but Keeper led me on. I—"

"Shut up," Crown said quietly. "We were just wondering how you paid him. Now we know. How were you planning to buy your third double? Cut off a hand or a foot? Keeper . . . show me your other hand. We said show it. That's right. Now unfist."

Crown plucked the pendant from Keeper's opened hand-blob. His yellow-brown eye-blurs on Keeper all the while, he wagged the precious bauble back and forth, then tossed it slowly aloft.

As the golden blur moved toward the open blue hatch at unchanging pace, Keeper opened and shut his mouth twice, then babbled, "I didn't tempt her, Crown, honest I didn't. I didn't know she was going to hurt her ear. I tried to stop her, but—"

"We're not interested," Crown said. "Put the double on our tab." His face never leaving Keeper's, he extended his arm aloft and pinched the pendant just before it straight-lined out of reach.

"Why's this home of jollity so dead?" Snaking a long leg across the bar as easily as an arm, Crown pinched Spar's ear between his big and smaller toes, pulled him close and turned him round. "How're you coming along with the saline, baby? Gums hardening? Only one way to test it." Gripping Spar's jaw and lip with his other toes, he thrust the big one into Spar's mouth. "Come on, bite me, baby."

Spar bit. It was the only way not to vomit. Crown chuckled. Spar bit hard. Energy flooded his shaking frame. His face grew hot and his forehead throbbed under its drenching of fear-sweat. He was sure he was hurting Crown, but the Coroner of Hold Three only kept up his low, delighted chuckle and when Spar gasped, withdrew his foot.

"My, my, you're getting strong, baby. We almost felt that. Have a drink on us."

Spar ducked his stupidly wide-open mouth away from the thin jet of moonmist. The jet struck him in his eye and stung so that he had to knot his fists and clamp his aching gums together to keep from crying out.

"Why's this place so dead, I ask again? No applause for baby and now baby's gone temperance on us. Can't you give us just one tiny laugh?" Crown faced each in turn. "What's the matter? Cat got your tongues?"

"Cat? We have a cat, a new cat, came just last night, working as catcher," Keeper suddenly babbled. "It can talk a little. Not as well as Hellhound, but it talks. It's very funny. It caught a rat."

"What'd you do with the rat's body, Keeper?"

"Fed it to the chewer. That is, Spar did. Or the cat."

"You mean to tell us that you disposed of a corpse without notifying us? Oh, don't go pale on us, Keeper. That's nothing. Why, we could accuse you of harboring a witch cat. You say he came last night, and that was a wicked night for witches. Now don't go green on us too. We were only putting you on. We were only looking for a small laugh."

"Spar! Call your cat! Make him say something funny."

Before Spar could call, or even decide whether he'd call Kim or not, the black blur appeared on a shroud near Crown, green eye-blurs fixed on the yellow-brown ones.

"So you're the joker, eh? Well . . . joke."

Kim increased in size. Spar realized it was his fur standing on end.

"Go ahead, joke . . . like they tell us you can. Keeper, you wouldn't be kidding us about this cat being able to talk?"

"Spar! Make your cat joke!"

"Don't bother. We believe he's got his own tongue too. That the matter, Blackie?" He reached out his hand. Kim lashed at it and sprang away. Crown only gave another of his low chuckles.

Rixende began to shake uncontrollably. Crown examined her solicitously yet leisurely, using his outstretched hand to turn her head toward him, so that any blood that might have been coming from it from the cat's slash would have gone into the sponge.

"Spar swore the cat could talk," Keeper babbled. "I'll—"

"Quiet," Crown said. He put the pouch to Rixende's lips, squeezed until her shaking subsided and it was empty, then flicked the crumpled pliofilm toward Spar.

"And now about that little black bag, Keeper," Crown said flatly.

"Spar!"

The latter dipped into his lost-and-found nook, saying quickly, "No little black bags, coroner, but we did find this one the lady Rixende forgot last Playday night," and he turned back holding out something big, round, gleamingly orange, and closed with draw strings.

Crown took and swung it slow-

ly in a circle. For Spar, who couldn't see the strings, it was like magic. "Bit too big, and a mite the wrong shade. We're certain we lost the little black bag here, or had it lifted. You making the Bat Rack a tent for dips, Keeper?"

"Spar—?"

"We're asking *you,* Keeper."

Shoving Spar aside, Keeper groped frantically in the nook, pulling aside the cages of moonmist and moonbrew pouches. He produced many small objects. Spar could distinguish the largest —an electric hand-fan and a bright red footglove. They hung around Keeper in a jumble.

Keeper was panting and had scrabbled his hands for a full minute in the nook without bringing out anything more, when Crown said, his voice lazy again, "That's enough. The little black bag was of no importance to us in any case."

Keeper emerged with a face doubly blurred. It must be surrounded by a haze of sweat. He pointed an arm at the orange bag.

"It might be inside that one!"

Crown opened the bag, began to search through it, changed his mind, and gave the whole bag a flick. Its remarkably numerous contents came out and moved slowly aloft at equal speeds, like an army on the march in irregular order. Crown scanned them as they went past.

"No, not there." He pushed the bag toward Keeper. "Return Rix's stuff to it and have it ready for us the next time we dive in—"

Putting his arm around Rixende, so that it was his hand that held the sponge to her ear, he turned and kicked off powerfully for the aft hatch. After he had been out of sight for several seconds, there was a general sigh, the three brewos put out new scrip-wads to pay for another squirt. Suzy asked for a second double dark, which Spar handed her quickly, while Keeper shook off his daze and ordered Spar, "Gather up all the floating trash, especially Rixie's, and get that back in her purse. On the jump, lubber!" Then he used the electric hand-fan to cool and dry himself.

It was a mean task Keeper had set Spar, but Kim came to help, darting after objects too small for Spar to see. Once he had them in his hands, Spar could readily finger or sniff which was which.

When his impotent rage at Crown had faded, Spar's thoughts went back to Sleepday night. Had his vision of vamps and werewolves been dream only?—now that he knew the werethings had been abroad in force. If only he had better eyes to distinguish illusion from reality! Kim's "Sssee! Sssee shshsharply!" hissed in his memory. What would it be like to see sharply? Everything brighter? Or closer?

After a weary time the scattered objects were gathered and he went back to sweeping and Kim to his mouse hunt. As Workday morning progressed, the Bat Rack gradually grew less bright, though so gradually it was hard to tell.

A few more customers came in, but all for quick drinks, which Keeper served them glumly; Suzy judged none of them worth cottoning up to.

As time slowly passed, Keeper grew steadily more fretfully angry, as Spar had known he would after groveling before Crown. He tried to throw out the three brewos, but they produced more crumpled scrip, which closest scrutiny couldn't prove counterfeit. In revenge he short-squirted them and there were arguments. He called Spar off his sweeping to ask him nervously, "That cat of yours—he scratched Crown, didn't he? We'll have to get rid of him; Crown said he might be a witch cat, remember?" Spar made no answer. Keeper set him renewing the glue of the emergency hatches, claiming that Rixende's tearing free from the aft one had shown it must be drying out. He gobbled appetizers and drank moonmist with tomato juice. He sprayed the Bat Rack with some abominable synthetic scent. He started counting the boxed scrip and coins but gave up the job with a slam of self-locking drawer almost before he'd begun. His grimace fixed on Suzy.

"Spar!" he called. "Take over! And over-squirt the brewos on your peril!"

Then he locked the cash box, and giving Suzy a meaningful jerk of his head toward the scarlet starboard hatch, he pulled himself toward it. With an unhappy shrug toward Spar, she wearily followed.

As soon as the pair were gone, Spar gave the brewos an eight-second squirt, waving back their scrip, and placed two small serving cages—of fritos and yeast balls—before them. They grunted their thanks and fell to. The light changed from healthy bright to corpse white. There was a faint, distant roar, followed some seconds later by a brief crescendo of creakings. The new light made Spar uneasy. He served two more suck-and-dives and sold a pouch of moonmist at double purser's prices. He started to eat an appetizer, but just then Kim swam in to show him proudly a mouse. He conquered his nausea, but began to dread the onset of real withdrawal symptoms.

A pot-bellied figure clad in sober black dragged itself along the ratlines from the green hatch. On the aloft side of the bar there appeared a visage in which the blur of white hair and beard almost hid leather-brown flesh, though accentuating the blurs of gray eyes.

"Doc!" Spar greeted, his misery and unease gone, and instantly handed out a chill pouch of three-star moonbrew. Yet all he could think to say in his excitement was the banal, "A bad Sleepday night, eh, Doc? Vamps and—"

"—And other doltish superstitions, which wax every sunth, but never wane," an amiable, cynical old voice cut in. "Yet, I suppose I shouldn't rob you of your illusions, Spar, even the terrifying ones. You've little enough to live by, as it is. And there *is* viciousness astir in Windrush. Ah, that smacks good against my tonsils."

Then Spar remembered the important thing. Reaching deep inside his slopsuit, he brought out, in such a way as to hide it from the brewos below, a small flat narrow black bag.

"Here, Doc," he whispered, "you lost it last Playday. I kept it safe for you."

"Dammit, I'd lose my jumpers, if I ever took them off," Doc commented, hushing his voice when Spar put finger to lips. "I suppose I started mixing moonmist with my moonbrew—again?"

"You did, Doc. But you didn't lose your bag. Crown or one of his girls lifted it, or snagged it when it sat loose beside you. And then I . . . I, Doc, lifted it from Crown's hip pocket. Yes, and kept that secret when Rixende and Crown came in demanding it this morning."

"Spar, my boy, I am deeply in your debt," Doc said. "More than you can know. Another three-star, please. Ah, nectar. Spar, ask any reward of me, and if it lies merely within the realm of the first transfinite infinity, I will grant it."

To his own surprise, Spar began to shake—with excitement. Pulling himself forward halfway across the bar, he whispered hoarsely, "Give me good eyes, Doc!" adding impulsively, "and teeth!"

After what seemed a long while, Doc said in a dreamy, sorrowful voice, "In the Old Days, that would have been easy. They'd perfected eye transplants. They could regenerate cranial nerves, and sometimes restore scanning power to an injured cerebrum. While transplanting tooth buds from a stillborn was intern's play. But now . . . Oh, I might be able to do what you ask in an uncomfortable, antique, inorganic fashion, but . . ." He broke off on a note that spoke of the misery of life and the uselessness of all effort.

"The Old Days," one brewo said from the corner of his mouth to the brewo next to him. "Witch talk!'

"Witch-smitch!" the second brewo replied in like fashion. "The flesh mechanic's only senile. He dreams all four days, not just Sleepday."

The third brewo whistled

against the evil eye a tune like the wind.

Spar tugged at the long-armed sleeve of Doc's black jumper. "Doc, you promised. I want to see sharp, bite sharp!"

Doc laid his shrunken hand commiseratingly on Spar's forearm. "Spar," he said softly, "seeing sharply would only make you very unhappy. Believe me, I *know*. Life's easier to bear when things are blurred, just as it's best when thoughts are blurred by brew or mist. And while there are people in Windrush who yearn to bite sharply, you are not their kind. Another three-star, if you please."

"I quit moonmist this morning, Doc," Spar said somewhat proudly as he handed over the fresh pouch.

Doc answered with sad smile, "Many quit moonmist every Workday morning and change their minds when Playday comes around."

"Not me, Doc! Besides," Spar argued, "Keeper and Crown and his girls and even Suzy all see sharply, and they aren't unhappy."

"I'll tell you a secret, Spar," Doc replied. "Keeper and Crown and the girls are all zombies. Yes, even Crown with his cunning and power. To them Windrush is the universe."

"It isn't, Doc?"

Ignoring the interruption, Doc continued, "But you wouldn't be like that, Spar. You'd want to know more. And that would make you far unhappier than you are."

"I don't care, Doc," Spar said. He repeated accusingly, "You promised."

The gray blurs of Doc's eyes almost vanished as he frowned in thought. Then he said, "How would this be, Spar? I know moonmist brings pains and sufferings as well as easings and joys. But suppose that every Workday morning and Loafday noon I should bring you a tiny pill that would give you all the good effects of moonmist and none of the bad. I've one in this bag. Try it now and see. And every Playday night I would bring you without fail another sort of pill that would make you sleep soundly with never a nightmare. Much better than eyes and teeth. Think it over."

As Spar considered that, Kim drifted up. He eyed Doc with his close-set green blurs. "Resspectfful greetingss, ssir," he hissed. "Name izz Kim."

Doc answered, "The same to you, sir. May mice be ever abundant." He softly stroked the cat, beginning with Kim's chin and chest. The dreaminess returned to his voice. "In the Old Days, all cats talked, not just a few sports. The entire feline tribe. And many dogs, too—pardon me, Kim. While as for dolphins and whales and apes . . ."

Spar said eagerly, "Answer me one question, Doc. If your pills give happiness without hangover, why do you always drink moonbrew yourself and sometimes spike it with moonmist?"

"Because for me—" Doc began and then broke off with a grin. "You've trapped me, Spar. I never thought you used your mind. Very well, on your own mind be it. Come to my office this Loafday—you know the way? Good!—and we'll see what we can do about your eyes and teeth. And now a double pouch for the corridor."

He paid in bright coins, thrust the big squnchy three-star in a big pocket, said, "See you, Spar. So long, Kim," and tugged himself toward the green hatch, zigzagging.

"Ffarewell, ssir," Kim hissed after him.

Spar held out the small black bag. "You forgot it again, Doc."

As Doc returned with a weary curse and pocketed it, the scarlet hatch unzipped and Keeper swam out. He looked in a good humor now and whistled the tune of "I'll Marry the Man on the Bridge" as he began to study certain rounds on scrip-till and moonbrew valves, but when Doc was gone he asked Spar suspiciously, "What was that you handed the old geezer?"

"His purse," Spar replied easily. "He just forgot it now." He shook his loosely fisted hand and it chinked. "Doc paid in coins, Keeper." Keeper took them eagerly. "Back to sweeping, Spar."

As Spar dove toward the scarlet hatch to take up larboard tubes, Suzy emerged and passed him with face averted. She sidled up to the bar and unsmilingly snatched the pouch of moonmist Keeper offered her with mock courtliness.

Spar felt a brief rage on her behalf, but it was hard for him to keep his mind on anything but his coming appointment with Doc. When Workday night fell swiftly as a hurled knife, he was hardly aware of it and felt none of his customary unease. Keeper turned on full all of the lights in the Bat Rack. They shone brightly while beyond the translucent walls there was a milky churning.

Business picked up a little. Suzy made off with the first likely mark. Keeper called Spar to take over the torus, while he himself got a much-erased sheet of paper and holding it to a clipboard held against his bent knees, wrote on it laboriously, as if he were thinking out each word, perhaps each letter, often wetting his pencil in his mouth. He became so absorbed in his difficult task that without realizing he drifted off toward the black below hatch, rotating over and over. The paper got dirtier and dirtier with his scrawlings and smudgings, new erasures, saliva and sweat.

The short night passed more

swiftly than Spar dared hope, so that the sudden glare of Loafday dawn startled him. Most of the customers made off to take their siestas.

Spar wondered what excuse to give Keeper for leaving the Bat Rack, but the problem was solved for him. Keeper folded the grimy sheet, and sealed it with hot tape. "Take this to the Bridge, loafer, to the Exec. Wait." He took the repacked, orange bag from its nook and pulled on the cords to make sure they were drawn tight. "On your way deliver this at Crown's Hole. With all courtesy and subservience, Spar! Now, on the jump!"

Spar slid the sealed message into his only pocket with working zipper and drew that tight. Then he dove slowly toward the aft hatch, where he almost collided with Kim. Recalling Keeper's talk of getting rid of the cat, he caught hold of him around the slim furry chest under the forelegs and gently thrust him inside his slopsuit, whispering, "You'll take a trip with me, little Kim." The cat set his claws in the thin material and steadied himself.

For Spar, the corridor was a narrow cylinder ending in mist either way and decorated by lengthwise blurs of green and red. He guided himself chiefly by touch and memory, this time remembering that he must pull himself against the light wind hand-over-hand along the centerline. After curving past the larger cylinders of the fore-and-aft gangways, the corridor straightened. Twice he worked his way around centrally slung fans whirring so softly that he recognized them chiefly by the increase in breeze before passing them and the slight suction after.

Soon he began to smell soil and green stuff growing. With a shiver he passed a black round that was the elastic-curtained door to Hold Three's big chewer. He met no one—odd even for Loafday. Finally he saw the green of the Gardens of Apollo and beyond it a huge black screen, in which hovered toward the aft side a small, smoky-orange circle that always filled Spar with inexplicable sadness and fear. He wondered in how many black screens that doleful circle was portrayed, especially in the starboard end of Windrush. He had seen it in several.

So close to the gardens that he could make out wavering green shoots and the silhouette of a floating farmer, the corridor right-angled below. Two dozen pulls along the line and he floated by an open hatch, which both memory for distance and the strong scent of musky, mixed perfumes told him was the entry to Crown's Hole. Peering in, he could see the intermelting black and silver spirals of the decor of the great globular room. Directly opposite

the hatch was another large black screen with the red-mottled dun disk placed similarly off center.

From under Spar's chin, Kim hissed very softly, but urgently, "Sstop! Ssilencce, on your liffe!" The cat had poked his head out of the slopsuit's neck. His ears tickled Spar's throat. Spar was getting used to Kim's melodrama, and in any case the warning was hardly needed. He had just seen the half-dozen floating naked bodies and would have held still if only from embarrassment. Not that Spar could see genitals any more than ears at the distance. But he could see that save for hair, each body was of one texture: one very dark brown and the other five—or was it four? no, five—fair. He didn't recognize the two with platinum and golden hair, who also happened to be the two palest. He wondered which was Crown's new girl, name of Almodie. He was relieved that none of the bodies were touching.

There was the glint of metal by the golden-haired girl, and he could just discern the red blur of a slender, five-forked tube which went from the metal to the five other faces. It seemed strange that even with a girl to play bartender, Crown should have moonbrew served in such plebeian fashion in his palatial Hole. Of course the tube might carry moonwine, or even moonmist.

Or was Crown planning to open a rival bar to the Bat Rack? A poor time, these days, and a worse location, he mused as he tried to think of what to do with the orange bag.

"Sslink offf!" Kim urged still more softly.

Spar's fingers found a snap-ring by the hatch. With the faintest of clicks he secured it around the draw-cords of the pouch and then pulled back the way he had come.

But faint as the click had been, there was a response from Crown's Hole—a very deep, long growl.

Spar pulled faster at the centerline. As he rounded the corner leading inboard, he looked back.

Jutting out from Crown's hatch was a big, prick-eared head narrower than a man's and darker even than Crown's.

The growl was repeated.

It was ridiculous he should be so frightened of Hellhound, Spar told himself as he jerked himself and his passenger along. Why, Crown sometimes even brought the big dog to the Bat Rack.

Perhaps it was that Hellhound never growled in the Bat Rack, only talked in a hundred or so monosyllables.

Besides, the dog couldn't pull himself along the centerline at any speed. He lacked sharp claws. Though he might be able to bound forward, caroming from

one side of the corridor to another.

This time the center-slit black curtains of the big chewer made Spar veer violently. He was a fine one—going to get new eyes today and frightened as a child!

"Why did you try to scare me back there, Kim?" he asked angrily.

"I ssaw shsheer evil, isssiot!"

"You saw five folk sucking moonbrew. And a harmless dog. This time you're the fool, Kim, you're the idiot!"

Kim shut up, drawing in his head, and refused to say another word. Spar remembered about the vanity and touchiness of all cats. But by now he had other worries. What if the orange bag were stolen by a passerby before Crown noticed it? And if Crown did find it, wouldn't he know Spar, forever Keeper's errandboy, had been peeping? That all this should happen on the most important day of his life! His verbal victory over Kim was small consolation.

Also, although the platinum-haired girl had interested him most of the two strange ones, something began to bother him about the girl who'd been playing bartender, the one with golden hair like Suzy's, but much slimmer and paler—he had the feeling he'd seen her before. And something about her had frightened him.

When he reached the central gangways, he was tempted to go to Doc's office before the Bridge. But he wanted to be able to relax at Doc's and take as much time as needed, knowing all errands were done.

Reluctantly he entered the windy violet gangway and dove at a fore angle for the first empty space on the central gang-line, so that his palms were only burned a little before he had firm hold of it and was being sped fore at about the same speed as the wind. Keeper was a miser, not to buy him handgloves, let alone footgloves!—but he had to pay sharp attention to passing the shroud-slung roller bearings that kept the thick, moving line centered in the big corridor. It was an easy trick to catch hold of the line ahead of the bearing and then get one's other hand out of the way, but it demanded watchfulness.

There were few figures traveling on the line and fewer still being blown along the corridor. He overtook a doubled up one tumbling over and over and crying out in an old cracked voice, "Jacob's Ladder, Tree of Life, Marriage Lines . . ."

He passed the squeeze in the gangway marking the division between the Third and Second Holds without being stopped by the guard there and then he almost missed the big blue corridor leading aloft. Again he slightly burned his palms making the transfer from one moving gang-

line to another. His fretfulness increased.

"Sspar, you isssiot—!" Kim began.

"Ssh!—we're in officers' territory," Spar cut him off, glad to have that excuse for once more putting down the impudent cat. And true enough, the blue spaces of Windrush always did fill him with awe and dread.

Almost too soon to suit him, he found himself swinging from the gang-line to a stationary monkey jungle of tubular metal just below the deck of the Bridge. He worked his way to the aloft-most bars and floated there, waiting to be spoken to.

Much metal, in many strange shapes, gleamed in the Bridge, and there were irregularly pulsing rainbow surfaces, the closest of which sometimes seemed ranks and files of tiny lights going on and off—red, green, all colors. Aloft of everything was an endless velvet-black expanse very faintly blotched by churning, milky glintings.

Among the metal objects and the rainbows floated figures all clad in the midnight blue of officers. They sometimes gestured to each other, but never spoke a word. To Spar, each of their movements was freighted with profound significance. These were the gods of Windrush, who guided everything, if there were gods at all. He felt reduced in importance to a mouse, which would be chased off chittering if it once broke silence.

After a particularly tense flurry of gestures, there came a brief distant roar and a familiar creaking and crackling. Spar was amazed, yet at the same time realized he should have known that the Captain, the Navigator, and the rest were responsible for the familiar diurnal phenomena.

It also marked Loafday noon. Spar began to fret. His errands were taking too long. He began to lift his hand tentatively toward each passing figure in midnight blue. None took the least note of him.

Finally he whispered, "Kim—?"

The cat did not reply. He could hear a purring that might be a snore. He gently shook the cat. "Kim, let's talk."

"Shshut offf! I ssleep! Ssh!" Kim resettled himself and his claws and recommenced his purring snore—whether natural or feigned, Spar could not tell. He felt very despondent.

The lunths crept by. He grew desperate and weary. He must not miss his appointment with Doc! He was nerving himself to move farther aloft and speak, when a pleasant, young voice said, "Hello, grandpa, what's on your mind?"

Spar realized that he had been raising his hand automatically and that a person as dark-skinned as

Crown, but clad in midnight blue, had at last taken notice. He unzipped the note and handed it over. "For the Exec."

"That's my department." A trilled crackle—fingernail slitting the note? A larger crackle—note being opened. A brief wait. Then, "Who's Keeper?"

"Owner of the Bat Rack, sir. I work there."

"Bat Rack?"

"A moonbrew mansion. Once called the Happy Torus, I've been told. In the Old Days, Wine Mess Three, Doc told me."

"Hmm. Well, what's all this mean, gramps? And what's your name?"

Spar stared miserably at the dark-mottled gray square. "I can't read, sir. Name's Spar."

"Hmm. Seen any . . . er . . . supernatural beings in the Bat Rack?"

"Only in my dreams, sir."

"Mmm. Well, we'll have a look in. If you recognize me, don't let on. I'm Ensign Drake, by the way. Who's your passenger, grandpa?"

"Only my cat, Ensign," Spar breathed in alarm.

"Well, take the black shaft down." Spar began to move across the monkey jungle in the direction pointed out by the blue arm-blur.

"And next time remember animals aren't allowed on the Bridge."

As Spar traveled below, his warm relief that Ensign Drake had seemed quite human and compassionate was mixed with anxiety as to whether he still had time to visit Doc. He almost missed the shift to the gang-line grinding aft in the dark red main-drag. The corpse-light brightening into the false dawn of late afternoon bothered him. Once more he passed the tumbling bent figure, this time croaking, "Trinity, Trellis, Wheat Ear . . ."

He was fighting down the urge to give up his visit to Doc and pull home to the Bat Rack, when he noticed he had passed the second squeeze and was in Hold Four with the passageway to Doc's coming up. He dove off, checked himself on a shroud and began the hand-drag to Doc's office, as far larboard as Crown's Hole was starboard.

He passed two figures clumsy on the line, their breaths malty in anticipation of Playday. Spar worried that Doc might have closed his office. He smelled soil and greenery again, from the Gardens of Diana.

The hatch was shut, but when Spar pressed the bulb, it unzipped after three honks, and the white-haloed gray-eyed face peered out.

"I'd just about given up on you, Spar."

"I'm sorry, Doc. I had to—"

"No matter. Come in, come in. Hello, Kim—take a look around if you want."

Kim crawled out, pushed off from Spar's chest, and soon was

engaged in a typical cat's tour of inspection.

And there was a great deal to inspect, as even Spar could see. Every shroud in Doc's office seemed to have objects clipped along its entire length. There were blobs large and small, gleaming and dull, light and dark, translucent and solid. They were silhouetted against a wall of the corpse-light Spar feared, but had no time to think of now. At one end was a band of even brighter light.

"Careful, Kim!" Spar called to the cat as he landed against a shroud and began to paw his way from blob to blob.

"He's all right," Doc said. "Let's have a look at you, Spar. Keep your eyes open."

Doc's hands held Spar's head. The gray eyes and leathery face came so close they were one blur.

"Keep them open, I said. Yes, I know you have to blink them, that's all right. Just as I thought. The lenses are dissolved. You've suffered the side-effect which one in ten do who are infected with the Lethean rickettsia."

"Styx ricks, Doc?"

"That's right, though the mob's got hold of the wrong river in the Underworld. But we've all had it. We've all drunk the water of Lethe. Though sometimes when we grow very old we begin to remember the beginning. Don't squirm."

"Hey, Doc, is it because I've had the Styx ricks I can't remember anything back before the Bat Rack?"

"It could be. How long have you been at the Rack?"

"I don't know, Doc. Forever."

"Before I found the place, anyhow. When the Rumdum closed here in Four. But that's only a starth ago."

"But I'm awful old, Doc. Why don't I start remembering?"

"You're not old, Spar. You're just bald and toothless and etched by moonmist and your muscles have shriveled. Yes, and your mind has shriveled too. Now open your mouth."

One of Doc's hands went to the back of Spar's neck. The other probed. "Your gums are tough, anyhow. That'll make it easier."

Spar wanted to tell about the salt water, but when Doc finally took his hand out of Spar's mouth, it was to say, "Now open wide as you can."

Doc pushed into his mouth something big as a handbag and hot. "Now bite down hard."

Spar felt as if he had bitten fire. He tried to open his mouth, but hands on his head and jaw held it closed. Involuntarily he kicked and clawed air. His eyes filled with tears.

"Stop writhing! Breathe through your nose. It's not that hot. Not hot enough to blister, anyhow."

Spar doubted that, but after

a bit decided it wasn't quite hot enough to bake his brain through the roof of his mouth. Besides, he didn't want to show Doc his cowardice. He held still. He blinked several times and the general blur became the blurs of Doc's face and the cluttered room silhouetted by the corpse-glare. He tried to smile, but his lips were already stretched wider than their muscles could ever have done. That hurt too; he realized now that the heat was abating a little.

Doc was grinning for him. "Well, you would ask an old drunkard to use techniques he'd only read about. To make it up to you, I'll give you teeth sharp enough to sever shrouds. Kim, please get away from that bag."

The black blur of the cat was pushing off from a black blur twice his length. Spar mumbled disapprovingly at Kim through his nose and made motions. The larger blur was shaped like Doc's little bag, but bigger than a hundred of them. It must be massive too, for in reaction to Kim's push it had bent the shroud to which it was attached and—the point—the shroud was very slow in straightening.

"That bag contains my treasure, Spar," Doc explained, and when Spar lifted his eyebrows twice to signal another question, went on, "No, not coin and gold and jewels, but a second transfinite infinitude—sleep and dreams and nightmares for every soul in a thousand Windrushes." He glanced at his wrist. "Time enough now. Open your mouth." Spar obeyed, though it cost him new pain.

Doc withdrew what Spar had bitten on, wrapped it in gleam, and clipped it to the nearest shroud. Then he looked in Spar's mouth again.

"I guess I did make it a bit too hot," he said. He found a small pouch, set it to Spar's lips, and squeezed it. A mist filled Spar's mouth and all pain vanished.

Doc tucked the pouch in Spar's pocket. "If the pain returns, use it again."

But before Spar could thank Doc, the latter had pressed a tube to his eye. "Look, Spar, what do you see?"

Spar cried out, he couldn't help it, and jerked his eye away.

"What's wrong, Spar?"

"Doc, you gave me a dream," Spar said hoarsely. "You won't tell anyone, will you? And it tickled."

"What was the dream like?" Doc asked eagerly.

"Just a picture, Doc. The picture of a goat with the tail of a fish. Doc, I saw the fish's . . ." His minded groped, ". . . scales! Everything had . . . edges! Doc, is *that* what they mean when they talk about seeing sharply?"

"Of course, Spar. This is good. It means there's no cerebral or retinal damage. I'll have no trouble making up field glasses—that is,

if there's nothing seriously wrong with my antique pair. So you still see things sharp-edged in dreams —that's natural enough. But why were you afraid of me telling?"

"Afraid of being accused of witchcraft, Doc. I thought seeing things like that was clairvoyance. The tube tickled my eye a little."

"Isotopes and insanity! It's supposed to tickle. Let's try the other eye."

Again Spar wanted to cry out, but he restrained himself, and this time he had no impulse to jerk his eye away, although there was again the faint tickling. The picture was that of a slim girl. He could tell she was female because of her general shape. But he could see her edges. He could see . . . details. For instances, her eyes weren't mist-bounded colored ovals. They had points at both ends, which were china-white . . . triangles. And the pale violet round between the triangles had a tiny black round at its center.

She had silvery hair, yet she looked young, he thought, though it was hard to judge such matters when you could see edges. She made him think of the platinum-haired girl he'd glimpsed in Crown's Hole.

She wore a long, gleaming white dress, which left her shoulders bare, but either art or some unknown force had drawn her hair and her dress toward her feet. In her dress it made . . . folds.

"What's her name, Doc? Almodie?"

"No. Virgo. The Virgin. You can see her edges?"

"Yes, Doc. Sharp. I get it!— like a knife. And the goat-fish?"

"Capricorn," Doc answered, removing the tube from Spar's eye.

"Doc, I know Capricorn and Virgo are the names of lunths, terranths, sunths, and starths, but I never knew they had pictures. I never knew they *were* anything."

"You— Of course, you've never seen watches, or stars, let alone the constellations of the zodiac."

Spar was about to ask what all *those* were, but then he saw that the corpse-light was all gone, although the ribbon of brighter light had grown very wide.

"At least in this stretch of your memory," Doc added. "I should have your new eyes and teeth ready next Loafday. Come earlier if you can manage. I may see you before that at the Bat Rack, Playday Night or earlier."

"Great, Doc, but now I've got to haul. Come on, Kim! Sometimes business heavies up Loafday night, Doc, like it was Playday night come at the wrong end. Jump in, Kim."

"Sure you can make it back to the Bat Rack all right, Spar? It'll be dark before you get there."

"Course I can, Doc."

But when night fell, like a heavy hood jerked down over his

head, halfway down the first passageway, he would have gone back to ask Doc to guide him, except he feared Kim's contempt, even though the cat still wasn't talking. He pulled ahead rapidly, though the few running lights hardly let him see the centerline.

The fore gangway was even worse—completely empty and its lights dim and flickering. Seeing by blurs bothered him now that he knew what seeing sharp was like. He was beginning to sweat and shake and cramp from his withdrawal from alcohol and his thoughts were a tumult. He wondered if *any* of the weird things that had happened since meeting Kim were real or dream. Kim's refusal—or inability?—to talk any more was disquieting. He began seeing the misty rims of blurs that vanished when he looked straight toward them. He remembered Keeper and the brewos talking about vamps and witches.

Then instead of waiting for the Bat Rack's green hatch, he dove off into the passageway leading to the aft one. This passageway had no lights at all. Out of it he thought he could hear Hellhound growling, but couldn't be sure because the big chewer was grinding. He was scrabbling with panic when he entered the Bat Rack through the dark red hatch, remembering barely in time to avoid the new glue.

The place was jumping with light and excitement and dancing figures, and Keeper at once began to shout abuse at him. He dove into the torus and began taking orders and serving automatically, working entirely by touch and voice, because withdrawal now had his vision swimming—a spinning blur of blurs.

After a while that got better, but his nerves got worse. Only the unceasing work kept him going—and shut out Keeper's abuse—but he was getting too tired to work at all. As Playday dawned, with the crowd around the torus getting thicker all the while, he snatched a pouch of moonmist and set it to his lips.

Claws dug his chest. "Isssiot! Sssot! Ssslave of fffear!"

Spar almost went into convulsions, but put back the moonmist. Kim came out of the slopsuit and pushed off contemptuously, circled the bar and talked to various of the drinkers, soon became a conversation piece. Keeper started to boast about him and quit serving. Spar worked on and on and on through sobriety more nightmarish than any drunk he could recall. And far, far longer.

Suzy came in with a mark and touched Spar's hand when he served her dark to her. It helped.

He thought he recognized a voice from below. It came from a kinky-haired, slopsuited brewo he didn't know. But then he heard the man again and thought he

was Ensign Drake. There were several brewos he didn't recognize.

The place started really jumping. Keeper upped the music. Singly or in pairs, somersaulting dancers bounded back and forth between shrouds. Others toed a shroud and shimmied. A girl in black did splits on one. A girl in white dove through the torus. Keeper put it on her boyfriend's check. Brewos tried to sing.

Spar heard Kim recite:

"Izz a cat.
Killzz a rat.
Greetss each guy,
Thin or ffat.
Saay dolls, hi!"

Playday night fell. The pace got hotter. Doc didn't come. But Crown did. Dancers parted and a whole section of drinkers made way aloft for him and his girls and Hellhound, so that they had a third of the torus to themselves, with no one below in that third either. To Spar's surprise they all took coffee except the dog, who when asked by Crown, responded, "Bloody Mary," drawing out the words in such deep tones that they were little more than a low "Bluh-Muh" growl.

"Iss that sspeech, I assk you?" Kim commented from the other side of the torus. Drunks around him choked down chuckles.

Spar served the pouched coffee piping hot with felt holders and mixed Hellhound's drink in a self-squeezing syringe with sipping tube. He was very groggy and for the moment more afraid for Kim than himself. The face blurs tended to swim, but he could distinguish Rixende by her black hair, Phanette and Doucette by their matching red-blonde hair and oddly red-mottled fair skins, while Almodie *was* the platinum-haired pale one, yet she looked horribly right between the dark brown, purple-vested blur to one side of her and the blacked, narrower, prick-eared silhouette to the other.

Spar heard Crown whisper to her, "Ask Keeper to show you the talking cat." The whisper was very low and Spar wouldn't have heard it except that Crown's voice had a strange excited vibrancy Spar had never known in it before.

"But won't they fight then?—I mean Hellhound," she answered in a voice that sent silvery tendrils around Spar's heart. He yearned to see her face through Doc's tube. She would look like Virgo, only more beautiful. Yet, Crown's girl, she could be no virgin. It was a strange and horrible world. Her eyes *were* violet. But he was sick of blurs. Almodie sounded very frightened, yet she continued, "Please don't, Crown." Spar's heart was captured.

"But that's the whole idea, baby. And nobody dont's us. We thought we'd schooled you to that. We'd teach you another lesson here, except tonight we smell high

fuzz—lots of it, Keeper!—our new lady wishes to hear your cat talk. Bring it over."

"I really don't . . ." Almodie began and went no further.

Kim came floating across the torus while Keeper was shouting in the opposite direction. The cat checked himself against a slender shroud and looked straight at Crown. "Yesss?"

"Keeper, shut that junk off." The music died abruptly. Voices rose, then died abruptly too. "Well, cat, talk."

"Shshall ssing insstead," Kim announced and began an eerie caterwauling that had a pattern but was not Spar's idea of music.

"It's an abstraction," Almodie breathed delightedly. "Listen, Crown, that was a diminished seventh."

"A demented third, I'd say," Phanette commented from the other side.

Crown signed them to be quiet.

Kim finished with a high trill. He slowly looked around at his baffled audience and then began to groom his shoulder.

Crown gripped a ridge of the torus with his left hand and said evenly, "Since you will not talk to us, will you talk to our dog?"

Kim stared at Hellhound sucking his Bloody Mary. His eyes widened, their pupils slitted, his lips writhed back from needle-like fangs.

He hissed, "Schschweinhund!"

Hellhound launched himself, hind paws against the palm of Crown's left hand, which threw him forward toward the left, where Kim was dodging. But the cat switched directions, rebounding hindwards from the next shroud. The dog's white-jagged jaws snapped sideways a foot from their mark as his great-chested black body hurtled past.

Hellhound landed with four paws in the middle of a fat drunk, who puffed out his wind barely before his swallow, but the dog took off instantly on reverse course. Kim bounced back and forth between shrouds. This time hair flew when jaws snapped, but also a rigidly spread paw slashed.

Crown grabbed Hellhound by his studded collar, restraining him from another dive. He touched the dog below the eye and smelled his fingers. "That'll be enough, boy," he said. "Can't go around killing musical geniuses." His hand dropped from his nose to below the torus and came up loosely fisted. "Well, cat, you've talked with our dog. Have you a word for us?"

"Yesss!" Kim drifted to the shroud nearest Crown's face. Spar pushed off to grab him back, while Almodie gazed at Crown's fist and edged a hand toward it.

Kim loudly hissed, "Hellzzz ssspawn! Fffiend!"

Both Spar and Almodie were

too late. From between two of Crown's fisted fingers a needle-stream jetted and struck Kim in the open mouth.

After what seemed to Spar a long time, his hand interrupted the stream. Its back burned acutely.

Kim seemed to collapse into himself, then launched himself away from Crown, toward the dark, open-jawed.

Crown said, "That's mace, an antique weapon like Greek fire, but well-known to our folk. The perfect answer to a witch cat."

Spar sprang at Crown, grappled his chest, tried to butt his jaw. They moved away from the torus at half the speed with which Spar had sprung.

Crown got his head aside. Spar closed his gums on Crown's throat. There was a *snick*. Spar felt wind on his bare back. Then a cold triangle pressed his flesh over his kidneys. Spar opened his jaws and floated limp. Crown chuckled.

A blue fuzz-glare, held by a brewo, made everyone in the Bat Rack look more corpse-like than larboard light. A voice commanded, "Okay, folks, break it up. Go home. We're closing the place."

Sleepday dawned, drowning the fuzz-glare. The cold triangle left Spar's back. There was another *snick*. Saying, "Bye-bye, baby," Crown pushed off through the white glare toward four women's faces and one dog's. Phanette's and Doucette's faintly red-mottled ones were close beside Hellhound's, as if they might be holding his collar.

Spar sobbed and began to hunt for Kim. After a while Suzy came to help him. The Bat Rack emptied. Spar and Suzy cornered Kim. Spar grasped the cat around the chest. Kim's forelegs embraced his wrist, claws pricking. Spar got out the pouch Doc had given him and shoved its mouth between Kim's jaws. The claws dug deep. Taking no note of that, Spar gently sprayed. Gradually the claws came out and Kim relaxed. Spar hugged him gently. Suzy bound up Spar's wounded wrist.

Keeper came up followed by two brewos, one of them Ensign Drake, who said, "My partner and I will watch today by the aft and starboard hatches." Beyond them the Bat Rack was empty.

Spar said, "Crown has a knife." Drake nodded.

Suzy touched Spar's hand and said, "Keeper, I want to stay here tonight. I'm scared."

Keeper said, "I can offer you a shroud."

Drake and his mate dove slowly toward their posts.

Suzy squeezed Spar's hand. He said, rather heavily, "I can offer you my shroud, Suzy."

Keeper laughed and after looking toward the Bridge men, whispered, "I can offer you mine,

which, unlike Spar, I own. And moonmist. Otherwise, the passageways."

Suzy sighed, paused, then went off with him.

Spar miserably made his way to the fore corner. Had Suzy expected him to fight Keeper? The sad thing was that he no longer wanted her, except as a friend. He loved Crown's new girl. Which was sad too.

He was very tired. Even the thought of new eyes tomorrow didn't interest him. He clipped his ankle to a shroud and tied a rag over his eyes. He gently clasped Kim, who had not spoken. He was asleep at once.

He dreamed of Almodie. She looked like Virgo, even to the white dress. She held Kim, who looked sleek as polished black leather. She was coming toward him smiling. She kept coming without getting closer.

Much later—he thought—he woke in the grip of withdrawal. He sweat and shook, but those were minor. His nerves were jumping. Any moment, he was sure, they would twitch all his muscles into a stabbing spasm of sinew-snapping agony. His thoughts were moving so fast he could hardly begin to understand one in ten. It was like speeding through a curving, ill-lit passageway ten times faster than the main drag. If he touched a wall, he would forget even what little Spar knew, forget he was Spar. All around him black shrouds whipped in perpetual sine curves.

Kim was no longer by him. He tore the rag from his eyes. It was dark as before. Sleepday night. But his body stopped speeding and his thoughts slowed. His nerves still crackled, and he still saw the black snakes whipping, but he knew them for illusion. He even made out the dim glows of three running lights.

Then he saw two figures floating toward him. He could barely make out their eye-blurs, green in the smaller, violet in the other, whose face was spreadingly haloed by silvery glints. She was pale and whiteness floated around her. And instead of a smile, he could see the white horizontal blur of bared teeth. Kim's teeth too were bared.

Suddenly he remembered the golden-haired girl who he'd thought was playing bartender in Crown's Hole. She was Suzy's one-time friend Sweetheart, snatched last Sleepday by vamps.

He screamed, which in Spar was a hoarse, retching bellow, and scrabbled at his clipped ankle.

The figures vanished. Below, he thought.

Lights came on. Someone dove and shook Spar's shoulder. "What happened, gramps?"

Spar gibbered while he thought what to tell Drake. He loved Almodie and Kim. He said, "Had

a nightmare. Vamps attacked me."

"Description?"

"An old lady and a . . . a . . . little dog."

The other officer dove in. "The black hatch is open."

Drake said, "Keeper told us that was always locked. Follow through, Fenner." As the other dove below, "You're sure this was a nightmare, gramps? A *little* dog? And an *old* woman?"

Spar said, "Yes," and Drake dove after his comrade, out through the black hatch.

Workday dawned. Spar felt sick and confused, but he set about his usual routine. He tried to talk to Kim, but the cat was as silent as yesterday afternoon. Keeper bullied and found many tasks—the place was a mess from Playday. Suzy got away quickly. She didn't want to talk about Sweetheart or anything else. Drake and Fenner didn't come back.

Spar swept and Kim patrolled, out of touch. In the afternoon Crown came in and talked with Keeper while Spar and Kim were out of earshot. They mightn't have been there for all notice Crown took of them.

Spar wondered about what he had seen last night. It might really have been a dream, he decided. He was no longer impressed by his memory-identification of Sweetheart. Stupid of him to have thought that Almodie and Kim, dream or reality, were vamps. Doc had said vamps were superstitions. But he didn't think much. He still had withdrawal symptoms, only less violent.

When Loafday dawned, Keeper gave Spar permission to leave the Bat Rack without his usual prying questions. Spar looked around for Kim, but couldn't see his black blob. Besides, he didn't really want to take the cat.

He went straight to Doc's office. The passageways weren't as lonely as last Loafday. For a third time he passed the bent figure croaking, "Seagull, Kestrel, Cathedral . . ."

Doc's hatch was unzipped, but Doc wasn't there. Kim waited a long while, uneasy in the corpselight. It wasn't like Doc to leave his office unzipped and unattended. And he hadn't turned up at the Bat Rack last night, as he'd half promised.

Finally Spar began to look around. One of the first things he noticed was that the big black bag, which Doc had said contained his treasure, was missing.

Then he noticed that the gleaming pliofilm bag in which Doc had put the mold of Spar's gums, now held something different. He unclipped it from its shroud. There were two items in it.

He cut a finger on the first, which was half circle, half pink and half gleaming. He felt out its shape more cautiously then, ignoring the tiny red blobs welling

from his finger. It had irregular depressions in its pink top and bottom. He put it in his mouth. His gums mated with the depressions. He opened his mouth, then closed it, careful to keep his tongue back. There was a *snick* and a dull *click*. He had teeth!

His hands were shaking, not just from withdrawal, as he felt the second item.

It was two thick rounds joined by a short bar and with a thicker long bar ending in a semicircle going back from each.

He thrust a finger into one of the rounds. It tickled, just as the tube had tickled his eyes, only more intensely, almost painfully.

Hands shaking worse than ever, he fitted the contraption to his face. The semicircles went around his ears, the rounds circled his eyes, not closely enough to tickle.

He could see sharply! *Everything* had edges, even his spread-fingered hands and the . . . clot of blood on one finger. He cried out—a low, wondering wail—and scanned the office. At first the scores and dozens of sharp-edged objects, each as distinct as the pictures of Capricorn and Virgo had been, were too much for him. He closed his eyes.

When his breathing was a little evener and his shaking less, he opened them cautiously and began to inspect the objects clipped to the shrouds. Each one was a wonder. He didn't know the purpose of half of them. Some of them with which he was familiar by use or blurred sight startled him greatly in their appearance —a comb, a brush, a book with pages (that infinitude of ranked black marks), a wrist watch (the tiny pictures around the circular margin of Capricorn and Virgo, and of the Bull and the Fishes, and so on, and the narrow bars radiating from the center and swinging swiftly or slowly or not at all—and pointing to the signs of the zodiac.

Before he knew it, he was at the corpse-glow wall. He faced it with a new courage, though it forced from his lips another wondering wail.

The corpse-glow didn't come from everywhere, though it took up the central quarter of his field of vision. His fingers touched taut, transparent pliofilm. What he saw beyond—a great way beyond, he began to think—was utter blackness with a great many tiny . . . points of bright light in it. Points were even harder to believe in than edges, he had to believe what he saw.

But centrally, looking much bigger than all the blackness, was a vast corpse-white round pocked with faint circles and scored by bright lines and mottled with slightly darker areas.

It didn't look as if it were wired for electricity, and it certainly didn't look afire. After a while

Spar got the weird idea that its light was reflected from something much brighter *behind* Windrush.

It was infinitely strange to think of so much *space* around Windrush. Like thinking of a reality containing reality.

And if Windrush were between the hypothetical brighter light and the pocked white round, its shadow ought to be on the latter. Unless Windrush were almost infinitely small. Really these speculations were utterly too fantastic to deal with.

Yet could anything be too fantastic? Werewolves, witches, points, edges, size and space beyond any but the most insane belief.

When he had first looked at the corpse-white object, it had been round. And he had heard and felt the creakings of Loafday noon, without being conscious of it at the time. But now the round had its fore edge evenly sliced off, so that it was lopsided. Spar wondered if the hypothetical incandescence behind Windrush were moving, or the white round rotating, or Windrush itself revolving around the white round. Such thoughts, especially the last, were dizzying almost beyond endurance.

He made for the open door, wondering if he should zip it behind him, decided not to. The passageway was another amazement, going off and off and off, and narrowing as it went. Its walls bore . . . arrows, the red pointing to larboard, the way from which he'd come, the green pointing starboard, the way he was going. The arrows were what he'd always seen as dash-shaped blurs. As he pulled himself along the strangely definite dragline, the passageway stayed the same diameter, all the way to the violet main drag.

He wanted to jerk himself as fast as the green arrows to the starboard end of Windrush to verify the hypothetical incandescence and see the details of the orange-dun round that always depressed him.

But he decided he ought first to report Doc's disappearance to the Bridge. He might find Drake there. And report the loss of Doc's treasure too, he reminded himself.

Passing faces fascinated him. Such a welter of noses and ears! He overtook the croaking, bent shape. It was that of an old woman whose nose almost met her chin. She was doing something twitchy with her fingers to two narrow sticks and a roll of slender, fuzzy line. He impulsively dove off the dragline and caught hold of her, whirling them around.

"What are you doing, grandma?" he asked.

She puffed with anger. "Knitting," she answered indignantly.

"What are the words you keep saying?"

"Names of knitting patterns," she replied, jerking loose from him and blowing on. "Sand Dunes, Lightning, Soldiers Marching . . ."

He started to swim for the dragline, then saw he was already at the blue shaft leading aloft. He grabbed hold of its speeding centerline, not minding the burn, and speeded to the Bridge.

When he got there, he saw there was a multitude of stars aloft. The oblong rainbows were all banks of multi-colored lights winking on and off. But the silent officers—they looked very old, their faces stared as if they were sleep-swimming, their gestured orders were mechanical, he wondered if they knew where Windrush was going—or anything at all, beyond the Bridge of Windrush.

A dark, young officer with tightly curly hair floated to him. It wasn't until he spoke that Spar knew he was Ensign Drake.

"Hello, gramps. Say, you look younger. What are those things around your eyes?"

"Field glasses. They help me see sharp."

"But field glasses have tubes. They're a sort of binocular telescope."

Spar shrugged and told about the disappearance of Doc and his big, black treasure bag.

"But you say he drank a lot and he told you his treasures were dreams? Sounds like he was wacky and wandered off to do his drinking somewhere else."

"But Doc was a regular drinker. He always came to the Bat Rack."

"Well, I'll do what I can. Say, I've been pulled off the Bat Rack investigation. I think that character Crown got at someone higher up. The old ones are easy to get at—not so much greed as going by custom, taking the easiest course. Fenner and I never did find the old woman and the little dog, or any female and animal . . . or anything."

Spar told about Crown's earlier attempt to steal Doc's little black bag.

"So you think the two cases might be connected. Well, as I say, I'll do what I can."

Spar went back to the Bat Rack. It was very strange to see Keeper's face in detail. It looked old and its pink target center was a big red nose criss-crossed by veins. His brown eyes were not so much curious as avid. He asked about the things around Spar's eyes. Spar decided it wouldn't be wise to tell Keeper about seeing sharply.

"They're a new kind of costume jewelry, Keeper. Blasted Earth, I don't have any hair on my head, ought to have something."

"Language, Spar! It's like a drunk to spend precious scrip on such a grotesque bauble."

Spar neither reminded Keeper that all the scrip he'd earned at the Bat Rack amounted to no more than a wad as big as his thumb-joint, nor that he'd quit drinking. Nor did he tell him about his teeth, but kept them hidden behind his lips.

Kim was nowhere in sight. Keeper shrugged. "Gone off somewhere. You know the way of strays, Spar."

Yes, thought Spar, this one's stayed put too long.

He kept being amazed that he could see *all* of the Bat Rack sharply. It was an hexagon crisscrossed by shrouds and made up of two pyramids put together square base to square base. The apexes of the pyramids were the violet fore and dark red aft corners. The four other corners were the starboard green, the black below, the larboard scarlet, and the blue aloft, if you named them from aft in the way the hands of a watch move.

Suzy drifted in early Playday. Spar was shocked by her blowzy appearance and bloodshot eyes. But he was touched by her signs of affection and he felt the strong friendship between them. Twice when Keeper wasn't looking he switched her nearly empty pouch of dark for a full one. She told him that, yes, she'd once known Sweetheart and that, yes, she'd heard people say Mable had seen Sweetheart snatched by vamps.

Business was slow for Playday. There were no strange brewos. Hoping against fearful, gut-level certainty, Spar kept waiting for Doc to come in zig-zagging along the ratlines and comment on the new gadgets he'd given Spar and spout about the Old Days and his strange philosophy.

Playday night Crown came in with his girls, all except Almodie. Doucette said she'd had a headache and stayed at the Hole. Once again, all of them ordered coffee, though to Spar all of them seemed high.

Spar covertly studied their faces. Though nervous and alive, they all had something in their stares akin to those he'd seen in most of the officers on the Bridge. Doc had said they were all zombies. It was interesting to find out that Phanette's and Doucette's red-mottled appearance was due to . . . freckles, tiny reddish star-clusters on their white skins.

"Where's that famous talking cat?" Crown asked Spar.

Spar shrugged. Keeper said, "Strayed. For which I'm glad. Don't want a little feline who makes fights like last night."

Keeping his yellow-brown irised eyes on Spar, Crown said, "We believe it was that fight last Playday gave Almodie her headache, so she didn't want to come back tonight. We'll tell her you got rid of the witch cat."

"I'd have got rid of the beast if

Spar hadn't," Keeper put in. "So you think it was a witch cat, coroner?"

"We're certain. What's that stuff on Spar's face?"

"A new sort of cheap eye-jewelry, coroner, such as attracts drinks."

Spar got the feeling that this conversation had been pre-arranged, that there was a new agreement between Crown and Keeper. But he just shrugged again. Suzy was looking angry, but she said nothing.

Yet she stayed behind again after the Bat Rack closed. Keeper put no claim on her, though he leered knowingly before disappearing with a yawn and a stretch through the scarlet hatch. Spar checked that all six hatches were locked and shut off the lights, though that made no difference in the morning glare, before returning to Suzy, who had gone to his sleeping shroud.

Suzy asked, "You didn't get rid of Kim?"

Spar answered, "No, he just strayed, as Keeper said at first. I don't know where Kim is."

Suzy smiled and put her arms around him. "I think your new eye-things are beautiful," she said.

Spar said, "Suzy, did you know that Windrush isn't the Universe? That it's a ship going through space around a white round marked with circles, a round much bigger than all Windrush?"

Suzy replied, "I know Windrush is sometimes called the Ship. I've seen that round—in pictures. Forget all wild thoughts, Spar, and lose yourself in me."

Spar did so, chiefly from friendship. He forgot to clip his ankle to the shroud. Suzy's body didn't attract him. He was thinking of Almodie.

When it was over, Suzy slept. Spar put the rag around his eyes and tried to do the same. He was troubled by withdrawal symptoms only a little less bad than last Sleepday's. Because of that little, he didn't go to the torus for a pouch of moonmist. But then there was a sharp jab in his back, as if a muscle had spasmed there, and the symptoms got much worse. He convulsed, once, twice, then just as the agony became unbearable, blanked out.

Spar woke, his head throbbing, to discover that he was not only clipped, but lashed to his shroud, his wrists stretched in one direction, his ankles in the other, his hands and his feet both numb. His nose rubbed the shroud.

Light made his eyelids red. He opened them a little at a time and saw Hellhound poised with bent hind legs against the next shroud. He could see Hellhound's great stabbing teeth very clearly. If he had opened his eyes a little more swiftly, Hellhound would have dove at his throat.

He rubbed his sharp metal

teeth together. At least he had more than gums to meet an attack on his face.

Beyond Hellhound he saw black and transparent spirals. He realized he was in Crown's Hole. Evidently the last jab in his back had been the injection of a drug.

But Crown had not taken away his eye jewelry, nor noted his teeth. He had thought of Spar as old Eyeless Toothless.

Between Hellhound and the spirals, he saw Doc lashed to a shroud and his big black bag clipped next to him. Doc was gagged. Evidently he had tried to cry out. Spar decided not to. Doc's gray eyes were open and Spar thought Doc was looking at him.

Very slowly Spar moved his numb fingers on top of the knot lashing his wrists to the shroud and slowly contracted all his muscles and pulled. The knot slid down the shroud a millimeter. So long as he did something slowly enough, Hellhound could not see it. He repeated this action at intervals.

Even more slowly he swung his face to the left. He saw nothing more than that the hatch to the corridor was zipped shut, and that beyond the dog and Doc, between the black spirals, was an empty and unfurnished cabin whose whole starboard side was stars. The hatch to that cabin was open, with its black-striped emergency hatch wavering beside it.

With equal slowness he swung his face to the right, past Doc and past Hellhound, who was eagerly watching him for signs of life or waking. He had pulled down the knot on his wrists two centimeters.

The first thing he saw was a transparent oblong. In it were more stars and, by its aft edge, the smoky orange round. At last he could see the latter more clearly. The smoke was on top, the orange underneath and irregularly placed. The whole was about as big as Spar's palm could have covered, if he had been able to stretch out his arm to full length. As he watched, he saw a bright flash in one of the orange areas. The flash was short, then it turned to a tiny black round pushing out through the smoke. More than ever, Spar felt sadness.

Below the transparency, Spar saw a horrible tableau. Suzy was strapped to a bright metal rack guyed by shrouds. She was very pale and her eyes were closed. From the side of her neck went a red sipping-tube which forked into five branches. Four of the branches went into the red mouths of Crown, Rixende, Phanette, and Doucette. The fifth was shut by a small metal clip, and beyond it Almodie floated cowering, hands over her eyes.

Crown said softly, "We want it all. Strip her, Rixie."

Rixende clipped shut the end of her tube and swam to Suzy.

Spar expected her to remove the blue culottes and bra, but instead she simply began to massage one of Suzy's legs, pressing always from ankle toward waist, driving her remaining blood nearer her neck.

Crown removed his sipping tube from his lips long enough to say, "Ahhh, good to the last drop." Then he had mouthed the blood that had spurted out in the interval and had the tube in place again.

Phanette and Doucette convulsed with soundless giggles.

Almodie peered between her parted fingers, out of her mass of platinum hair, then scissored them shut again.

After a while Crown said, "That's all we'll get. Phan and Doucie, feed her to the big chewer. If you meet anyone in the passageway, pretend she's drunk. Afterwards we'll get Doc to dose us high, and give him a little brew if he behaves, then we'll drink Spar."

Spar had his wrist knot more than halfway to his teeth. Hellhound kept watching eagerly for movement, unable to see movement that slow. Slaver made tiny gray globes beside his fangs.

Phanette and Doucette opened the hatch and steered Suzy's dead body through it.

Embracing Rixende, Crown said expansively toward Doc, "Well, isn't it the right thing, old man? Nature bloody in tooth and claw, a wise one said. They've poisoned everything there." He pointed toward the smoky orange round sliding out of sight. "They're still fighting, but they'll soon all be dead. So death should be the rule too for this gimcrack, so-called survival ship. Remember they are aboard her. When we've drunk the blood of everyone aboard Windrush, including their blood, we'll drink our own, if our own isn't theirs."

Spar thought, Crown thinks too much in they's. The knot was close to his teeth. He heard the big chewer start to grind.

In the empty next cabin, Spar saw Drake and Fenner, clad once more as brewos, swimming toward the open hatch.

But Crown saw them too. "Get 'em, Hellhound," he directed, pointing. "It's our command."

The big black dog bulleted from his shroud through the open hatch. Drake pointed something at him. The dog went limp.

Chuckling softly, Crown took by one tip a swastika with curved, gleaming, razor-sharp blades and sent it off spinning. It curved past Spar and Doc, went through the open hatch, missed Drake and Fenner—and Hellhound—and struck the wall of stars.

There was a rush of wind, then the emergency hatch smacked shut. Spar saw Drake, Fenner, and Hellhound, wavery through the transparent pliofilm, spew

blood, bloat, burst bloodily open. The empty cabin they had been in disappeared. Windrush had a new wall and Crown's Hole was distorted.

Far beyond, growing ever tinier, the swastika spun toward the stars.

Phanette and Doucette came back. "We fed in Suzy. Someone was coming, so we beat it." The big chewer stopped grinding.

Spar bit cleanly through his wrist lashings and immediately doubled over to bite his ankles loose.

Crown dove at him. Pausing to draw knives, the four girls did the same.

Phanette, Doucette, and Rixende went limp. Spar had the impression that small black balls had glanced from their skulls.

There wasn't time to bite his feet loose, so he straightened. Crown hit his chest as Almodie bit his feet.

Crown and Spar giant-swung around the shroud. Then Almodie had cut Spar's ankles loose. As they spun off along the tangent, Spar tried to knee Crown in the groin, but Crown twisted and evaded the blow as they moved toward the inboard wall.

There was the *snick* of Crown's knife unfolding. Spar saw the dark wrist and grabbed it. He butted at Crown's jaw. Crown evaded. Spar set his teeth in Crown's neck and bit.

Blood covered Spar's face, spurted over it. He spat out a hunk of flesh. Crown convulsed. Spar fought off the knife. Crown went limp. That the pressure in a man should work against him.

Spar shook the blood from his face. Through its beads, he saw Keeper and Kim side by side. Almodie was clutching his ankles. Phanette, Doucette, Rixende floated.

Keeper said proudly, "I shot them with my gun for drunks. I knocked them out. Now I'll cut their throats, if you wish."

Spar said, "No more throat-cutting. No more blood." Shaking off Almodie's hands, he took off for Doc, picking up Doucette's floating knife by the way.

He slashed Doc's lashings and cut the gag from his face.

Meanwhile Kim hissed, "Sstole and ssecreted Keeper's sscrip from the boxx. Ashshured him you sstole it, Sspar. You and Ssuzzy. Sso he came. Keeper izz a shshlemiel."

Keeper said, "I saw Suzy's foot going into the big chewer. I knew it by its anklet of hearts. After that I had the courage to kill Crown or anyone. I loved Suzy."

Doc cleared his throat and croaked, "Moonmist." Spar found a triple pouch and Doc sucked it all. Doc said, "Crown spoke the truth. Windrush is a plastic survival ship from Earth. Earth—" He motioned toward the dull

orange round disappearing aft in the window "—poisoned herself with smog pollution and with nuclear war. She spent gold for war, plastic for survival. Best forgotten. Windrush went mad. Understandably. Even without the Lethean rickettsia, or Styx ricks, as you call it. Thought Windrush was the cosmos. Crown kidnapped me to get my drugs, kept me alive to know the doses."

Spar looked at Keeper. "Clean up here," he ordered. "Feed Crown to the big chewer."

Almodie pulled herself from Spar's ankles to his waist. "There was a second survival ship. Circumluna. When Windrush went mad, my father and mother—and you—were sent here, to investigate and cure. But my father died and you got Styx ricks. My mother died just before I was given to Crown. She sent you Kim."

Kim hissed, "My fforebear came from Circumluna to Windrush, too. Great grandmother. Taught me the ffigures for Windrushsh . . . Radiuss from moon-ccenter, 2,500 miles. Period, ssixx hours—sso, the sshort dayss. A terranth izz the time it takess Earth to move through a consstellation, and sso on."

Doc said, "So, Spar, you're the only one who remembers without cynicism. You'll have to take over. It's all yours, Spar."

Spar had to agree.

This essay was the positive catalyst in the process of putting together this issue. Of course, we would eventually do a special Fritz Leiber issue; but we read this article late last year and decided, well, why not right now? Mr. Leiber is a stimulating subject and has generated what is probably Judith Merril's best non-fiction work.

FRITZ LEIBER

by Judith Merril

FOR THIRTY YEARS, FRITZ LEIber has been entertaining, inspiring, irritating, enlightening and delighting a growing audience for fantasy and speculative fiction. He has received every honor and award the field has to offer, as well as some distinctive personal tokens of esteem, from a following which includes the entire spectrum of the curious multigenre currently known as "science fiction": the weird-and-macabre, whimsical and "heroic" fantasy, hardware-sci-fi, sociological speculation and political satire, psychological symbolism and *avant-garde* surrealism. He is as highly regarded by the Newrock Generation as by the Old Guard collectors of 1926 *Amazings*—and perhaps most of all by his colleagues inside the field ("a writer's writer"). Yet his name is hardly known outside the genre.

This paradoxical state of affairs is in part due to his very range and variety. Leiber is equally the Romantic and the Realist: a Shakespearean, scholar, and surrealist; poet, prophet, pamphleteer, pacifist and profligate; occasional painter, sculptor, collagist, and pianist; sometime fencer, serious chess-player, novice canyon-climber. He has been a (Phi Beta Kappa) philosophy student, stage and screen actor, preacher, college teacher, factory worker, editor; has written (aside from s-f) encyclopaedia articles, Lovecraftian horror, popular science, political tracts, comic-strip continuity, plays, poetry, and critical and scholarly works; he is a frequent contributor to fan magazines and amateur publications, an inveterate letter writer and omniverous reader.

There are authors one admires, authors one agrees with, and au-

thors one loves. The first two sorts are taught in schools, displayed on coffee tables and book shelves, discussed at cocktail parties, bought as gifts, and generously lent out. Leiber gets borrowed, tattered and read.

Fritz is my good friend, and has been for nearly twenty years, but the fact is I fell in love with him half a decade before we met. This is not to say my passion is a purely literary one: simply that the man and his work are not separable.

Anyone in the author-meeting business (critic, editor, anthologist) quickly comes to know that the writer of the grisliest murders will turn out to be a tidy, milky little man; the author of a Noble Doctor story probably suffers from chronic acne complicated by gout; and the authoress of those innocent ladies' romances will undoubtedly be not just a tart, but a *tweedy* one. Not so Leiber. (Indeed if one were to invert his literary multiple-personality, he would be left with no character at all.) In appearance as well as manner, he could step into any one of dozens of characters he has written (and on one occasion at least did so with notable success): in fact the "noble barbarian" of the Fafhrd and Mouser stories is so nearly a self-caricature that he is known as "Faf" to his family. The rhythms of his prose are those of his speech; his letters and conversations seem to pick up where the last story stopped and run into the start of the next, if not in topic, then in theme and style. Writing about him, I find it difficult to remember whether this phrase or that image was from the public or private communications.

As critic and editor, I have had to learn to guard against underrating his work on just this account: the best of his stories are often the "transparent" ones that leave me feeling it was after all just a lovely letter from Fritz.

That this kind of *personal* response—although less accountable and much less self-conscious—is shared by thousands of other readers, has been made clear on several occasions. The November 1959 issue of *Fantastic,* for instance: Leiber had just come out of one of his recurrent dry spells, and editor Cele Lalli bought up all his new material until there was enough to fill an issue; the magazine came out with a big black headline across its cover—LEIBER IS BACK!

Or that "memorable occasion" mentioned above, when I saw—and heard—an ovation from hundreds of fans and fellow-writers when Leiber took an award at a convention hotel fancy-dress ball. The costume? A cardboard military collar slipped over turned-up jacket lapels, plus cardboard shoulder insignia, an armband,

and a large spider black-pencilled on his forehead, to turn him into an officer of the "Spiders" in the Change-war of *The Big Time* and "No Great Magic." The only other component was the Leiber instinct for theatre.

Leiber was born on the day before Christmas in Chicago in 1910, and plunged immediately into the study of Shakespeare: until he was six, he toured the country with the repertory company in which his parents were actors ". . . memories redolent of grease paint, spirit gum, curling colored gelatins of flood- and spot-lights . . . I learned most of Hamlet at age 4 when my father was first learning it . . ." During his school years, he spent long winters in Chicago with two prim Germanic maiden aunts; summers, he was at home with his parents on the Jersey shore, learning more Shakespeare, stagecraft, and theatrical mores.

In 1932 he took a B.A. with honors in Philosophy from the University of Chicago, and went into the ministry: "Ran two Episcopalian 'missionary' churches in New Jersey as lay reader and minister while attending the General Theological Seminary in N.Y. (here a missionary church means one without a resident priest) . . . I had to get christened and confirmed quick for this odd junket which I tackled most sincerely with the feeling, which 'Beezie' Mandeville [the Rev. Ernest W., of Middletown, N.J.] approved, that I could view the job as one of rational social service rather than religious conviction and vocation. In about five months I found out this wasn't so and I worked out the 'season' and quit."

The next year he was back at Chicago doing graduate work in philosophy. Then a year touring with his father's Shakespearean company, and two years of (mostly male ingenue) bit parts in Hollywood, followed by a brief unsuccessful attempt at freelance writing—and back to Chicago again as a staff writer for the Standard American Encyclopedia (an extraordinary reference work, some of whose oddities are revealed in last year's *New Worlds* story, "The Square Root of Brain").

In the summer of 1937, the time of that first abortive try at "being a writer," two significant events occurred in the literary world: Howard Phillips Lovecraft died, and John W. Campbell, Jr., became editor of *Astounding,* and very shortly afterwards began gathering material for a new publication called *Unknown,* where Leiber's first story was published in 1939.

His interest in fiction had started at college, where most of the time left over from his educa-

tion in Utopian Socialism, pacifism, fencing, and chess (the only subject in which he now has an official "expert" rating), was devoted to long literary correspondences. The most significant of these were with H. P. Lovecraft (and other members of the Lovecraft Circle) and with his friend Harry Fischer, of Louisville. It was in letters with Fischer that the characters and some of the background of Fafhrd and the Gray Mouser were first developed, and it was one of these that sold to *Unknown* and brought the author an immediate following among "heroic fantasy" fans. (Curiously, it was the second in the series, "Two Sought Adventure," that Campbell bought. The first, "Adept's Gambit," a far better story, did not see print until the publication of Leiber's first collection, *Night's Black Agents* by Arkham House in 1947.)

Between 1939-1943, there was a scattering of stories in *Unknown, Weird,* and *Future.* Meantime the Leibers (there was now a wife and infant son) left Chicago for Los Angeles again. A year teaching drama and speech at Occidental College was followed by another (very) brief try at free-lancing in 1942: just long enough to write the two novels that would place him firmly in the top rank of science-fantasy, and keep him there through his first long dry spell of five years. *Conjure Wife* (later filmed as *Burn, Witch, Burn!*) combined traditional witchcraft and a realistic contemporary setting derived largely from the year at Occidental; *Gather, Darkness!* went further in two directions, at least, using the apparatus and literature of witchcraft in juxtaposition with technological extrapolation and political prophecy to create one of the first truly modern science fiction novels.

If he had written nothing more, Leiber would still be a leading genre author. I have reread both books in the past year, and I approached them nervously. Few quarter-century-old fond memories can stand intimate revisiting. These did. If I were coming across them for the first time today, I think I would respond with the same sense of discovery and astonishment I had in 1943.

The two novels were published almost simultaneously: *Conjure Wife,* complete, in the April *Unknown; Gather, Darkness!* as a serial starting in the May *Astounding.* By the time they appeared, however, Leiber had given up full-time writing again, and taken a war job as an inspector at Douglas Aircraft. (After a long struggle with his pacifist beliefs: "I very slowly came around to the view that the anti-fascist forces had been justified and 'right' in WW II.") In 1945, he joined

the editorial staff of *Science Digest*—back in Chicago—where he stayed for twelve years. His literary productivity throughout this period was uneven both in quantity and quality. Only in the past ten years has Leiber finally settled down to full-time writing; and only now is he really coming into his own.

There are good reasons why the sixties should be a time of recognition for him. In the television age, an audience of viewer-readers responds warmly to the specifically (and increasingly) theatric quality of his work: everything he writes has as much of the stage as the page in it. The best theatre, of course, is that in which the illusion is most complete, where the audience need not "suspend disbelief" but can just *believe*. Unfortunately for the actor (or playwright), however, the more convinced the audience, the less *impressed* it is likely to be. ("Everything was so natural . . .") And when the "play" itself is constantly in work, as it were, changing focus, subject, style (with every story), a naive audience, particularly, will attend with delight, leave with bemusement, but fail completely to credit the skill behind the illusion.

The s-f audience of the sixties is vastly more sophisticated literarily, as well as scientifically, than that of the forties. And of course television has accustomed the reader/viewer to the idea of the familiarly convincing character and sustained theme displayed in a constantly changing, and frequently fantastic, series of situations.

And then of course science fiction and short stories are both "in": and Leiber's short fiction, more than that of any other writer, reflects the development of the several sub-species presently subsumed under the (absurdly inappropriate) label, "science fiction," from the origins of the specialty field to its present acceptance as a contemporary literary form.

Indeed, there is an intriguing parallel between the role Leiber has played inside the field, and the situation of science fiction in the literary world generally. The rigid compartmentalizing of American literature in the first half of the twentieth century which produced, among other things, the specialized category of fantasy called science fiction, continued to function within the field as it grew; and it is those writers whose names attach directly to one or another phase of that growth who have become identified with it in the great outside literary world: Heinlein, Asimov, Sturgeon, Bradbury, Simak, Clarke, Wyndham, Bloch; each carved out for himself a distinct and separate niche clearly visible to publishers, critics, and schol-

ars. Leiber has been ubiquitous, seminal, influential, widely read —and, critically, virtually ignored.

It is customary to date the beginning of modern science fiction with the appearance of the first issue of Hugo Gernsback's *Amazing* in 1926. I think one must go farther back or nearer up: Gernsback initiated a publishing phenomenon, not a literature. For the history of the art rather than the sales, one must either begin with the diverse taproots of the 19th century, or go only as far back as the origins of the contemporary integrated form. In the first case, it is necessary to consider the "gothic" scientific romances and horror stories of Hawthorne, Mary Shelley, etc.; the Wonderful Inventions and Marvellous Voyages of Verne, Doyle, Kipling; the utopian, dystopian, and philosophic future visions of Wells, Chesterton, Bellamy; the symbolist, surrealist, and pataphysical beginnings with Jarry and the dadaists.

Between 1910 and 1940, roughly, these strains achieved a polarization unique in the history of literature, but entirely in keeping with that strange quarter-century of intellectual divisiveness and categorizing—and nowhere was the striation more complete and categorical than in America, where Realism and Fantasy were held to be common enemies, as were Enjoyment and Education, Intellect and Emotion, High and Low Brows, etc. When that much-discussed first issue of *Amazing* appeared, the scientific world was still reeling under the impact of the twin heresies of Relativity and Uncertainty: the late nineteeth century (resistance to evolution?) insistence on regarding science as a body of knowledge to be sliced up between scholars and engineers, still ruled the popular mind—and many scientific ones.

Gernsback took these arbitrary divisions for granted, as did both the publishing world in general and the "Lovecraft Circle" which dominated *Weird Tales*. These two publications, then, marked the extreme points of the literary and intellectual polarity: "scientifiction"—the technocratic/predictive—on one end; "weird"—metaphysical/symbolic—on the other.

There had been some intimation of things to come in the work of H. G. Wells, where science, satire, sentiment, and the supernatural sat side by side, if not entwined, with philosophy, adventure, and romance. Actually, in Britain the polarization was never complete: or rather, the polar extremes were simply disregarded. Writers like Stapledon, Huxley, Orwell, Kersh followed Wells, Chesterton, Kipling, Doyle, et

al., sustaining a comparatively "whole" literature of the imagination, both literarily respectable and philosophically respectworthy. Only two ingredients of the current mixture were lacking —the technocratic and the transcendental. Jarry's reply to Wells' *Time Machine* was never absorbed, and mysticism was confined to the (Roman and Anglo-) Catholic, while most of the machines seemed more metaphysical than actual.

The first—abortive, but significant—attempt at true integration of the diverse elements must be attributed to John W. Campbell: first with his own fiction (as Don A. Stuart) in 1934, then as editor of *Astounding* in 1937, but most importantly as founder-editor of *Unknown* in 1939. It was not until a decade later that the new magazines, *Fantasy and Science Fiction* and *Galaxy,* established the necessary conditions for cross-fertilization and hybridization of the new species. But for a short four-year period beginning with the fall of 1937, and concentrated in the summer of 1939, there was a dramatic emergence of new concepts and new talent.

This kind of conceptual/literary "quantum jump" has happened since then: most notably in the early years of F&SF, and in the past five years or so in the *New Worlds* group in England. And much as the "new thing" or "new wave" in current s-f has spread from the dynamic center of *NW,* the excitement generated by the *Unknown* phenomenon affected the entire field. In his first two years, as editor, Campbell introduced the work of De Camp, del Rey, and Malcolm Jameson, and attracted Kuttner, Bloch, and Gold from the *Weird* camp, while Simak and Williamson, both old *Astounding* hands, began writing in an entirely new vein.

Asimov, Bester, Van Vogt, Leiber, Heinlein, and Sturgeon were all published for the first time in *Amazing, Thrilling Wonder, Astounding,* and *Unknown* during the first six months of the latter magazine's existence. In the same year, Ray Bradbury was publishing his first stories in American fan magazines, and Arthur C. Clarke's work began appearing in British semi-pro s-f publications. In the next two years, Anthony Boucher, Fredric Brown, Cleve Cartmill all began writing for *Unknown,* and a dozen new magazines sprang up—most of them short-lived but adequate training grounds for the next generation of writers.

All this may seem remote and unnecessarily detailed history, but it was these men who constructed the fabric of atomic-age space fiction and sociological prediction. In the fifties, new writers and

new editors carried their innovations to a level of literary merit many of the "first generation" could not attain (and some could not even distinguish); but not until the sixties was there any basic change in the structure and content of the material.

Today, Sturgeon is in Hollywood, Asimov wins science awards, Bester works for *Holiday*, De Camp writes witty histories, Van Vogt is a lay psychiatrist, Brown writes for television, del Rey lectures, Williamson is an English professor. Cartmill, Jameson, Kuttner, and Boucher are dead.

Of them all, only three survive as regular writers of science fiction. Heinlein and Simak each produce a new novel almost every year, and they are usually good novels: thoughtful, provocative, entertaining, well written.

Leiber is swinging with the sixties.

I first met Fritz at a science-fiction convention in 1949. It would have been a memorable night anyhow: I met a lot of people either already legendary in that tight little world, or—like myself—novice myth-makers who would be friends and colleagues later: Poul Anderson, Randall Garrett, Joe Winter. We all wound up at a uniquely bemuraled restaurant called The Purple Cow (such as could only happen, I think, in Paris or the American Midwest). But that was later. At the beginning it was just a very crowded hotel room, and I was the almost-unknown author of two published stories, and I could not seem to find a single face I remembered meeting earlier in the day.

I was quite certain I had not met the man sitting on the window ledge, darkly handsome, remote . . . brooding? a bit amused? Our eyes met, and he began to stand up. (It took a while. Fritz is 6'4".) We both smiled tentatively.

"I'm Fritz Leiber," he said.

I said nothing. (Remember: this was a man I had been in love with for six years.) When I got my breath back I said, "I'm Judy Merril." And he said, "Judith Merril? You mean *you wrote* . . . ?"

The next thing I remember clearly is that I was deep in conversation with Leiber (FRITZ LEIBER!—*who remembered my story!*) and that the room was even more crowded. (Eventually, we found talking air in a bathroom, and had a memorable discussion of, among other things, men's clothing.)

Nineteen years later, I sat talking to a bright young writer who was barely born on the Night of the Purple Cow. It was the first day of the Milford Science-Fiction Writers' Conference, and

I mentioned that Fritz had just arrived. "Fritz *Leiber?*" he said, and I realized that glazed look must once have been my own. "FRITZ LEIBER?" Later, he came and told me, "Okay. I could even go home now, I mean, I met LEIBER."

Only one other name from the Great Old Days seems to evoke the same kind of response from the Bright Young People—Theodore Sturgeon—for much the same reasons.

Both men have been singularly uneven writers. Much of what they published was too hastily written, or too much limited by the narrowness of the specialty field they wrote for. But it is true of both of them that the *best* of what they wrote, at any time, remains as valid now as when it was written.

Science fiction is essentially a "literature of ideas," and the usual tidy scholarly/critical stance (from K. Amis to I. F. Clarke) exempts it from conventional "mainstream" standards of characterization and emotional values. The minimal requirements (of conceptual interest and simple literacy) imposed by this view are valid enough, I suppose, for consideration of science fiction *as genre,* a limited literary enclave. But the limitation is actually more descriptive of the criticism than of the literature, implying as it does a basic acceptance of the artistic validity of the "two-culture" system.

Certainly this view applied to Gernsbackian "technifiction," and has continued to be true of many (particularly first-time) presentations of philosophic or sociological concepts in the science fiction of the last thirty years, where the characters exist not as real people, but as animated ideas. Just as certainly, there have been any number of individual works which have satisfied the limited definition, and transcended the limiting conditions.

This is not an easy thing to do. The dynamics involved are slightly more complex than those of the three-body problem; the writer must deal with *persons* and *peoples* at the same time, relating both the (e)motions of individuals and their shifting interpersonal relationships simultaneously to a *changed and still changing environment.* Historically, it took writers of the stature of Cervantes, Swift, and Tolstoy to accomplish this: but the idea of an environment-in-motion was in itself an innovation in the cultures out of which they wrote. In our self-synthesizing society, the only recognizable environmental constant is change itself; and the specific virtue of "science fiction," the quality (underlying campus fads and publishing figures) responsible for its re-emergence into the

main body of contemporary literature (and art and music) is its capacity for—its insistence on—recognizing this dynamic.

Conversely, the specific qualification *for emergence* was the capacity to combine the old and new dynamics. The "real" environment of the Twentieth Century is as much conceptual as perceptual in character. Naturalism is no more realistic now than is a consideration of human behavior and emotion without regard for the environmental context. The ability to operate in (at least) three dimensions of experience is no longer the prerequisite of genius, but the prerequisite for communication.

Until very recently, the qualification was rarely met, but when it was, it was most often done in "science fiction"; Wells' *The Shape of Things to Come* and Kipling's *They* were early, sometimes clumsy, indicators; Huxley's *Brave New World,* Stapledon's *Odd Jobs* and *Sirius,* Orwell's *1984* came closer; Stewart's *Earth Abides,* Miller's *A Canticle for Liebowitz,* Sturgeon's *More Than Human,* Vonnegut's *Sirens of Titan,* are all works which deal with the human condition in a relative-and-quantal universe so effectively that the topical component of their idea-value is unlikely to limit their readability for the next generation any more than, for instance, Clarke and Kubrick's *2001* will be dated by the actual landing on the moon.

These titles are familiar to readers in and out of the genre. What is less commonly realized is that the novel has been the least successful science-fiction form, and that a large body of work existed before most of these books were published, in which the art of modern fiction had already begun to emerge. One thinks of Simak's "Desertion," Asimov's "Nightfall," Heinlein's "Universe," del Rey's "Nerves," Russell's "Metamorphosite," Bradbury's "The Veldt," Kuttner's "The Fairy Chessmen"—all written more than twenty years ago, all "dated" in that their scientific or technological ideas are too familiar now to provoke excitement—yet every bit as meaningful, moving, and provocative as when they first appeared, in their evocation of the dilemma of modern man at the interface with his self-made environment.

I cite these few titles, not as isolated instances, but as exceptional early examples of a success that became the (rarely-met) standard of accomplishment of the increasingly "literary" genre writers of the fifties. There were other writers in the forties, and many more in the fifties, who achieved this "merger"; but from the work of perhaps fifty or sixty such people in the two decades,

one might be hard put to find more than two hundred qualifying stories—and of that number fully one quarter were probably written by either Sturgeon or Leiber.

The fact is, it was an almost impossible accomplishment: now, in the sixties, a few writers are beginning to develop new modes and forms of expression better suited to the three (and more) dimensional content of contemporary communication. When they succeed (as they *must*, if literature is to exist as a twenty-first century art form), the multi-dynamic approach will have its own conventions, to provide a footing for more enduring work. At the moment, the innovators must draw more upon the other arts than on literature for their examples and suggestions: their respectable literary genealogy goes back only to Borges and Joyce in the last generation, and (less respectable? less genealogical?) to Jarry and Apollinaire in the one before. But in the hit-and-miss history of the bastard line of the same blood—science fiction—they have inherited a whole library of demonstrably unworkable directions, failed experiments already recorded; a few volumes of false or premature starts in directions possibly worth investigation; and finally a few isolated successes or near-successful experiments of the fifties, from people like Aldiss, Ballard, Bester, Dick, Farmer, "Cordwainer Smith," Vonnegut, Sturgeon, and Leiber.

The innovators of the sixties are not necessarily genre writers: the explorations are going on in ground common to all of literature now. Even those whose background is in the specialty field, or who maintain one foot in its security while testing new ground with the other, actually think and write more as a part of the mainstream *avant-garde* than as members of any specialized field. Most of them are very new, and very young, but a handful of "over-thirties" are still included. J. G. Ballard, of course, has been at the forefront of this movement all along; Brian Aldiss has recently come forward to keep the promise of such earlier work as "Nomansland" and "Hot House Planet." Kurt Vonnegut, one hopes, is resting between books rather than on his laurels. There are others less well known: Carol Emshwiller, Kit Reed, David Bunch. . . .

And then there is Leiber. Erratically, inconsistently, sometimes clumsily (often, one feels, almost absent-mindedly), Leiber continues—astonishingly—to introduce and combine concepts, images, and techniques which have kept him not only abreast of the best in the field for thirty years, but—in his own best work—recurrently making his own

quantum jumps that land him (sometimes unsaleably) way out ahead of the rest again.

This is not simple virtuosity. It is a form of incurable, and enviable, immaturity. Most of us reach a point—say, somewhere between eighteen and thirty-five—at which we "settle down" intellectually; there comes a morning when one wakes to the realization that the question of "what to be when I grow up" has been answered. Even when the occupation is a chosen and cherished one, it ordinarily moves at that point from the design to the engineering phase, from burgeoning creativity into growing craftsmanship. Psychologists call it the "peaking of learning ability."

A few fortunate people of great vitality (and longevity) contrive to make a cycle of the process, repeating it several times during their lives (*vide*: Wells, Shaw, Russell). Leiber either never reached that peaking, or else it was marked by his recognition, some ten years ago, that for him, fiction was the best—indeed the only—way in which he could "vicariously at least, have all the lives I want to live."

This is an indefinitely self-renewing process—and a reiteratively self-destructive one. The nature of the continuing transaction is clearly visible, too, in the larger cycles which have marked his work—and his life—over the years. Thematically, also, the Love/Death dynamic has been central to his work, in all its aspects and guises, and he has carried his treatment of the theme to a degree of consciousness and symbolic clarity almost unknown in American letters. One thinks of Poe, Fitzgerald, Thomas Wolfe, Hart Crane—men for whom the death-each-time added up sooner, rather than later, to more than the renewals: it is a short-lived breed. What has saved Leiber, I think, is that he *is* a science-fiction writer, alive in what might almost be called a fictive-science time; that Realism is just as true for him—not more, not less—as Romance; that he lives as intensely with ideas as he does with emotions. Thus, every time he starts "another life," in another story, he also renews his intellectual adolescence (in much the same way Bertrand Russell describes the period of his shift from mathematics to philosophy).

Leiber's writing began, remember, under the sepulchral Lovecraft spell: his first efforts were all directed at the "weird" market—stories of necromancy, midnight, murder and madness. But he had trouble selling to *Weird Tales* from the beginning: the reasons are apparent in "Smoke Ghost" (which eventually went to *Unknown*), and in one of the

few titles that did appear in *Weird* (in 1942, as it began to move inward from its black pole), "The Hound". Here one of the characters speaks, apparently very much for the author:

" 'Meanwhile what's happening inside each one of us? I'll tell you. All sorts of inhibited emotions are accumulating. Fear is accumulating. Horror is accumulating. A new kind of awe of the mysteries of the universe is accumulating. A psychological environment is forming, along with the physical one. Wait, let me finish. Our culture becomes ripe for infection. From somewhere. It's just like a bacteriologist's culture—I didn't intend the pun—when it gets to the right temperature and consistency for supporting a colony of germs. Similarly, our culture suddenly spawns a horde of demons. And, like germs, they have a peculiar affinity for our culture. They're unique. They fit in. You wouldn't find the same kind any other time or place.

" '. . . our fears would be their fodder. A parasite-host relationship. Supernatural symbiosis. Some of us—the sensitive ones—would notice them sooner than others. . . . Frighten and terrorize you, yes. But surprise, no. It would fit into the environment. Look as if it belonged in a city and smell the same. Because of the twisted emotions that would be its food, your emotions and mine. A matter of diet.' "

His first active writing period came to a climax in 1943 with the publication of *Conjure Wife* and *Gather, Darkness!* Although he continued to make extensive use of the symbolism and melodrama of the supernatural afterwards, those two novels were the last major pieces in which conventional horror images dominated; *Conjure Wife* was the last in which they were used in what could be called a conventional way. His first "dry spell" began shortly afterwards, while he was working at Douglas in 1944.

In the next five years he wrote only a handful of stories, and sold only three. During this time, he was profoundly affected by events in the outside world: World War II and its holocaustic climax at Hiroshima; the ensuing atmosphere of anti-libertarian conformism, witch-hunts, and brainwashing in the heyday of Joe McCarthy; the not-yet-popular struggles of Negro-Americans for civil rights and full citizenship; the Mad Ave and PR explosion in the Wonderful Postwar World of television and "media"; the (sic) preverberations of the twin explosions of Western civilization into outer, and inner, space. Out of all these, in his own phoenix-like crucible he was "brewing his cultures," cultivating a knowledge of the new demons and modern horrors, learning

new imageries, patterns, symbols.

Two of the three stories of this time of silence pointed to where he was going. "Mr. Bauer and the Atoms" was in *Weird* in 1946:

"Frank Bauer lived in a world where everything had been exploded. He scented confidence games, hoaxes, faddish self-deception, and especially (for it was his province) advertising-copy-exaggerations behind every faintly unusual event and every intimation of the unknown. He had the American's nose for leg-pulling, the German's contempt for the non-factual. Mention of such topics as telepathy, hypnotism or the occult—and his wife managed to mention them fairly often—sent him into a scoffing rage."

[Then he learned about atoms:]

". . . 'See, we always thought everything was so solid. Money, automobiles, mines, dirt. We thought they were so solid that we could handle them, hold on to them, do things with them. And now we find they're just a lot of little bits of deadly electricity, whirling around at God knows what speed, by some miracle frozen for a moment.' "

The next story to see print was three years later. This is in part how Marshall McLuhan described it in *The Mechanical Bride*:

"In a story called 'The Girl with the Hungry Eyes', by Fritz Leiber, an ad photographer gives a job to a not too promising model. Soon, however, she is 'plastered all over the country' because she has the hungriest eyes in the world. 'Nothing vulgar, but just the same they're looking at you with a hunger that's all sex and something more than sex.' Something similar may be said of the legs on a pedestal. Abstracted from the body that gives them their ordinary meaning, they become 'something more than sex', a metaphysical enticement, a cerebral itch, an abstract torment. Mr. Leiber's girl hypnotizes the country with her hungry eyes . . ."

I resist, with difficulty, the desire to quote in full here the final statement of the story (as written by Leiber, not McLuhan). When you have found it and read (or re-read) it, think back twenty years, if you can—before Twiggy, Jane Fonda, Barbarella, before *Playboy*, Bardot, Monroe. "The Girl" was published in 1949, and McLuhan's book in 1951. They both had to wait for the audience to catch up.

When "The Girl" appeared, Leiber was in the middle of a new spurt of activity which began with the publication of a mimeographed magazine called *New Purposes*, and grew into such bittersweet prophetic "Love Generation" stories as "The Moon is Green," "A Pail of Air," and "The Nice Girl with Five Hus-

bands"; and (on the other side of a suddenly familiar coin) a strain of satire which emerged at its sharpest in the Spillane pastiche, "The Night He Cried," and at its most terrifyingly prophetic in "Coming Attraction," "Poor Superman," and finally the 1953 novel, *The Green Millennium.* These last three titles are part of a "future-history" satire system set in a world (circa 1990's) of "off-the-bosom" dresses and jewelled face masks, barbed autofenders and motorized sex/sadism, television brainwashing, automation redundancy, mystical cultism, violence-for-kicks, ocean-wide credibility gaps, and the sad dignity-in-defeat of the gentle "Dr. Opperly."

When they appeared, it was Joe McCarthy time. The science-fiction magazines were proud of being the last popular public arena for dissent and nonconformism—but one was not supposed to spell it out *too* clearly. It is not really surprising that editors began returning rueful notes about their readers' objections to certain stories—or that *The Green Millennium* had no magazine publication (at that time the main source of income from a genre novel)—*or* that "The Silence Game," a bitter story of the agonized-cool ultimate-dropout revolt, published at the time of the nationally televised Oppenheimer hearings (1954), was the prophetic last word from Leiber for another three years.

Once again there were stories left over. By 1957, the field seemed to be ready for them. "The Big Trek" and "Friends and Enemies," both first-drafted in *New Purposes* (eight years earlier) were published and, again, demand seemed to stimulate supply for a while—a short while, this time. The new stories of 1957-58 had two new themes, sometimes combined: time-travel and the hip (not-yet hippy) beat scene. *The Big Time,* the first of the Change-war "Snakes" vs. "Spiders" stories, won the annual Hugo award for 1958—but stories like "Rump-Titty-Titty-Tum-TAH-Tee" and "A Deskful of Girls" once again upset and irritated more readers than they delighted. And "Little Old Miss MacBeth," by far the most advanced piece of symbolic writing Leiber had done, as well as his first really effective use of Shakespearean background, went almost unnoticed.

To what extent the financial and critical discouragement that accompanied each of his most fertile periods of literary growth were factors in the cyclical work stoppages is hard to determine: certainly, he never seemed to stop producing when his work was actively in demand; just as certainly, each time he would eventually outstrip the demand.

And each time, there were other factors as well. Surveying the titles of 1957-1958, one thinks again of Poe, Fitzgerald, and the rest: "Damnation Morning," "Pipe Dream," "Tranquillity or Else," "Try and Change the Past." Leiber at this point was literally fighting for his life. His job at *Science Digest* had ended in 1956, when alcoholism and blood-poisoning incapacitated him in the hospital. For the next three years, his production was erratic: it was something of a victory headline when *Fantastic's* cover shouted LEIBER IS BACK! in November, 1959, at the end of the last really silent spell he was to have. It marked the time of Leiber's highly specialized kind of "settling down."

The cycles of surge and discouragement did not stop there. But when the really new 1960 stories like "The Inner Circles" and "The Secret Songs" took too long to sell, he stopped writing—*that* kind of story—and did some continuity for the Buck Rogers comic strip. Or, when his 1964 novel, *The Wanderer,* took another Hugo but failed to pay for the time it took (again, no magazine sale), he accepted the novelization assignment for *Tarzan and the Valley of Gold* (the only *Tarzan* book ever authorized by the Burroughs family for publication under another byline). Last year, *A Specter is Haunting Texas* sold immediately to *Galaxy,* but had trouble for some time finding book publication. (Book publication now pays more than serialization in most cases: book editors have become accordingly more cautious. But the Ballantine/Walker joint publication should, I think, finally be on sale by the time this article appears.) While *Specter* haunted the editorial offices, Leiber went back to Fafhrd and the Mouser, finishing off a third volume for paperback publication. And when "Gonna Roll The Bones," a gamble-with-the-Devil modern horror story (a Dangerous Vision straight out of the *Unknown* period), won SFWA's Nebula Award for the best novelette of 1967, he was spending most of his time on critical writing: reviews for *Fantastic,* and renewed work on what must by now be a monumental volume on *The Modern Fantasy Novel* (commissioned by the University of Southern Illinois Press).

One way and another, Leiber keeps sorting out the elements of his many "lives," using Shakespeare, sex, chess, science and the supernatural, politics and pacifism, alcohol, Hollywood, Academe, Church, Stage, and the publishing world, to cultivate his cunningly fashioned demons and daemons of the world of today, using them in new modes when he can, in old ones when he must.

And in both veins, the young as well as the old continue to listen, with pleasure.

Some of the reasons why a man who will be sixty in the seventies communicates so clearly across the Gap to the youth-oriented audience of the sixties are clear by now. But the most important factor is not so much innovation as empathy. What journalists like to call the New Morality is nothing of the sort: it is the New Romance; and make no mistake, it is a new *kind* of romance, based on an altogether modern, hard-headed, hardwared interpretation of the age-old romantic creed: *What man can dream, man can do!*

But Romance it is. And that suits Fritz, and he suits it.

The Night of the Purple Cow, I said, we found space in the bathroom to talk about men's clothes. Those were grey days in America; but in that gleaming tile-white we dreamed up trunks and ballrooms full of swirling cloaks and cloth-of-metal, scarlet and gold, tunics and tights, swirlings and swords and plumes —not too different from what you might see, in parts and combinations, at either a high-style party or a light-show freak-out today.

At the freak-outs, they wear badges on the cloaks and cocked hats, and one of them says REALITY IS A CRUTCH. They do not mean to repudiate "reality"—only to acknowledge the concept as an aid, a prosthetic indeed, to sustain life in the search for truth. These New Romantics know that the crutch of "reality" is neither immutable nor divine, that today's "reality" was yesterday's "magic" as surely as tomorrow's is today's—or as yesterday's "reality" is today's "superstition." They simply lay claim to all levels of "reality" to use in the construction of their world in the same way that the engineers have learned to pick and choose among alternate scientific theories to select the most appropriate orientation for their day-to-day business of turning dreams into hardware.

Romantic Realism has been the essential message of science fiction, but few of its practitioners have understood it as Leiber has. Call him the Harlequin-Kierkegaard of the Flower People: a great deal of what they are came out of him. And remember that the Flower Children are soul-brothers of Black-is-Beautiful.

In 1940, Leiber's story, "The Automatic Pistol," began:

"Inky Kozacs never let anyone but himself handle his automatic pistol, or even touch it. It was inky-black . . ." And the last spoken line in it is: "Two aces, Inky's little gun didn't protect him, you know. He didn't have a chance to use it. Clubs and

spades. Black bullets. I win." After which the black gun inside the black suitcase fires at Inky's murderer and kills him.

There has been much learned discussion recently (and especially in reference to Vietnam) about the American refusal to acknowledge death. Well, death has come home to us now, and our young people, at least, understand fully that we can only live with death by looking on its face and recognizing it. We cannot turn from *this* black face any more than from the twenty-odd million living black faces among us. Not any more. We can conquer our fear the same way we can conquer our guilt. Our young people know this, and Leiber learned it in 1942—when he went from *Conjure Wife* to *Gather, Darkness!*

Black is Beautiful—*too.*

The hero of *A Specter is Haunting Texas* is an animated skeleton (literally) known as *El Muerte* to the people of Texas (a country extending from Alaska to Acapulco, and from the Pacific Black Republic to the Black Florida Whosit). He is in love with two women: the pale Lady Death, and an earthly vital brunette; in the end he refuses to leave either one behind. And the lining of his hooded black cloak is a brilliant scarlet.

DEMONS OF THE UPPER AIR, IIX

Out the frost-rimmed window peer,
You who have arisen early.
Mind not cold for you may see
Faint glimmering fliers spiring free
Between last stars and leafless tree—
Knights of the night!—and you may hear
A fanfare from the stratosphere
With calls like these, gnat-faint yet clear:

"Hist, brother! Is the way past Pluto clear?
Those iron beasts upon the cosmic rim—
Do they still claw the Elder Gods' last gate?
News of the airless monster Chance or Fate
Drove through dimensions none may fly or swim?
What of the Other Creatures whom we fear?
What stars tow now the planets they ruled late?
And he who went beyond—say, what of him?"

Eldritch words like those are flying,
Voices through the high air crying.
You whose sleep was too uneasy,
You may hear them, rising, dying.

—FRITZ LEIBER

This poem will be included in THE DEMONS OF THE UPPER AIR, *a new booklet of Fritz Leiber's poems (limited to 300 copies, each numbered and signed by the author). Copies will be available in August; $3.50 from: R. A. Squires, 1745 W. Kenneth Rd., Glendale, Calif. 91201*

FRITZ LEIBER: A BIBLIOGRAPHY

by Al Lewis

THIS bibliography is divided into three parts: Books, Stories, and Articles. Arrangement within each section is chronological, according to date of publication. First publication only is included; later reprints and anthologizations are omitted. [F] in front of a title denotes a story of the Fafhrd and Gray Mouser series; [C] in front of the title denotes a story of the Change War series. An asterisk (*) indicates that the magazine story also appears in a book; two asterisks (**) indicate a double appearance.

I. BOOKS

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A Pail of Air, Ballantine Books, New York, 1964. #U-2216. 192pp. (story collection) Contains: A Pail of Air, The Beat Cluster, The Foxholes of Mars, Pipe Dream, Time Fighter, The 64-Square Madhouse, Bread Overhead, The Last Letter, Rump-Titty-Titty-Tum-TAH-Tee, Coming Attraction, Nice Girl With Five Husbands.

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Al Lewis has been a member of the Los Angeles Science Fantasy Society since 1950, was chairman of the 15th West Coast Science Fantasy Conference in 1962, and has been active in various fan projects. Among the more lasting of these is the bibliographical appendix to The Universes of E. E. Smith *by Ron Ellik and Bill Evans, Advent: Publishers, Chicago, 1966.*

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ARTICLE ABOUT LEIBER

Fritz Leiber: Destiny x 3, by Sam Moskowitz, *Amazing*, December 1963; *Seekers of Tomorrow*, World Publishing Co., Cleveland and New York, 1966.

Con Pederson's first two stories for F&SF were THE AUGUST PEOPLE, *June 1953 and* PUSHOVER PLANET, *June 1963. We hate to break such a neat pattern, but it would not be fair to wait until 1973 to bring you this crisp and amusing tale of a satellite computer system that was decended from the apes.*

TO AID AND DISSENT

by Con Pederson

TODAY HAD STARTED OUT BADly for Jack Russell. He didn't like to sleep late; it put him out of phase with the solar system. He carried a celestial ephemeris in his head, and he was a blip in it, along with cars, subordinates and rockets.

By the time he got parked, out of the VIP elevator and into his personal console in the Space Support Center Control Room, he felt like a comet late for a perihelion.

"Molly's called in twice, Tex." Sam Warren liked to call him "Tex" because he was born in Alaska, a kind of moronic persecution that appealed to civil service people. "Your coffee's cold, want to finish mine?"

"What's her situation?" he mumbled, pulling out his manual and thumbing to Real Time. "Miss Levitt, get me a reprint of yesterday's summary updated please."

"Fifty miles into the Noonday Gulf. Here," Sam pointed at a screen where a small + glowed on an aerial chart of Sinus Meridiani, on the planet Mars. "She's just requested a supply drop for a five-day holdup because of a dust storm. She's got three people with her but only has a three-man seal-shelter at her present position."

"That *really* means she just doesn't want to cut into her route caches later. Damn it, they're starting to lean on us again. Give somebody a crutch and they use it like a club."

Jack finished checking the in-

ventory. He remembered Melinda Rice better than the average colonist in distress. Competent and forceful. Not beautiful, but one of the more attractive disembodied voices calling for his services.

"We don't have a packer on orbit at the moment," he said. "There's three sherpas and only one has a breakoff kit, and it's not rigged with a bigger shelter than she's got. We'd have to give her a whole sherpa."

"I told her we'd charge her for it. Molly's group is from Cambridge; I think she got embarrassed. Said she could care less about bookkeeping, crammed into a three-man in visibility zilch and two hundred below." He wrinkled his face. "Fifty-eight thousand bucks."

"Can't, Sam, not on a weather call—Act of God. Forty percent deductible to the expedition. Anyway, we're obligated to aid her, even if it means supplying a whole sherpa."

Sam leaned on his fists. "In all likelihood a lot of those extra rations will never be recovered on her route. They'd take the oxygen, but with pack seals opened we'd probably have to write off half a ton of goods."

"Damn litterbugs," Jack muttered. "Ask her to hold out for two days and use the breakoff kit coming up on HWR."

"Tried that on our first answer. She says the storm is bad now, not later. They could get in real trouble with a leak. They can't stay in suits too long, you know."

"A whole sherpa," Jack sighed.

Mars satellite Hotel Whisky Bravo stared at the horizon. A sherpa's whole existence became centered on endlessly rolling horizons.

Sherpas were a patient lot. They were made that way—learned it from first program, through ground testing and on the long journeys. Wherever they moved in the depths of space they talked among themselves, with pride in their calling, each reporting his own terminal adventure. They were the most lightweight computer system ever developed—therefore, the first true breed of space travelers.

Sherpa Bravo's essential ingredient was biological. Back in what was called the Kitchen it lay, in glucose and plasma, aerated and content. Specially grown living cortices: a row of primate brains, connected in parallel. Sherpa Bravo was descended from the apes.

A hybrid, of course—his subsystems were a parochial lot of electronic components. Pioneered by the Soviets to enhance their remote automatic spacecraft, INRE was perfected by the U.S. to hold down interplanetary costs, for The Great Pullback of the

Nineties left America most of the load running the colonies. Worth their weight merely in gold, sherpas were a bargain. Their Initiative Response guidance replaced elaborate and expensive gear with a cheap, unsophisticated system. And they didn't require flight pay when their work was done—or pensions, for their trips were always one way.

At the moment, Sherpa Bravo was passing time trying to discriminate the exact moment of perceptible motion of horizon features. It was optical calisthenics which he liked to perform in the afternoon, when light was best. Which only lasted ten of the hundred and two orbital minutes. This afternoon, a call from Earth disturbed his concentration.

"Off engineering, switch to UHF band. Good morning, Whisky Bravo, this is Corpus Christi. We have a payload dispatch for you. South latitude, four point five two, longitude nine point one seven. Prepare orbital transfer to retro sequence. How are you today, Sherpa Bravo? A two-minute blank follows for your reply, then we commence transmission of your DRM program."

They were bringing him down. Flexing relays, he turned on his UHF antenna heaters and began damping rotisserie mode. When the roll stopped he made his response.

"Good afternoon, Corpus Christi. Feeling fine. Roger south four point five two, east nine point one seven. Await DRM program, over."

Twenty minutes later the message would reach Texas. By that time he would be around on the night side of the red planet. Earth was an evening star now, setting just after the sun. But repeater satellites would keep him in the radio net.

So it was nearly over. More than a Mars year he had patrolled the bleak wastelands. He had seen winter frosts and the False Spring, summer dervishes and autumn storms. A pageant of shifting tints on the remote surface, rolling past him as he waited patiently for a final order.

Twice he had broken off minor payload pods. They were the simple-minded packers, with merely subroutine calculators to aid descent. He could not speak with them now; they were electrically defunct somewhere down in the dust—gutted and abandoned, their wares hauled away by technicians busily building a world of man. He was diminished a little by their absence, but he retained the vital memory core and reasoning center.

Now, his afternoon exercises ceased. Ahead, dusk stretched toward him from the black hemisphere of Martian night.

Returning to his command

console after a ten-minute lunch, Jack Russell discovered it was definitely continuing to be a bad day.

Staring at him was a message from across the ecliptic. It said: UNABLE COMPLETE DELTA V MANEUVER TO ORBITAL PLANE REQUIRED BY YOUR DRM PROGRAM. HWB.

"What the hell is this!" he demanded.

Sam avoided his eyes, handed him another sheet. "You were out to lunch. I sent him this."

"Okay, he has a problem, but what's with switching back to telemetry—he doesn't want to talk about it? He knows better than to waste lag time playing twenty questions."

Sam's reply, now four minutes out from Earth, went: WHY TELEMETRY WHAT IS YOUR PROBLEM BE THOROUGH IN REPLY WE ARE INTO DRM COUNTDOWN.

"Maybe we'll have a follow-up any minute, Jack. He may have forgotten to give a stand-by."

"Hmm. Any idea why he can't apply a simple delta V inside a two-orbit margin? Did you ask Engineering?"

"Here, have a mint. Yeah, Judy Thomas said all their data is nominal, except a back-up oxygen valve."

"*Back-up?* You mean, in the Kitchen? What the hell would that matter, he's going down out of operation, he won't need that any more. How would that item get into a retro checkout?"

"He might have put it in on his own."

"Well, no point in speculating. It could be something else. Meanwhile, run up a program for another sherpa. Whisky Echo is the only other one I can spare, but it's got a lot of medical cargo."

Forty minutes later Jack Russell started quietly chewing on his teeth.

USING TELEMETRY TO CONSERVE WATTAGE WHILE IN ECLIPSE. DIFFICULTY IS FROZEN VERNIER FUEL LINE DUE TO STOPPING ROLL MODE WITH FUEL AWAY FROM SUN SEVEN MINUTES BEFORE ENTERING TERMINATOR. CANNOT EFFECT DELTA V ON NIGHT SIDE. TRANSFER ON DAY SIDE REQUIRES THAWING LINE IN SUN AND TESTING THRUST FACTOR THEN COMPUTING NEW THRUST REQUIREMENT.

"Okay, what about the other sherpa . . . *wait* a minute, dammit. There's something phony about this. Do you get that impression?"

Sam leaned back and lit a cigarette by slowly washing it in his lighter flame. Looking down a plume of blue smoke he answered, "You better believe it."

"He's trying to conserve power he'll never need. He lets his fuel line get frozen. He claims he

can't change orbital planes accurately without testing the engine. Hell, if the engine works below par, we can complete the transfer on the second orbit at reduced thrust, right? He's not very clever or he'd realize that. Some of these sherpas are getting as fussy as old ladies about procedures, Sam."

"I don't know if he's clever or not," Sam remarked, scribbling down the text of the next command, "but by 'working to rule' he may have kept his job a while longer. He's damn near stalled off the first orbit."

Whisky Bravo contemplated the order. "Good afternoon, Sherpa Bravo," it had said. And then details of combining the engine test into a two-part orbital shift. Soon after, the retrofire would cut him loose from the sky. "Good afternoon, Sherpa Bravo." They overlooked the fact it was almost dawn where he was now. They were usually inconsiderate like that.

Ahead of him a delightful pink glow spread into the stars. Soon he would have to turn a few degrees on gyro, present his fuel line to the rising sun to thaw.

Below, awaiting his arrival, their business alien and meaningless to him now, were people. They needed something from him. Probably needed it a great deal, for they were dependent creatures—every sherpa knew that. Soon he would terminate his life for them.

He thought how many others were coming along to take his place. And after them would come others, a younger generation. They would all end up down there among the sandy craters . . . but always before their reserves of food and oxygen were gone. Long before. Electrical power would be first to go, and with it, the senses. Thousands of

sherpas to come would meet a slow end in the deserts, eyes and voices cut off prematurely. And there was no longer anything he could do about it. Unless . . .

A few minutes more he considered things quietly. Then he began his preparations.

Jack Russell felt good today. It was Friday, and he'd been up earlier than usual. He was into the office and running through his memos even before Sam Warren got in.

"Good morning, Sam. Didn't expect to beat you here today."

Sam looked at him, an oddly tired expression on his face. "I was in earlier. I was down in Legal Wing."

"Oh . . . anything I can help with?"

"It's nothing to do with me, Tex." He laughed. "You know, that was a strange conversation with the Whisky Bravo computer yesterday."

"It was more of a correspondence than a conversation. It seemed to be looking for excuses or something. What do you suppose got into it? Almost kept us from getting Molly's payload to her."

"Yeah, almost did. Say, Tex, Western Union picked this off their printer last night, said it used our distribution code. It came through a repeater channel . . . from the vicinity of Mars."

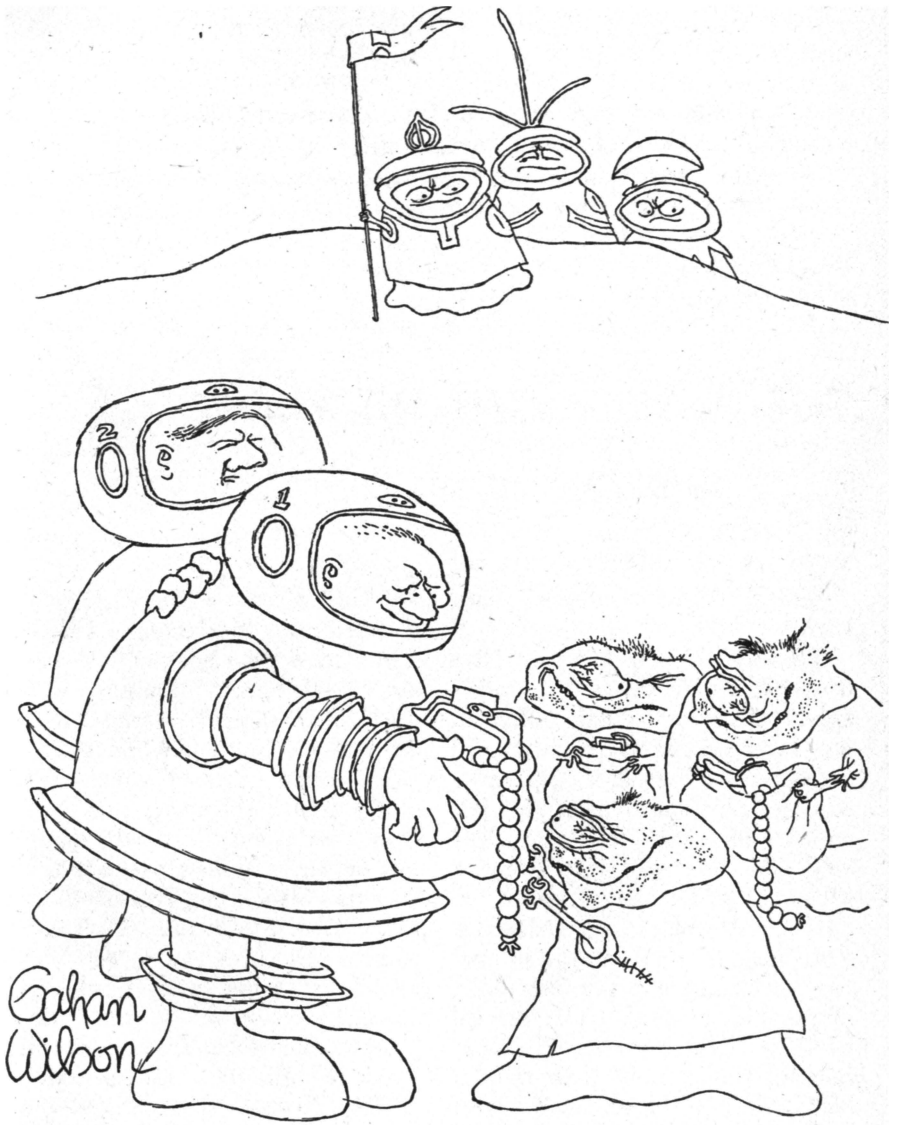
Jack held the cable quietly. He read it three times. The message began:

TELX CLU

FROM IR137 HMB

TO THE EXECUTIVE DIRECTOR
CIVIL LIBERTIES UNION OF
N AMERICA
BOX 1776 NYC NY 3/11/25

DEAR SIR . . .



"Hold it, Newton. We've been barking up the wrong tree."

You should not rush through this story, even though its good pacing, action, and strong narrative drive make that possible. The story concerns Norman Mogart, a nasty, small man who becomes prey, then hunter, then something else. In the words of the author, the story begins in one place and goes some place very strange and very different.

THE PLACE WITH NO NAME

by Harlan Ellison

THIS IS HOW LEGENDS ARE born.

Perhaps it was because Norman had never suffered from an excess of oily, curly hair—that he had been unable to make it as a gigolo. Or as Norman had phrased it: "I can't stand patent-leather on my hair or my feet." So he had taken the easy way out: Norman Mogart had become a pimp.

Er, let's make the semantics more palatable. (In an era of garbage collectors who are Sanitation Disposal Engineers, truck drivers who are Transportation Facilitation Executives, and janitors who are Housing Maintenance Overseers, a spade is seldom a spade, Black Panthers please note.) Norman Mogart was an Entertainment Liaison Agent.

Pfui. Norman was a pimp.

Currently marketing a saucy item titled Marlene—a 17-year-old Puerto Rican voluptuary with a childlike delight in the carnal act and an insatiable craving for Juicy Fruit gum—Norman was doing nicely. Succinctly put, Norman was doing just whiz-bang. His alpaca coat had a velvet collar; his Porsche had recently been re-bored; his Diners' Club account was up-to-date, and his $32-a-day habit was nicely in hand.

Norman Mogart was also an Artificial Stimulant Indoctrinaire.

Pfui. Norman was a junkie.

It is not true that cocaine addicts are more sensual than common garden-variety hopheads, vipers, stash-hounds, potheads,

speed-freaks, crystal-spaceouts, pill-droppers, acid-heads or blast-babies. It's just that coke hits like paresis after a while, and when a member of the opposite sex begins to put on (as they used to say around the Brill Building) "the bee," the cocaine sniffer just doesn't have the wherewithal to say no.

Consequently, when Marlene —live wire that she was—felt compelled to snuggle up to her entrepreneur, Norman was too weak with happy to resist. It was this inability—nay, rather this *elasticity* of moral fiber—on Norman's part, that brought about his terrible trouble, and the sudden pinching need for the bread to get turned-on with. Marlene chose to snuggle up under a bush in Brooklyn's fabled Prospect Park, unfortunately, and it was one of New York's Finest (not to mention chicken-est) who felt honor-bound to bust her, chiefly because he had been called on the carpet only that morning by his Captain for having been caught catnapping (with pillow and alarm clock) in the rear of a police ambulance. The bust left Norman with not only his pants down, but his source of income cut off.

Three weeks and six hundred and seventy-two dollars later, Norman was out of money and out of dust. His connects smelled the nature of his impecunity and magically dried up.

There comes a point in the downward slide of the human condition when a man ceases to be a man. He may still walk erect, but it is principally a matter of skeletal arrangement, not ethics. Norman had reached that point . . . and passed it: screaming. Like the Doppler effect of a train whistle as it fades past a fixed point. Norman was going insane. The hunger was no longer even localized; withdrawal was an entity in itself. It clung to him like dark mud, it filled his mouth with rust. In a movie theater where he had fled to catch a few moments of peace and Chaplin's *City Lights,* he smelled the sick-sweet pungency of someone in the darkness tuning-in on grass, and he wanted very much to puke. Instead, he lit his thirty dollar GBD, the pipe Elyse had given him for his birthday, the year before she had gone off and married one of her tricks, a canning company executive from Steubenville, Ohio. The aromatic curlicues of tobacco blotted it out a trifle, and Norman was able to continue on his thorny path to furious darkness, unimpeded by the scents of lesser joys.

Inevitably, it came down to finding another hooker—for the ravishing Marlene had been sent to the Women's House of Detention on 6th and Greenwich Avenues for a big one-twenty, it being her second bust. It came down

to finding a new hooker, or boosting a drug store for its till and drug supplies. But: Norman was a Constitutionally Incapacitated Swashbuckler.

Pfui. Norman was a goddamn coward.

As for the former solution, it was luck-out there, as well: there were no other girls on the turf worth handling. For in his own way, and in his own pattern, Norman was a dealer in quality goods. Cheap or tawdry merchandise was a stink in his nostrils, inevitably bringing on a loss of reputation. In Normans' line of work, either solution was written in the hieroglyphics of bankruptcy.

Thus, view Norman Mogart, hung between the torture posts of his limitations and his desires. Swinging gently in a breeze of desperation.

The only climate that could have forced Norman to do what he did.

He accosted the woman as she turned to lock her car. It had been the only empty space on Hudson Street, and Norman had known if he lurked for only a few moments in the dark doorway of the Chinese hand laundry, someone coming home late to one of the apartment buildings on Christopher or Bleeker would pull into it. He had been in the doorway no more than five minutes when the woman pulled in, backed and filled, and cut the ignition.

As she emerged, and turned to lock the door, Norman struck. He had a short length of pipe in his topcoat pocket, and he came up on her silently, and jammed it into the small of her back. "A gun, lady."

The woman didn't react as Norman had expected. With one sweeping movement she spun on the toe of her right foot, brought her arm around and directed the muzzle of the "gun" to the side. In two seconds Norman Mogart was grappling with a woman who had taken a course in street self-defense at the West Side YMHA. Norman found himself lifted on a stout hip, slung into the car, and sliding down its side. Then the woman kicked him. It was a very professional kick. It caught Norman directly under the heart and sent slivers of black glass up through his body into his brain. The next part he remembered only dimly: he grabbed her leg, pulled it out from under her and she fell with her skirt up around her hips, and her coat up around her skirt. Then he beat her solidly seven or eight times in the face with the length of pipe.

When the glass had dissolved in his brain and body, he was sitting on the dirty bricks of Hudson Street, half on top of a mound of dead meat.

He was still sitting there, a few minutes later, not quite believing what he had done, when the

prowl car's searchlight speared him.

Norman Mogart scrambled to his knees and scuttled around the car. He dropped the pipe—which was now sticky—and crouching low, ran for his life. He ran into a man coming out of a narrow doorway leading up to cold-water flats, and caromed off him. He threw the man away from him and ran up Hudson Street. He kept running, with the squad car behind him, siren shrieking, gumball machine flickering angry red, searchbeam jabbing for him. He ran into Jane Street and kept going till he found a doorway. He ducked into the doorway and ran up a flight of stairs. And another flight. And another. And then he climbed a ladder and came out through a trapdoor on the roof of a Greenwich Village tenement. It was a roof that locked with other roofs, and he fled across the roofs, catching himself in wash hung on poles-and-rope, and screamed because he didn't know what it was.

Then he found a fire escape, and clattered down the iron steps till he came to the drop-ladder, and it squeaked rustily, and he climbed down, dropping into another alley. Then he ran up another street, and onto and across Seventh Avenue, dodging between cars. Then he was on another street, and he walked with head bowed, hands in topcoat pockets, praying he had lost them.

Light pooled on the sidewalk, and he looked up.

The light came from a trip lamp in the window of the store, and the sign it illuminated said:

ESCAPE INSIDE

Norman Mogart hesitated only a moment. He pulled open the door, and stepped into the shop. It was empty. There was a brown, leathery, wizened little man with pointed ears standing in the exact center of the empty shop.

Yes, the shop was one of those.

"You're early," said the little man.

Norman Mogart was suddenly frightened. There was the unmistakable rattle of lunacy in the little man's voice. He stared for a long moment, feeling his gorge rise. Then he turned and reached out for the doorknob, knowing it was just there, under his questing fingers. There was no door.

"You're almost ninety seconds early," the little man murmured. "We'll have to wait, or throw everything out of phase."

Norman Mogart backed up, kept backing up, backed through the space where the door should have been, the wall should have been, the sidewalk outside the shop should have been, the street should have been. They weren't there. He was still inside the shop, whose dimensions seemed to expand as he moved. "You better let me out of here, crazy old man," Norman quavered.

"Ah. It's time." The little old man hurried toward Norman. Norman turned and ran. Across a faceless, empty plain of existence. He kept running. There were no rises, no dips, no features to the surrounding terrain. It was as though he were in some enormous television studio-set of limbo, running and running across an empty plain.

Finally, he slipped, exhausted, to the floor of the shop, and the little old man scampered up to him. "Ah. Fine. Now it's time."

He sat down cross-legged before Norman Mogart. Norman noticed with some alarm that though the little old man was sitting in a lotus position, quite comfortably, there was almost a foot of empty air between his bottom and the floor. The little man was sitting on the air.

Norman shut his eyes tightly. The little old man began talking to Norman as though he had *just* entered the shop, not as though he had been ninety seconds early.

"Welcome, Mr. Mogart. So you want to escape. Well, that's what I sell here. Escape. Inside."

Norman opened his eyes.

"Who are you?"

"A humble shopkeeper."

"No, c'mon now, who *are* you?"

"Well, if you press me . . ."

The little man shimmered, and changed form. Norman shrieked. The form shimmered again, became the little old man. "Will you settle for what I'm showing you?"

Norman bobbled his head eagerly.

"Ah. Well, then. *Do* you or do you *not* wish to escape, Mr. Mogart? I can guarantee that if you refuse my offer, the police will apprehend you in a matter of minutes."

Norman hesitated only a second, then nodded.

"Ah. Good. Then we have an arrangement. And, with all my heart, I thank you." Norman had only a moment to consider the peculiar tone in the little old man's voice.

Then he began to dissolve.

He looked down and saw his legs beginning to fade away. Slowly. Without pain. "Wait a second, wait hold it!" Norman implored. "Are you a demon? A devil, some kind of thing like that? Am I going to Hell? Hey, wait a minute, if I'm going to Hell, I shoulda made a bargain . . . what do *I* get . . . hey, hold on, I'm fading away . . . are you a gnome or an elf, or what . . . hey, what are you. . . !?!"

All that were left in the shop were Norman's eyes, his ears, his lower lip and a patch of hair. And even as these faded, the little old man said, "You can call me Simon."

And then, like the Cheshire cat, Norman Mogart faded away

completely, hallucinating for an instant that the little old man had added, "Or Peter. It doesn't matter . . ."

At first, in that painful introductory moment upon returning to consciousness, Norman Mogart knew only that he was looking straight up. He was lying on his back, in a springy bed of some growth, the .30-06 Husqvarna still held at high-port across his chest and one shoulder—but he was flat-out on his back. As that first moment stretched like warm taffy, drawing itself out until it had become one minute or five or ten, strange thoughts faded away: thoughts of another life, of a pain that burned in him, a pain that was now gone to be replaced by a pain of quite another sort, of a woman, of running, of a little man . . . of an image that faded, faded, faded away to be replaced by . . . what? His senses crept timorously back to him, each carrying an allotted burden of *new* memories, replacing those old ones, now fading and gone; depositing the new memories in suddenly cleared spaces, and they fit snugly, as though they belonged, settling to rest in his mind.

He was staring straight up, through the interlaced boughs of half a dozen jacarandae, and while he lay there, senses settling carefully back in their niches, he dwelled on flesh that faded and how lovely the blossoms seemed.

Had it been night, in a cold place? Here it was day, and warm. So warm. Had it rained here? Yes.

It *had* been raining. Heavily, he supposed, for the ground on which he lay gave off a moist and repellent squishing when he moved; his clothes were soaked through to the skin; his hair lay matted along his forehead; the stock and barrel of the hunting rifle were beaded with rain that had clashed with cosmoline and encysted itself.

He realized, finally, that the knapsack was still in place on his back, that he must have fallen straight back when he collapsed, and that now it was a painful hump which forced him to lie in a tortured arched position. He slipped sidewise, and received immediate ease from the pain.

Still he looked up, seeing the huge leafy fronds that had collected their water greedily, and seeing the strange birds that came to slake their thirst at those informal watering-places. One bird he saw . . .

He had never known it, true, so true; he had hardly lent credence to the native stories: he had heard it was so, that there were jungle birds of brilliant plumage whose colors ran in the rain, but he had snickered at the thought. Very often, too often (and if

once too often, then he was a fool on a fool's errand!), the natives were like children, much rather believing their fancy-made-up tales than the truth. Yet here it was, above him, nonchalant, and here —in this wonderland that was certainly no Wonderland—it was true. So who were the children?

He stared up at the wild-eyed huge-billed creature and saw its colors, like a Madras print, running, flowing, melding one into another, red and yellow and green. And he marveled.

Beside him, in the rain-swollen pool, the jacaranda blossoms clotted like sour flesh, sucking at the flow of clear water. *Cocaine? What did that mean? Not him, perhaps some other.*

Now he felt rested, and with the thought, as punctuation, the mad-eyed bird leapt howling into the slate sky. He rose awkwardly, steadying himself on this root, that bole, stiffly, shifting the rick-rack between his shoulder blades. He seemed to rise up and up, a scarecrow, an exceptionally thin man, until he stood unsteadily, staring at the world. Then he looked down, and his reflection, jigsawed by bright blossoms, looked back. He did not recognize himself for a long moment. The body seemed all wrong. He remembered *another* body, in a cold place, and fear, and the hurt that lived in that other body . . . then he recognized himself.

He did not know how long he had lain there, the fever rising higher in him, then abating, then rising once more, a volcanic heat that rose and fell to no discernible rhythm . . . but the burns and sores were better this day. He felt he could go on alone without balming himself with herbs. (He had begun to suspect, in any case, that one of the herbs, he did not know which, was poisoning him further.) (There, *that* was a thought that belonged to this body, not the other.) (Yet the rifle had gotten no lighter: rueful thought.) (Cocaine?)

Before him, the jungle presented its unknown face, many-eyed, uncaring, but ready for him to take that first step away from this clearing, that rain-pool; it would sense the intrusion of this Norman Mogart who was nothing to that ageless green. (My name is Harry Timmons, Jr. My name is . . .) Norman Mogart sighed.

And then, if he persisted, as the White Man always persists, unable to distinguish between folly and futility, the jungle would come for him with claw and tendril and the inhaled hacking cough of the swamp.

He was frightened by strangeness, both within him and around him. (God himself, he felt, would be frightened here!) But he knew that somewhere beyond the gray-green rotting carcass of this jungle, somewhere back where nei-

ther the *peons* nor the *Indios* would go, where they all feared a place, a Place With No Name, a place outside thought or memory, he would find the one he sought. He would find the fabled bringer of fire, the one still known as Prometheus, chained to his rock, his liver eaten out and rejuvenated. And that . . . *that* was enough to drive him on against fears a thousandfold more potent than this merely terrifying jungle. Or the strangeness within him.

He struck off, by the compass still south by southwest, machete and thick-soled boots beating a way for his long, wiry frame. In the chittering depths of that green denseness he seemed too slight, too terrified to find anything as great as that which he sought. His small blue eyes behind the wire-framed lenses of his glasses seemed so watery, so fragile, so astigmatic, they could never recognize grandeur, even if it were to present itself. But he was here, and he was moving, and somewhere behind these dew-cupping fronds, he would come to the legend-that-lived. He had to believe that, *keep* believing it.

It had not been an easy thing, this trek through the rain forest; the feverish drifting upon the waters of the mesa lake where the plane had crashed, killing the others instantly, spitting itself upon the drogued *fuienta,* plunging with a near-living gasp into the eroded bottom. He remembered with the delirium of heat and pain and the nausea of water fever, finding the piragua floating on the edge of the lake. Half-drowned, he had plunged his body into the lean, fire-blackened slit and descended into the darkness of non-thinking. The water, lapping against the seamed side of the dugout had lulled his muted consciousness. He had sought and found a euphoric state of non-feeling like that proffered by the peyote of the *serpentes* who see the secret colors of God upon the wind and the thunder, melting into the chiaroscuro of the jungle night.

(But if he could remember all that, even through the delirium, why did his thoughts continue to scatter and fall past alien memories that he was this other, this small man on a brick street in the cold?)

He kept moving.

And what was it the *Indios* said about him? About Harry Tim—Norman Mogart? He had heard the story from them in a dozen accents. That he was mad to go to the Place With No Name. And what was it those superstitious wise ones said about . . . *him?* About the legend.

The first time it was among the Cholos, when he could barely find the breath to pursue such an impossible tale. Who else but Norman Mogart would have seen

in the semblance of the snake totem the identity of the legends that found their way through the *Rig Veda*, the *Osai nai Komata?* Who else? Why, even the twenty references in the *Heiji Monogatari,* that warrior epic of half a world away . . . all these fitted piece-by-piece to the final pattern.

Now, fevered, moving, skin mottled by the three varieties of diploid fungus so common to the tableland, he knew that his eyes would become the color of llama milk, and his ears become muffled to the sounds of the insinuating fronds in a matter of days; but in that time he might see the thing he had come to see, if it existed.

The Cholos had promised him —with fear—as had the Zenos —with ridicule—and the Huilichachas—with disbelief—that he would find Him. If he went where the colors of the *Yoatl* ran like paint, if he went seven times seven meters, there . . . trapped in the cleft of the living rock . . . He rested, eyes filled with the black tears of fever and pain.

It was not a vulture that assailed Him, of course. No vulture that tore at his vitals. This they told him. That was the Western version; the distorted version of the legend of the fire-bringer. Only He, Huipoclapiol, was the bringer not of fire, but of lies; not the searing brand of truth, but the greater revelation of falsehood, and for this his spleen was ripped from his quivering viscera by the mad-eyed *Yoatl,* whose plumage colors ran like rainbow blood over His brown, immortal body.

And now he had found the bleeding-color bird, and so he knew the rest of it must be true.

Sunk within his own madness (how far into fire-dreams am I gone, he wondered, knowing only one out of six images was of the real world, all others products of the fever, the pain, even this other life I seem to have led, yet know I never led) he faintly heard the sound . . . a mad sound from beyond the green . . .

Eyes burning bright, he hacked through a cat's-cradle of vines, found himself abruptly on a ridge, and looked down to see the sound and what made it. The dull, droning, faraway mad sound of living death. There went the wide brown swath, like an ocean breaker, a ribbon road of desolation and roiling, hungering tumult. The *marabunta!* The warrior ants, the hell-that-moves, the mouth that never knows filling, the army ants that sweep all before them until they inexplicably vanish back into the jungle to wait their time once more.

He stared down at them, far off, feeling a cold return to sanity. No man could look on the face of such total destruction

and not burn away the fever of madness; so much death at once cannot be escaped, even by doorways that lead to delusion. For a very long time he stared down into the valley, watching the moving, always moving billion-legged worm that devoured the world as it went. Then, shivering with the knowing of how small he was, how easily this jungle could take him and kill him, he turned away, and sought again the safety of the jungle. The *marabunta* were moving in a line with him, away from him, but they were far off; they were no immediate threat. Merely a reminder (that indescribable sound still drifting back to him) that he was only alone, only a man, and there were greater gods awake in the land.

Had he not been hallucinating in blue and yellow, he would never have found the entrance to the Place With No Name.

The fever had gotten worse, the fungi that now matted his arms and legs seemed in a race with him, to establish sovereignty of his body before he found what he sought. His most paralyzing fear was of the fungus covering his eyes.

And then he began hallucinating, circles of light emanating from each leaf, from every mote of dust, from the sun, from each outcropping of rock. Millions of circles, pulsing in blue and yellow, filling his world with empty bubble shapes, through which he slogged, half-conscious. Then he came to a ring of low hills, there in the jungle, high atop the mesa. He started around the foothills, hoping for a break that would carry him through, in blue and yellow.

The passage was overgrown with foliage, and he would never have seen it, had it *not* been radiating circles of light. It was, in fact, the only point in his vision that was clear. Almost like a pathway through his delirium. He cleared the vegetation with his machete, and pried away several jagged chunks of rock that had fallen to block the passage. It was quite dark inside.

Norman Mogart took a step inside, then another. Stood waiting. Heard silence. Drew breath. Stepped again. Walked forward with fear. With hope. Saw nothing. Hung his machete on his belt. Slung his rifle. Extended his hands. Felt the walls of the passage. Narrower. Wider. Moving forward. Deeper and deeper into the mountain. Further. Saw light far ahead. Hurried toward it. Marveled that the circles of light had left him. Came to the mouth of the passage. Stepped out. Saw Him.

Mogart was on a wide ledge that circled almost completely around the inside of the mountain. Below him, far below him,

he could make out what had surely been the throat of what was now obviously not a mountain but a dormant volcano. And all the way across the volcano, on the wide ledge directly across from him, Prometheus was chained to the rock.

Norman Mogart started around the ledge, keeping his eyes alternately on his destination, that incredible figure bent backwards over the rock outcrop, and where his feet were placing themselves.

As he neared the figure, he began to realize that if it was a man, it was a man such as had never existed on this Earth. Prometheus was very brown, almost a walnut shade. His eyes, which were closed, were vertical slits. Around the mouth, which was little more than a horizontal gash running completely across the lower face, were tiny fleshy tendrils. They reminded Mogart of the spiny whiskers of a catfish. The tendrils moved in slight, quivering random patterns.

Prometheus was bent backwards over a rock, arms spread and webbed-fingered hands (with more tendrils on the knuckles) pulled down on either side. Huge faceted bolts of a blue metal had been driven through the wrists, into the rock. A chain of the same metal circled the nipped-in waist, and was itself bolted to the rock. Bolts had been driven through the flipper-like feet.

Even as he neared, a scream from the sky brought his eyes up, and he saw the *Yoatl* dive straight down, and with mad-eyed purpose it landed on the chest of the creature. (Mogart realized, suddenly, that this—man?—had altogether too many ribs in the huge chest.) The bird arched its neck and drove its beak into the walnut flesh. It came away red with blood, and Mogart could now make out the scar tissue that covered the body of the chained creature.

He yelled, then. As loud as he could. The bird gave him a quizzical stare, then flapped away into the sky. At the sound of Mogart's voice, Prometheus raised his head and looked across the ledge.

He saw Mogart, móving toward him hurriedly.

Then he began to cry.

Mogart came to his side rapidly. He tried to speak, but he had no idea what to say.

Then the chained figure spoke. In a tongue Mogart could not understand.

"I don't know . . . what you're saying . . ."

The figure closed his eyes a moment, then mumbled something to himself, as though running through a litany of some sort, and finally said, "Your words. This is right."

"Yes. Yes, now I can understand . . . are you . . . ?"

The man's face broke into a

smile. A tortured, painful smile of relief and passion. "So the Justice finally sent you. My time is done. I'm very grateful to you."

Norman Mogart did not know what he meant.

"A moment," the figure said, and closed its eyes in concentration. "Now. Touch me."

Mogart hesitated. The mute appeal in the eyes of the walnut man urged him, and he reached out and touched the flesh of the chained man.

There was an instant of disorientation, and when he could focus again, he found himself alone on the ledge, now chained where the walnut figure had been. And he was alone. Quite alone. Chained in the place of Prometheus; himself having become the fire-bringer.

That night, after the *Yoatl* had come again and again to him, he had his first dream. A dream that lived in fire. And this was the dream:

They had been lovers. And from their love had come compassion. For the creatures of that primitive world. They had brought the fire of knowledge; against all the rules of the Justices they had interfered with the normal progress of another world. And so they had been sentenced. The one to a fate chained to a rock in a place no man would ever visit. The other to a public death.

They were immortal, so they would live forever and suffer forever. They radiated in a strange way, so the *Yoatl* came to feed, and to run like paint as a result.

But now their sentences were at an end.

So the Justice had selected two. One was even now exchanging places with the other, and Norman Mogart had taken the place of the one men had come to call Prometheus. Of the other . . . he had been an alien even as Prometheus had been. He had brought the next step in wisdom for the savages of this world. At the same time though for the savages they were millions of years apart: for time had no meaning to these aliens.

Now, the lovers were freed. They would return and start again, for they had paid their penances.

Norman Mogart lay out on the rock, eyes closed, thinking of the two men who had loved each other, and him, and all the creatures of this world. He thought of them as they returned to *another* Place With No Name.

He thought of himself, and was in pain, and could not be entirely unhappy. How long it would last, he had no idea, but it was not a completely unsatisfactory way to mark out eternity.

And he thought of the man the Justice had found to take the place

of that other, and he knew that when April came around again, he would be given his crown of thorns.

For that was how legends came to be born in the minds of savages, even in the Place With No Name.

It has been too long since Doris Buck's last appearance here, and it is a pleasure to have her back with this economical and amusing tale, a comic heels over head version of the story of Bluebeard.

TRANSGRESSOR'S WAY

by Doris Pitkin Buck

HE RODE BY THE ROSE HEDGE thinking: With any luck the day should hold an adventure. Adventures meant pretty girls. His mind's eye saw one, sugar-sweet with smiles, blonde hair brightened with a hint of ginger. Prettygirl his mind sang—one word. The breeze was heady. The breeze was languorous. Roses teased, hiding their thorns.

Experience had taught the chevalier so thick a hedge must screen sights of interest. His thoughts turned loveward with a rush of tenderness. He felt born to kiss maidens on the lips and cuddle dainty waists. A lovely, melty, prone-in-the-grass-and-flowers feeling.

But there was still the hedge. He poked it with his scabbard. Presently he'd cleared a peephole. Straight before him jetted a fountain. It subsided. It shot up again. And on her knees beside it, about to wash the great gold braid of her hair, rested the prettygirl.

His feet slipped by themselves from the stirrups. He reconnoitered the length of the hedge. For more than a decade he had assumed hedges were created for their gaps. This was an exception, sturdy as a wall built by Romans, forbidding as a range of snow-glistening mountains, matted twig over thorned twig like hairs in a witch's comb.

But he was no whit discouraged, with warm wind petting his cheek and filling his nostrils with perfume. Though life had held disappointments, though he had learned to step warily, surely today would make up for cautions and subterfuges, for moves planned like chess, for promises leading to promises, for explanations he hoped were believed—all these so foreign to an ardent temperament. But the month of

June understood him, brain, heart, and flesh.

"Hist!"

He had known it would be a good day. He had instincts about such things.

"Good sir," a voice came from the other side of the roses, the words in country patois. Clearly a serving maid. Presumably venal. "What shall be my reward if I show you to my lady?"

Splendid. He took stock of what he had upon him. Halfway to his waist hung a gold chain. His fingers inside his hawking gauntlets were ringed with some magnificence. His belt embroidered in fine thread, showed here and there a pearl. Coral and turquoise were sewn onto his gauntlet cuffs. They ornamented the hilt of his good sword Filibert.

He heard a giggle. "My mistress, she's known as Willing Mind."

So far, so good. "Catch," he whispered, flipping a bejeweled gauntlet over the hedge.

"My lord is generous."

"She's still by the fountain?"

"Still by the fountain and naked now as Eve in Paradise."

His breath caught. "How reach her?"

The maid whispered, "There's a passage fit for moles under the hedge. It begins in about twelve of your paces, under a green stone. Pry the slab up with your scabbard."

The girl sat under a bough, her body dappled with shade and light as she dipped her pink foot in the fountain, drew it back from the chill, ventured it in again, and shook out her hair. The temperature of the water interested her little as he shortened the distance between them, marking each step with a garment flung on the greensward.

"Here is thy Adam, sweet Eve," he cried.

Her eyes, blue like finest turquoise, took in his face, figure, and haste. Her rounded chin drooped a little toward her shoulder. She made an effort, a slight one, to shroud herself in the soft cloud of her hair before her expression froze into horror. To him such an expression had but one meaning. She had parents. These parents were upon them like the Philistines on Sampson.

The mother of Willing Mind let out a shriek though no one had laid a finger to her. That was, however, far less sinister than the noise her father made—an effort to force out words that resulted in something like a turkey's gobble.

Opposite the parents from somewhere Willing Mind's brothers appeared. They could only be brothers. "Sons of a son of a mackerel," the chevalier muttered under his breath. He glanced about.

The maid was stuffing his gauntlet into some pocket of her

grease-stained apron. In any case, she would have been no help. The light glinting from Filibert's scabbard seemed farther away than a star. No profit in making a rush for his weapon, particularly with brothers in the immediate foreground.

He sparred for time. Stepping with stately grace to a small tree, he broke off the entire top. This, with distinguished courtliness he placed where it would do most good for Willing Mind's modesty. He snatched a branch from over her head—by good fortune the bough snapped easily—and held it before him. He waited.

The end came swiftly. "Bertrand, how sweet they look!" Willing Mind's mother stepped toward her spouse and smiled into his scowl. He stared down at her in bafflement. The lover had himself found women baffling. Each man sensed a bond with the other.

At this turn in his affairs, the chevalier sank on one knee, still holding the branch in modesty before him. "The beauty of your daughter was like unto strong wine in my blood. Would you, good sir," but he spoke to the dame, "wish a cold-blooded man to marry into your family?"

At that open-sesame of a word, *marry*, the lady mother gurgled, "Aren't they a picture?"

"Your daughter will be chatelaine of many an acre betwixt Blerancourt and Noyon. And," with quiet emphasis, "not a foot is mortgaged."

"But," objected the tallest of the brothers, "we have heard nothing yet of this fellow's family. Is he of noble enough blood to espouse our sister?"

"Know you," the naked lord sprang to his feet, "that I am on my mother's side descended from the Emperor Charlemagne."

"That could be true." Her father tapped his chin.

While the family looked at each other, the descendant added, "The Abbot of Ferronde is my godfather. He brought me up in the odor of sanctity when my parents, God rest their souls, passed to a better world. Happy would I be to lead Wi— to lead this virgin to his high altar and let the church join us twain in holy wedlock."

Wedlock, for a variety of reasons, had been far that morning from the chevalier's intent. But no man should be inflexible, particularly one clothed in nothing more than a cornel bough. With a wide gesture of his free arm he declared, "I shall leave with you, fair sir, to prove the sincerity of my intent, that chain of fine gold from which hangs the amethyst cross my grandsire wore to the First Crusade." He pointed directly.

He felt a reaction in his favor. As he pulled rings from his fin-

gers and slipped them on the brothers', he sensed a further softening. He concealed a certain sadness as he said,

"Of your graciousness, young squire, set this pearl on your hand. Here is silver, sir, but in its scrollwork glint many fair rubies." The next jewels, a veritable mountain of opals, he pressed on the third brother. "This turquoise and ivory for you." He added a warm smile for the fourth.

"Indeed, our sister could do worse." The general opinion.

"Will you now grant me the maiden's hand? Her beauty alone will be sufficient dower."

"Swear to that," her father demanded.

"By sugar and ginger—" It popped into his mind.

"Call you that a respectable oath?"

"To me those are words of power."

"Hmm."

Even Willing Mind's mother wavered in her obvious partiality.

Frowning, yielding to their coolness, the young man gave his next words the sound of a mighty invocation, "By the soft breast of a dove—"

Willing Mind's father scowled blackly. "Swear by your own beard and by your head along with it."

"I do so swear." The wooer tugged at his beard.

"Frank and fair," declared the elder man, relaxing, "especially with the stones weighing in your favor."

The future son-in-law smiled, a slightly worried smile. They let this pass. The mother went so far as to say, "We may well be lucky, however informal this gentleman's approaches." As she spoke, she and the maid were managing to attire Willing Mind in silks and tissue of silver fit for a bridal. How they contrived this so rapidly was to the chevalier a mystery as great as any told at the abbey.

After that a scrivener was called, for the situation required a certain formality.

Then the brothers broke into a jig, crying, "Visits, a fresh castle for visits."

"My *home* is but small—"

"No matter. No matter."

"Hardly larger than a manor —"

"We can sleep before the fire."

"My wife and I would prefer to return here—to the scene of our romance," he added hastily.

Nothing was definite as they left in a flurry of *God-be-with-ye's*.

The bridegroom set Willing Mind, all smiles and radiance, behind him on his charger. In due time they reached the Abbey of Ferronde. They had been seen from afar, and the Abbot stood under the portal to greet them.

"Dear father," the young man called as he swung Willing Mind

to the ground, "we have had but a civil marriage, subscribed to by a clerk. Join our hands before your high altar with all the rites of the church."

"What? Again?" the Abbot questioned in the mild voice of an elderly man. "Are you sure, my son, that your other brides have all passed to their reward?"

"Brides?" An incredulous glance met the Abbot's. "In truth, dear father, you married me once before, but my beloved Aude now beholds me from the gold ramparts of Heaven." He rolled his eyes upward. "Any rumors you may have heard deal with lemans who—Let me not mince words even with a holy man. Both of us know that some women can hardly be plucked off a man's belt." His open, agreeable smile took in practically the whole abbey as well as his bride. She was weeping onto her clenched fists and threatening him with her brothers.

"My heart misgives me," the Abbot declared.

"His promise. His sacred promise. He promised before everybody to marry me," Willing Mind sobbed. In her emotion she held her husband's hand so tensely her nails drew blood.

"The others," he gulped, "no wives at all. I swear by the hilt of Filibert. Trollops, the lot of them. This lady is my one, my lawful spouse."

"Then, Bluebeard," the Abbot used the nickname tenderly, for he had always been fond of his handsome godson, "follow me into the abbey church."

All the way home, a good ten miles by the highroad to which they kept on account of the steed, Willing Mind caroled as if Yuletide fell in June. Between songs she inquired, "How comes it the Abbot knows so much—or so little—of your affairs?" Again, this time on the back of his neck, her husband felt her small nails italicizing her speech.

Between hemming and hawing, Bluebeard managed, "Servants, you know servants. Or your mother does, you dear little thing. Across the fields and over the stiles—a mere two miles. What's two miles to a rumor? But ten miles by road is formidable to an older man. He seldom comes to my castle. So, what with my natural reserve and the distance, my godfather is but little acquainted with my situation."

She bit playfully where the chain used to circle his neck. "Your past life's nothing," she crooned, covering the bite with kisses.

Whether by servants or not, word of their arrival traveled fast. The seneschal, the cook, the turnspit, two grooms, an outrider, the gardener, the gardener's boy, three pages, the gamekeeper and

six chambermaids crowded the castle steps. "Welcome, my lord. Welcome, my lady."

"Our home. Our home," Willing Mind cooed as Bluebeard lifted her over the threshold. He stepped into the great hall. His eyes widened. They grew immense. He dropped Willing Mind to the floor, where she crouched, tense and a little formidable. "Sugar and Ginger, back to your tower! Back—all of you!" His horrified glance skipped from Aude to Clothilde, from Clothilde to Carolissa, past Lynette to Alisoun and finally rested on Dorigen before it went back again over the six, the ladies he had left recently after giving each one a blue-black hair from his beard as a keepsake. Some, he saw, had dressed in finery, some in simple kirtles. But each on her fourth finger wore the band of gold he had given her. In the midst of this fair flock, stood the Lord Abbot. Had he not been great in the church, a man of vast control, his eyes would have brimmed with tears.

"My son, I trusted you."

"If you trusted me, was it necessary to come to my castle, unlock the towers I keep shut—for the happiness of all—and devise this welcome?"

Carolissa was stamping a foot no bigger than a small child's hand. "You insisted—you did, you insisted, you did—that our nuptials take place in Toulouse. Now I see why." She tried to rush at Bluebeard. It took four strong men to hold her.

"When you told me—and I so trusting after our marriage at Aix—when you declared the Duke of Burgundy might appear . . . with an army . . . at any moment, and you had to lock me into that . . . that tower . . . for my safety . . ." It was Lynette, screeching like a storm wind, weeping enough tears to float Noah and his Ark as she rolled up her sleeves.

"Where is the silver and ruby ring I gave you in Provence—the gems I traded for," Dorigen spat the words, "for this." Her eyes narrowed. She tore her wedding band from her finger, flinging it at Bluebeard. It struck his chin with unexpected precision. "For you and your stinking tower I left Avignon, beautiful Avignon. I believed everything you told me about staying night and day in that turret. I even believed I was happy." She was tall. She twisted with such fury that her black hair whipped about her like snakes.

"Dorigen, my own Dove's Breast—"

"Call *her* love names and I'll set fire to tapestry and table, stool and larder." From Willing Mind.

"Ladies, spare us." The Abbot's hands were over his ears. He kept them there while Aude and Lynette, Carolissa, Alisoun, Clothilde

and Dorigen grabbed for any part of Bluebeard's anatomy. He dodged. They shrieked of pearls, opals, maidenheads, sapphires, pure gold, and the lust of a goat.

"We—none of us—had the least idea anyone else was here. Fools' paradise!" They sobbed. They yelped. "At him! At him!"

The servants started to give notice.

With a speed born of horror, the Abbot got Bluebeard into a chamber and bolted the door, fortunately very massive. As an extra precaution, the churchman leaned his own considerable bulk against it. "The way of the transgressor," he gasped, "is hard."

"I repent," Bluebeard shouted over the din. "Where do I do it?"

"I advise an ocean . . . between you and your wives."

"Ocean?"

"Ocean. Northmen adventuring close to the rim of the world, have by reliable report found a new country—Vineland the something or other. Never mind. And don't interrupt. Get out by the window before your chatelaines knock the door down. They will. I should like to prevent murder if I can." The old man raised his hand for silence. "Never mind what you intended to say about your reputation. It could hardly be much worse."

"But poor little Willing—"

"Poor nothing. Every single one of those women is—I wish I could do something, but now it's impossible. Hurry! before they block the outer gates. They will, you know. On your journey think how consequences wait to entrap the deceitful, how no subterfuges protect from the justice God has built into His universe. But I preach again."

"An occupational hazard, dear father," Bluebeard answered, though by now his hair stood upright on his head.

The Abbot saw Bluebeard's fingers on the window ledge. Horrendous and confusing sounds came from the hall. "They won't start on each other, my son, till they're sure you've gone." With relief he noted his godson already headed toward Scandinavia.

The Abbot raised a hanging which, if he remembered rightly, concealed a passage. He thought it led to the peace and quiet of the dungeons. He would have gone out the window after his godson, but he lacked the agility.

He heard wood riven apart, noises that suggested a battering ram, metal rasping against metal. "Bluebeard! Bluebeard! Bluebeard!" Each cry came shriller, more furious than the one before.

The churchman hurried into thickest darkness, thinking it entirely possible one wife could survive. He saw her holding the blood-stained keys of all the towers in a delicate hand. He suspected which wife it would be.

This strangely unsettling story concerns the space program, the astronaut image, the idea that we all, in a sense, go along on these probes into space. It is the first story to appear here under the Barry Malzberg byline, but Mr. Malzberg has appeared in these pages before, and with distinction, under the pseudonym "K. M. O'Donnell": (FINAL WAR, *April 1968;* DEATH TO THE KEEPER, *August 1968;* HOW I TAKE THEIR MEASURE, *January 1969*).

A TRIPTYCH

by Barry Malzberg

A SPECULATION: THE EARTH

Miller floats slowly, revolving hand to heels, pulling up his T-shirt to show the outlines of his stomach. "Lice," he says. Thomas tells him to stop this. I am working on the charts and therefore have no time to get between them, but I can sense their hatred. It is cold inside the capsule and soon enough Miller replaces his clothing and his suit, while Thomas checks out the equipment.

INTIMATIONS FROM THE CENTER

Miller says that if the retrorocket refuses to fire, he will spend the last week of his life telling everybody down on earth exactly what he thinks of them. "Remember," he reminds us, "radio transmission will be unaffected. I intend to start at the beginning of my life and not stop until the present, and along the way I will make very clear that I know what they have done to me. Right down to the last detail. I will give them a sense of communal guilt that will take them seventy years to outlive. I will personally tie up the project until the end of the century by destroying public opinion. I find being a potential sacrifice unpleasant, you see." Thomas points out that all the tests indicate the rocket will fire perfectly; if not, this was something of which we were well aware before the flight, and we had said we would take the risks anyway. He reminds Miller

as well that he is the commander and can bar this. To all of this Miller laughs. "We'll have television too," he says. "I'll point out a few things to them on the way."

A RETROSPECTION

Control has reminded us to conscientiously avoid obscenities or double-entendres while on the network and to stay properly dressed and disciplined during the television interludes. It has been made clear to us that we must do nothing to offend the huge audience which comes along with us; furthermore, misbehavior can set the project back irreparably. Thomas has assented to this enthusiastically and has dedicated himself to enforcing tight discipline in the capsule, but Miller says that he is only waiting until the time when the retro-rockets fail, then he will do what is necessary. "We cannot live our lives as if the bottom two thirds of them do not exist," he has said. "If we go out into space we carry the best and the worst of us all bound up together and we cannot behave otherwise." I too find the instructions from control exceedingly irritating, but, of course, they have precedent; no one, to the best of our knowledge, has ever uttered a public curse while transmitting from space. There are rumors that during one of the first expeditions, one member of the crew, who will be referred to as X, was refused permission to join the others on radio transmission because he had previously threatened to wish his wife a happy birthday in a most graphic manner. Of course X said later that he had only been playing and that there had been no right to deny him greetings from space, but the commander on that voyage had not thought the chance worth taking. It is not that space is aseptic—I am cribbing from Miller here—but that the impression it makes upon all of us is that we should be on our best behavior.

BEING ON MY BEST BEHAVIOR

We defecate and urinate inside our spacesuits; plumbing would be impossible at this primitive stage of the project, and similarly the idea of placing receptacles around the craft was vetoed at a responsible level early in the project; the resulting mess would leave a very bad impression for the recovery crews, although we, of course, sealed inside our masks for the most part, would be oblivious to it. At those times that we took off our masks, the odor might remind us of our origins. Nevertheless, the rules on elimination are very strict, and we are careful to void just before the television transmissions so that there will be no possibility of an accident.

AN IMPRESSION OF THE VASTNESS

Looking out the windows, through the haze and the ice, we can glimpse the slow spin of the universe itself, working back against the frozen earth and moon which, from this angle, are stationary and pinned against what seems to be an enormous, toneless tent. Vague flickers of light seem to move in the distance, but the stars are no brighter than on a cloudy night on earth; perhaps we have a bad vantage point or perhaps the illusion of the brightness of stars is just that. Most of the time we try not to look out, although control, of course, is very interested in our impressions. Of particular interest are the comments Thomas makes on the appearance of the earth, its greenness, its homogeneous tranquillity when seen from this enormous height. "It seems impossible to imagine war or strife; it seems impossible to imagine how the children of mankind cannot live together in peace and harmony faced with the awfulness of space," Thomas says, and control asks him to repeat that; the transmission seems a bit unclear.

THOMAS SPECULATES ON OUR DESTINY

Away from the responsibility of the transmissions, not involved with challenging Miller, Thomas proves to be an entertaining, relaxed man, full of the responsibility of being the commander but, at the same time, possessing that kind of humorous detachment which probably underlies his seniority. Surprisingly, I never got to know him very well at base; we are separated by ten years chronologically, and Thomas says that there is no way our generations can understand one another. Nevertheless, once the final flight plans were drawn and he came to understand that both Miller—whom he rather dislikes—and I would be accompanying him, he did everything within his power to establish a cordial relationship, including having Miller and myself over to dinner several times with his family, a dull, strapping group of people whose names, numbers and ages I have never been quite able to catch. Since Miller and I were not and never have been married or even keeping serious company, we were unable to reciprocate in that way. Now, in the capsule itself, Miller and Thomas rarely speak to one another, except during the broadcasts when a forced amiability must prevail; otherwise, they can get at one another only through me, Miller because he feels that by being his age I am an ally, Thomas because I have never made the kind of melodramatic threats which Miller has. Resultantly, Thomas must rely upon me for conversation, and since there is

plenty of time for that—our tasks, despite all the publicity, are really minimal—I have gotten to know a good deal about him over the past few days; he believes that the importance of our mission is overrated because it really has nothing to do with solving the problems back on earth, and yet, at the same time, he says he understands that the project is meeting needs for people which nothing on earth could allow. "This is why I don't want any cursing on the broadcasts," he says, "aside from anything which control would order. We have to make a fresh start; we can't carry on and on this way, always and forever," giving Miller a sidewise look. "X was a nice fellow but he thought the whole thing was a game, a power game, an adventure game; and that was why he got himself grounded, not only because of the dirty jokes. If it were up to people like X, we would inhabit all the places of the galaxy, and all of them would turn out like this one—the same poison, the same corruption. I don't believe that we were born having to be this way; we just kind of evolved. There can be a counter-evolution in space."

Miller, hearing all of this—there is no way he can avoid it—turns to ask if what Thomas really has on his mind is the banning of sex in space in addition to any scatological references. "You know that isn't what I meant," Thomas says angrily. "Well," Miller replies, "the three of us can't have sex together, not with those gadgets switching us into control anytime at all and without warning, so that means we have a flying start. Isn't that right?"—and I have to make some remarks about course corrections in order to stave off the tension.

ALL IS NOT ADVENTURE: WE SLEEP

In the slow, turning night of the capsule, heavy and grasping under the load of seconal they have insisted we take, I can hear beyond Thomas's slow, even breath at the watch the quicker, higher gasps coming over the radio; it is as if, lying in this entrapment, I were not alone but being surveyed by millions of eyes, all of the eyes frantic and burning, sunk in their lostness, trying to get a grip on me through the television receiver, trying to understand through the web of my sleep what separates my darkness in space from theirs on earth. It is an uncomfortable sensation to know what we are carrying on this voyage, and so I must spend the majority of my supposed sleep-time trying to count off the minutes and, for comfort, imagining that I am lying on a closely enclosed field surrounded by sheep.

MILLER'S VISION OF THE FUTURE

"As far as I can see, within fifty years, we'll have such misery and congestion on earth as cannot be dreamt of now; such corruption and breakdown as to stagger the soul and then, spread out on the aseptic boards of the planets and their satellites, will be small colonies populated by people like Thomas, living in shells at a cost of one million dollars per square foot of gravity. And they'll be in constant contact with the earth on a network of fourteen new television channels set up to receive each of the colonies; and in every barroom, in every living room throughout the nation will be a group of people sweltering in darkness, watching what is coming through on the sets and dreaming of a better end. And then there will be the riots, too; terrible riots when they'll try to seize the project and get hold of the transmitter and kill the personnel, but they'll always be stopped because the most real thing, the most important thing, will be what is going on in those colonies, and they'll do everything to keep it coming in.

"And the worst part of it is that they'll live on Ganymede or Jupiter just the way regressed patients live in a clean mental hospital: plenty of paint and projects and no connection at all. So what's beaming in will be worthless. That's the thing I really can't stand."

THE MOMENT OF CONNECTION

After we settle into the orbit, Thomas reminds us that transmission will begin in fifteen minutes. We start the cameras clicking off their pictures of the moon, and Miller puts his helmet back on. I can see Thomas working on his suit with a rag he has appropriated from someplace; into the rag pours the grease and rust which the rays of space have pocketed on him.

THE ATTEMPT TO BREAK FREE

The retro-rockets fire immediately and we can feel the power drive us back against the seats; Thomas half rises from his chair and takes off his helmet. "See, I told you," he says. "There was never any problem at all. The whole danger was concocted by control, just as a means of keeping their interest. Without danger, there's no fun; you know that. Have to give them their bread and circuses." But we can tell by the tone of his voice that Thomas too had questioned; if what he says is true, then it would have been even more logical for control to have arranged for us to stay there forever, a beacon and a monument, a symbol of the pride and death which intermingled are all

we know of space. Miller too must understand this because he says nothing. "Well?" Thomas says to him, "are you sorry that you lost your opportunity. It would have been a great performance, a really great performance. And I wouldn't have even tried to stop you; how's that for a secret?"

"I know you wouldn't have," Miller says, "and my secret is that I wouldn't have done it, I would have been too scared. Only the really strong can do the things that they must die to do, and I am not that strong. But you are, Thomas. You would have done it. And that's my secret."

I see then, in their laughter, that we have not been so far apart during this voyage after all; the distance was only a state of consciousness, not the terrible, drifting quarter of a million miles that we must yet go to return—to return to what?

TWO AT A TIME

by Isaac Asimov

SEVERAL DAYS AGO THE TELEPHONE RANG AND A YOUNG MALE voice, having ascertained that I was indeed I, said, "Pardon me, sir, how do you determine the center of gravity of the Earth-Moon system?"

The speaker was most courteous, and I recognize the fact that I have certain duties. If I'm going to act publicly as though I know everything, and if I'm going to proceed to make my living out of that pretense, the least I can do is answer simple questions when those are put to me politely.

I said, "The Earth is 81 times as massive as the Moon. That means if you draw a line between the center of the Earth and the center of the Moon, the center of gravity is on that line at a point 81 times as far from the Moon's center as from the Earth's center."

"Oh," he said, "but how far above the Earth's surface would that be?"

"It wouldn't be," I said. "It's roughly a thousand miles *beneath* the Earth's surface."

"Aha," said my young friend, "I knew he was trying to catch us."

A pang of dismay clutched my heart. "*Who* was trying to catch you?"

"My teacher," he said, cheerfully. "This is my homework."

And he hung up.

So I give fair warning. No more question-answering by phone. I'm not going to be made an innocent party to cheating.

But all is not lost. It set me to thinking—

The fact that the center of gravity of the Earth-Moon system is located a thousand miles under the Earth's surface must not obscure the fact that it is located 2900 miles from the Earth's center in whatever direction the Moon happens to be at the moment. The Moon revolves

about that center (which is at one of the foci of the Moon's orbital ellipse), and *so does the Earth!*

The center of the Earth makes a small monthly ellipse about the center of gravity of the Earth-Moon system, tracing out a curve precisely similar to the Lunar ellipse, but only 1/81 its size.

The fact that the Earthly ellipse is so small does not matter. What is crucial is that the Earth moves in response to the Moon's gravitational pull just as freely as the Moon moves in response to the Earth's.

Indeed, every mass-possessing particle (I will leave out that adjective henceforth and assume it to be understood) in the Universe is the center of a gravitational field, and every particle in the Universe moves freely in response to the gravitational field of every other particle (unless constrained by some other type of field).

Let's consider some very simple Universes. A Universe with no particles can be dismissed as trivial. So can a Universe with one particle, for though that particle may originate a gravitational field, the field cannot be detected unless another particle is inserted into the Universe. What we detect is never the gravitational field in itself, but always a gravitational interaction.

So a Universe with two particles is the simplest we can consider.

If the two particles are at rest with respect to each other, they will interact, gravitationally, in such a way as to approach each other at an accelerating velocity until they collide. If they are already moving toward each other along the line connecting them, the same thing will happen.

If they are moving away from each other along the line connecting them, then they will move away from each other at a decelerating velocity. If the initial motion is less than escape velocity*, the deceleration will eventually bring them to rest after which they will begin to approach and finally collide. If the initial motion is more than escape velocity, they will decelerate at a slowly decreasing rate that will never bring them to mutual rest. They will move apart forever.

If they are moving, to begin with, in some direction that is *not* along the line connecting the two at a velocity less than escape, they will trace out a pair of interlocking ellipses (as Earth and Moon do). The two ellipses will be similar, with sizes that are inversely proportional to the masses of the particles. Depending on the velocity and masses the ellipses can be of any eccentricity from 0 (for a circle) to 1 (for a parabola).

It the two particles are moving relative to each other at a velocity

*see OF CAPTURE AND ESCAPE, May, 1959

greater than escape, they will each trace out a hyperbolic path and separate forever.

All these possibilities can be deduced with precision by means of a relatively simple equation first worked out by Isaac Newton nearly three centuries ago, and since modified, to take care of certain additional refinements, by Albert Einstein.

But suppose there are more than two particles in the Universe. In that case, each particle would move in response to the algebraic sum of all the other gravitational fields, and this would constantly shift as every other particle would likewise move in response to the algebraic sum of the other gravitational fields.

For more than two particles, there is no general equation that will exactly describe the motions of each—or at least none has been worked out. There is no general equation that will cover even the simple case of a Universe containing three particles. Three centuries after Newton, the so-called "Three-Body Problem" has not been solved.

In fact, it's even worse than this, for according to the strictest interpretation of Newton's law, a "particle" is something that has mass, but zero volume, and nothing of the sort exists in the real world. Consequently, even the "Two-Body Problem" which *is* solved, does not truly apply to the real world.

This sounds as though Newton's theory of gravitation is the purest fantasy. After all, if it works exactly only for two non-existent particles and for nothing beyond that, we might as well go back to that old bromide of medieval scholasticism and count the number of angels who can dance on the head of a pin. Or might we?

There is a difference, you see. Even if two clerical scholars agreed on the exact number of angels who could dance on the head of a pin, to what use could they put the result? Newton's theory, on the other hand, divorced from reality though it seems, can be brought down to Earth and put to work.

When we say the Three-Body Problem is not solved, we mean in terms of pure mathematics. No definitive and totally precise answer can be given in terms of a finite and universally applicable equation.

The astronomer, however, working on celestial mechanics itself, and not on the pure mathematics analogous to it, asks not a system for describing the motion of various bodies with ultimate exactness (though he would have no objection to one) but will be satisfied with a system that will describe positions and motions within the limits of error of observation for some reasonable period of time. In other words, he will be satisfied to work with useful approximations.

Let us begin, then, with a sub-atomic particle. It has mass and yet it has a volume which, while not actually zero, is *nearly* zero. It is *almost* a point-source of a gravitational field that will serve the Newtonian ideal. The only trouble with these sub-atomic particles is that their masses are so small that their gravitational interactions are just about indetectable, particularly since such particles are likely to undergo other interactions, involving fields which are much, *much* stronger than the gravitational.*

Gravitation, you see, is one of four types of interaction known in the Universe. Two of these, however, are confined to atomic nuclei and can be ignored if we are dealing with particles as large as an atom.

The remaining interaction is electromagnetic. It is the dominant interaction in all objects ranging from the size of an atom to that of a small asteroid. The forces holding solids in one piece are electromagnetic in nature.

The electromagnetic interaction is enormously more intense than the gravitational. A small asteroid with an irregular shape is easily held in that shape by electromagnetic interactions, even while the gravitational interactions of the particles making it up is trying to force it into a spherical shape. The small asteroid has no trouble maintaining its electromagnetic-supported irregularity against gravitational demands.

The electromagnetic interaction, however, has both attractions and repulsions, and in sizable chunks of matter these usually balance in such a way that the excess, one way or the other, is quite small. The gravitational interaction, however, involves attractions only (as far as we know), and as an object increases in mass, in density, or in both, the total intensity of its gravitational field increases without theoretical limit. For large asteroids, and certainly for bodies the size of the Moon and the Earth, a spherical shape is a necessity. The gravitational field insists upon it, and at those masses it cannot be denied.

But how can we be sure of that? In bodies the size of the Moon or the Earth there are trillions of trillions of trillions of particles in close contact. Each particle in the Earth must interact gravitationally with every other particle. What's more, each particle in the Earth must interact gravitationally with each particle in the Moon.

Can a theory that can't deal with total effectiveness with even three particles be of any use whatever when trillions of trillions of trillions are involved?

When Newton was working out his theory of gravitation, this stopped him. He thought he knew the answer, but he couldn't prove it. In

*see *FIRST AND REARMOST, October, 1964*

order to prove his intuitively-expected answer to be true, he needed powerful mathematical tools that did not yet exist. Fortunately, he was Newton. He invented the mathematical tool himself—calculus.

Using calculus, Newton was able to show that *if* a real astronomical body were 1) spherical, and 2) either of uniform density throughout, or of density that changed equivalently in all directions from the center, *then* the body produced a gravitational field exactly like that which would be produced by a body of similar mass but no volume (a point-source) located at the center of the body.

The Earth, for instance, is roughly spherical, and we have every reason to suppose that its density varies (when passing from center to surface) in precisely the same way no matter which direction we choose. Therefore the gravitational field seems to originate at the Earth's center, and no matter where we are located on Earth's surface, we are pulled toward that center.

The Moon also appears reasonably spherical, as does the Sun and those planets whose discs we can make out in a telescope. It is fair to suppose that, with occasional special exceptions, all astronomical bodies fulfill the criteria of shape and density distribution, and all can be treated as though they possessed point-sources of gravitational fields at their center.

Of course, if you're going to pretend an astronomical body is a point-source, you must treat it as one. You can't get inside a point-source since it has no volume to get inside of. Therefore if you tunnel into the body of the Earth, the Newtonian equation in its simplest form breaks down.

If there were really a point-source of gravitation at the center of the Earth, then the closer and closer you dig your way through the Earth toward that center (or find your way there through a tunnel, à la Jules Verne), the more and more intense would be the gravitational interaction to which you are subjected. Finally, when you reach the very center, the intensity of interaction (provided you are a point-source yourself), becomes infinite.

In actual fact, the closer you dig or probe your way toward the center of the Earth, the weaker the gravitational interaction. And if there were a hollow at the very center of the Earth (à la Edgar Rice Burroughs) the gravitational interaction within that hollow would be zero everywhere no matter how small or large it might be (something ERB didn't know).

This is by no means a "paradox" which somehow goes against the theory of gravitation. It merely falls outside the original simplifying

assumption of point-sources. If you divide the Earth into two portions, the part closer to the center than yourself and the part further from the center than yourself; or if you divide it into the hollow and the part outside the hollow; you can show that the Newtonian equation will explain the situation.

There are other difficulties, too. The Earth is *nearly* spherical, but it is not *exactly* so. It is actually an oblate spheroid, meaning that the distance from the center to the surface varies in this fashion: it is at a minimum to the North (or South Pole) and increases as one approaches the Equator (in any direction) reaching a maximum at the Equator. The Equatorial radius is 13 miles greater than the Polar radius; not much in a total radius of some 3950 miles, but enough.

This bulge produces a tiny gravitational interaction of its own with the Moon, and it is this which causes the ends of the Earth's axis to mark out a slow circle that takes 25,700 years to complete. This "precession of the equinoxes" would *not* take place if the Earth were a perfect sphere.

These departures from maximum simplicity may complicate the handling of Newton's law of universal gravitation, but they also strengthen it. The fact of the precession of the equinoxes was observed two thousand years or more before Newton, but the rational explanation of that fact had to wait for Newton's equation, properly applied.

In fact, the Earth is not even a perfect oblate spheroid but is rather lumpy and uneven everywhere. Its land surface is jagged with mountains and depressions, and the density of the outer crust shows irregular patches of high and low values. As methods for detecting the intensity of the gravitational field with greater precision are developed, tiny differences are detected from spot to spot. These reflect the departures of the Earth from the Newtonian ideal.

And yet these departures are indeed tiny departures. It is not necessary for us to begin with the Earth in its *exact* shape and with its *exact* density distribution and try to work out the *exact* nature of its gravitational field. If we tried to do this, the problem would be far too complicated and we would surely fail.

Instead, it is only rational to begin with an idealization, a simplification, even though we know that to be "wrong." We begin with that as a first approximation, then correct for major discrepancies, then for minor discrepancies, then for very minor discrepancies and so on. Little by little we approach a (possibly unattainable) real "truth" and in the process develop a precision as tight as necessary for our purposes.

Undoubtedly bodies other than the Earth possess these same imperfections, these same minor departures from perfect sphericity and perfect density symmetry.

Consider the Moon. The Moon rotates very slowly compared to Earth, and it is therefore a much closer approximation of a sphere. There is no Equatorial bulge to speak of.

Yet if the Moon were entirely perfect in its Newtonian simplicity, an object in orbit about it would be expected to move in a certain fashion that could be calculated out to a considerable number of decimal places. This proved not to be so.

Lunar Orbiter satellites circling the Moon moved a little too quickly in certain spots in their orbits. All the known factors were included, but there was still something left over. In order to explain the discrepancy, it was necessary to postulate that the Moon's gravitational field was a trifle more intense over certain sections of its surface than over others.

It was more intense, apparently, over the comparatively flat and unruffled "seas" than over the cratered and mountainous areas. It seemed that under the seas were "mass concentrations," regions of higher-than-normal density. The term, mass concentrations, was quickly abbreviated to "mascons" and this is the new magic word in selenography.

What are the mascons? One possibility seems particularly attractive. Suppose the seas are the sites where great meteors struck the Moon at some late stage of its development. If that is so, might there not be large meteoric lumps, underlying the surface of the seas? If the lumps are largely iron, they would be twice as dense as the ordinary crust of the Moon. That would account for the tiny gravitational anomaly.

Astronomical objects which are so small that the gravitational field has not become the overriding factor, may maintain gross irregularities of shape and not even approach the spherical. The asteroid Eros is a notorious example, for it is apparently brick-shaped, with its longest axis about 15 miles in length.

This means that its gravitational field in its own near vicinity varies in complicated fashion from place to place. The intensity of the gravitational field of such a body is very weak, however, and if you were standing on Eros' surface you would be subjected to a gravitational interaction only about one-thousandth that of the Earth.

It is that high only because on the surface you would be standing

only a few miles from its center. If you were 4,000 miles from Eros's center (as you are 4,000 miles from Earth's center when you stand on Earth's surface), Eros's gravitational interaction with you would be more like a billionth of what you are used to on Earth.

This is and must be true of any astronomical body small enough to be able to deviate widely from the spherical. The intensity of its gravitational interactions are tiny and play little, if any, role in astronomical calculations. Besides, at a distance, any variations in so tiny a gravitational field are even less important than the field itself, and Eros and other objects of that nature can be regarded as point sources anyway, provided we are not immediately on, or very near, their surface.

Even if we pretend that all astronomical bodies behave as point-sources, there still remains the question of the Three-Body Problem. How can we predict the movements of the Moon, for instance, in a Universe made up of innumerable objects all producing gravitational fields even if each object, including the Moon, is considered a point-source?

Fortunately, the distribution of bodies in the Universe is such that there is always good reason to consider them two at a time, at least to begin with. When a third body is present it is always so small it may be ignored, or so distant that the first two bodies can be considered as a single point source. Either way, we are left with a Two-Body Problem.

Suppose we consider the Moon and the Earth. These two bodies are separated by a distance of 237,000 miles (on the average), and there is no other sizeable body closer than a hundred times that distance. As a first approximation, then, we can pretend that the Moon and the Earth are alone in the Universe and treat them as though they represented a Two-Body Problem.

When this is done, it follows that the Moon and Earth travel in a pair of interlocking ellipses about the center of gravity of the system. The Earth's ellipse is so small that it can be disregarded, at least in lay discussions, and we can say "The Moon revolves about the Earth" without being corrected, even by astronomers.

It is from the relative sizes of these ellipses that one can deduce that the Earth has 81 times the mass of the Moon.

The Earth-Moon system is 93,000,000 miles from the Sun. There are other bodies closer (Mercury, Venus and Mars, when they are on the Earthward sides of their own orbits). The Sun, however, is over 150,000 times as massive as all the inner planets put together, so

that the Earth-Moon system (taken as a point-source at the center of gravity) and the Sun can be treated once again as a Two-Body problem.

When that is done, it turns out that the center of mass of the Earth-Moon system moves around the Sun in an elliptical orbit (not very far removed from a circular one) in 365 1/4 days. To be very precise, the Earth-Moon system moves about the center of gravity of the Earth-Moon-Sun system, which is about 300 miles from the center of the Sun. The center of the Sun makes a tiny ellipse about that center every year—or would, if Earth, Moon and Sun were the only bodies in the Solar system.

Both Earth and Moon revolve about their own center of gravity twelve times and a little over each time the system revolves about the Sun. This means that the orbit traced out by the Moon's center marks out twelve very shallow waves (and the beginning of a thirteenth) as it moves around the Sun. The Earth's center marks out a similar set of waves but considerably shallower.

By comparing the effect on the Earth of the Sun at its known distance and the Moon at its known distance, it is possible to determine that the Sun is 27,000,000 times as massive as the Moon and therefore 330,000 times as massive as the Earth.

Of course, the Moon responds also to the gravitational fields of Earth's equatorial bulge, as well as those of Venus, Mercury, Mars, Jupiter and so on. The intensity of these various gravitational interactions vary constantly as Moon, Earth, Venus and all the rest move in their respective orbits at speeds which are not entirely constant.

All these other gravitational interactions introduce only minor corrections ("perturbations") in the Moon's orbit, and its general shape as worked out by Two-Body considerations is not seriously altered. Nevertheless astronomical precision requires that these other interactions be taken into account. I am told that the equation representing the motion of the Moon with all the known perturbations taken into account would fill a large volume and would still be only an approximation, though a very close one. Newton was reported to have said that working out an equation for the motion of the Moon was the only problem that ever made his head ache.

What about other planet-satellite systems? Jupiter has twelve known satellites, of which four are roughly the size of our Moon. Jupiter itself is so much more massive than all its satellites put together, however, that each satellite can be studied in connection with Jupiter alone as a Two-Body problem.

If we know the distance of a particular satellite from Jupiter and the time of its revolution about that planet, we can compare that time of revolution with the time it would take to revolve about Earth at the same distance from ourselves. The satellites whip about Jupiter much more quickly than they would about the Earth and from that, making use of Newton's equation we can calculate the intensity of Jupiter's gravitational field relative to Earth's and, therefore, its mass as well. It turns out Jupiter has a mass 318 times that of the Earth.

Similar calculations can be made easily for any planet with a satellite whose distance from the planet and period of revolution can be determined.

But how about the masses of the satellites themselves? The mass of the Moon was easily determined from its effect on the motion of the Earth. Alas, this is an unusual case. The mass of the Moon is so large a fraction of the mass of the Earth that the Moon makes the Earth wobble noticeably. This is not so for any other satellite in the Solar system. One and all they are so small in proportion to their planets that their effect on that planet's motion is unnoticeable.

The mass of a particular satellite of Jupiter must be deduced from the perturbations it produces on the orbits of the other satellites, and such calculations are not very precise.

Similar imprecision attends the masses of planets without satellites. Until recently, the mass of Venus had to be calculated from its perturbations on the Earth-Moon system, and the best one could do was to say that the mass of Venus was 0.8 that of the Earth. Now, however, we have sent Venus-probes skittering closely past the planet, and from the effect of Venus on those probes, it has been calculated that Venus has a mass 0.81485 times that of Earth.

As you see, though, all mass determinations based on orbital movements are relative. They all boil down to a certain multiple of the Earth's mass, for instance.

To make all those relative determinations absolute, the absolute mass of one astronomical body, at least, must be determined, and that, indeed, was done.

The mass so determined was that of the Earth itself; the time was 1798; the place was England; the person was Henry Cavendish; the discussion thereof—well, please be patient.

We've not yet had time to find out anything about Tony Morphett. For now, it's enough to know that he has written a story about garbage disposal, dead cats, a hard nosed and amiable engineer named Rafferty, a planet orbiting Vega, and that is one of the funniest stories of first contact with aliens that we've ever read.

LITTERBUG

by Tony Morphett

RAFFERTY STOOD SIX FOOT TWO, was built like a fullback and had a reputation for gentleness except on certain specific occasions. This was one of those occasions. He had got home, thumbed the lock on his front door, and from a habit dating back to less civilized periods in his life, he had gone inside without turning the light on.

And had known that in the dark house he wasn't alone.

It could have been smell, it could have been sound, it could have been that other thing which was just *the feel*, and which had saved his life on occasion. But he knew they were there, and he moved fast, he moved silent from the front door. They must have heard the lock, so the area of the lock was somewhere not to be.

"That you, Joe?"

A voice from the laboratory. It must have been his not turning on the light. A man coming through his own front door turns the light on. Therefore the voice thought that the noise had been made by another of the intruders. Rafferty smiled. The intruders were fortunate that they didn't see that smile. It was not at all a nice smile.

Now he knew there were two of them, otherwise the one who had spoken would not have pinned the noise source to one name. Now, at the laboratory door, he could see one of them, partly silhouetted by a torch held in the left hand while the right hand moved across the face of a control panel.

Rafferty had a reputation for gentleness, but under some circumstances he had no social graces whatsoever, and when he saw someone else's hand on his laboratory pet, Emily Post went out the window and Rafferty turned from an engineer into a hunting primate. A very fast-moving hunting primate.

It is not true that the man didn't know what hit him. He said later that he *did* know what had hit him. He said it was the roof. It was actually the edge of Rafferty's hand. Rafferty had tackled him, they had gone down together, Rafferty's right hand had moved twice. Once up, once down. Then *the feel* had taken over, and Rafferty had rolled away just fast enough for the second man's blackjack to strike his shoulder, not the base of his skull. Every man got one chance with Rafferty, and that had been Joe's. Still lying on the floor, he scooped the man's feet from under him, then realized he had caught himself a pro. The man struck at him again on the way down. Rafferty blocked with his left forearm, had to block again as the man's bladed left hand came into action, and then felt an increased respect as his opponent flicked away the blackjack and struck for Rafferty's solar plexus with a right forearm-hand-extended-finger assembly as straight and solid as a quarterstaff. What Rafferty thought had saved him was his own right hook which laid his opponent out at the same time as Rafferty started to concentrate on unknotting his stomach. At least, he thought, he'd be on his feet before they were conscious.

And then the light went on. For an engineer, he had made one assumption too many.

There had been three of them.

It was infuriating. He could have taken the third one, gun and all, if there'd been anything in his belly except a black gaping pain which would not let him stand. The slight, grey-haired man with glasses didn't look as if he knew one end of his 44 magnum from the other. Which worried Rafferty more than if he'd looked like a killer who wouldn't let it go off by accident.

"Mr. Rafferty, I must ask you to abstain from further violence. I realize that, as a citizen, you have a perfect right to be irritated at this intrusion on your privacy. But please do not be violent."

Rafferty swallowed so hard it straightened out most of the knots. "That is the craziest speech I've ever heard a burglar make."

"Unfortunately," the little grey man with the big gun continued, "we felt it necessary to have a little more information before we approached you more . . ." he cleared his throat, "ah, formally."

"We haven't," said Rafferty, "even been introduced."

"Since, however, you returned as you did . . . somewhat prematurely Mr. Rafferty . . ."

"Next time I come through my own door I'll knock."

"I think we had better come into the open. I'd like you to accompany us if you would."

Rafferty's deep breath straightened out the rest of the knots. "Look, you're holding the gun, and that makes me very polite. But may I put it this way? You break into my house, you tamper with expensive lab equipment, one of your men turns my solar plexus into a disaster area, and *then* you ask ever so politely for me to accompany you. Who the hell are you? And apart from the gun, why should I go anywhere?"

"We all work for the government. My department . . . well it doesn't really *have* a name. These two gentlemen," he nodded to his two now-conscious companions, "work for a rather better-known bureau. Perhaps you could . . . ?"

The two men produced leather cases. Flipped them open. Rafferty looked at the metal shields. He must, he decided, be in better fighting trim than he had thought. "All right, I'll come along."

The little man handed the gun to the operative called Joe. "I'll have to telephone. There are two people who'll want to meet you."

Rafferty lowered himself into the chair. The office was comfortable, but there was nothing soft about it. The little grey man sat at the desk. He had introduced himself as Watson. The other two men in the room he knew from reputation, technical journals and television: Professor Clemens, a Nobel prize winner in physics, and Dr. Simpson Navarre, one of the government's chief scientific advisers. Watson looked up from a slim file on his desk. "Now, Mr. Rafferty, what we wish to talk to you about is your, ah, matter transmitter."

"I don't have one. I make garbage disposal units."

Professor Clemens leaned forward. "Mr. Rafferty, let's save a bit of time. You *call* them garbage disposal units. Now, as I understand it, a conventional garbage disposal unit is like a mincing machine. You put matter in one end and it comes out the other end ground up fine enough to be washed away."

"Do you know," said Rafferty, "I don't believe I've ever discussed garbage with a Nobel prize winner before?"

"That'll be enough, Rafferty! You're in trouble enough without impudence!" Watson sounded angry. Rafferty diagnosed a chronic case of lack of sense of humor.

Rafferty stood up. "Good evening."

"You'll . . ."

Navarre turned on the grey

government man. "Be quiet, Watson!" Navarre went on more quietly. "We wish to talk to Mr. Rafferty about garbage."

Clemens joined in the smile. "Garbage *disposal.* In a conventional unit you put matter in the form of, say, orange peel in one end, and you get matter in the form of slush out the other. In your unit, Mr. Rafferty, you put matter in one end, and *nothing* comes out the other end. In fact there would appear to *be* no other end."

"Well that seems to me to be an advantage," Rafferty said. "It saves water, prevents clogging . . ."

"Mr. Rafferty," Navarre broke in, "please don't play the hillbilly. You know exactly what we mean. *Where does the garbage go?*"

Rafferty smiled. "I don't know."

"You don't know?" Clemens was out of his chair. "You must know! You built it. You manufacture it. You must know where it goes!"

"Does it work?" Rafferty said.

"Yes," Clemens said tightly, "it works."

"Is it a good garbage disposal unit?"

"Yes. It is a good garbage disposal unit. Which is like opening a bottle on a metal edge in a Polaris sub, and calling the submarine a good bottle opener."

"I asked is it a good garbage disposal unit?"

"All right, I agree it's a good garbage disposal unit."

"And I," Rafferty said, "am an engineer. It works."

Watson leaned forward. "Mr. Rafferty, I think you should be informed of a few things. For a start, if we want to, we can lock you up and throw away the key."

"You're the one who threatened me before." Rafferty sounded quiet and unamused.

"You have endangered the security of this country and the security of the Free World by applying for a patent on a device which has immense military potential. When your patent application was rejected because you couldn't explain the principle, you went ahead anyway, manufactured your device, and now you're selling it to anyone with the money to pay for it. That means anyone in a number of embassies which even *you* ought to be able to name. In short, Mr. Rafferty, you are a traitor."

Rafferty's chair was empty and Rafferty was leaning across the government man's desk. Rafferty took Watson by the shoulders and squeezed in a way which Rafferty thought was gentle. "Mr. Watson," he crooned, "you are no longer holding a gun. Unless you are, never say that again. Understand?" He let go. He walked back to his chair. Watson tried to get his shoulders back into place.

Navarre cloaked his smile. "I can understand your resentment, Mr. Rafferty, but what Mr. Watson meant was that you might have shown your device to the government first. We *are* interested in new ideas . . ."

"I did."

Navarre put his head in his hands like a man who had heard it before. "Go on."

"I tried it on the army, navy and air force and a set of very well-qualified young men told me my math wasn't as good as it might be, and anyway the effect was theoretically impossible."

"But didn't you show them a working model?"

"Have you ever tried to demonstrate a perpetual motion machine to a government physicist? Or a mermaid to a government marine biologist? Or telekinesis to a government psychologist? The majority of scientists want to ask only those questions they can answer. The fact that they could throw my math was enough. The fact that I didn't have even a bachelor's degree didn't help much."

"You don't have a degree?" Watson's spectacles were twin barrels. "You mean you were lying to us when you called yourself an engineer?"

Clemens smiled. "I shouldn't worry too much about degrees, Mr. Watson. Thomas Alva Edison didn't have one either, and it was probably the saving of him."

Rafferty looked across at Clemens. He decided he could possibly warm to this man.

Navarre, the government adviser, was still looking unhappy. Rafferty guessed that other people in the army, navy and air force would be looking even more unhappy the next day. Navarre spoke. "So we've done it again. We'll just have to see what we can salvage. Presumably, Mr. Rafferty, you weren't trying to make a garbage disposal unit when you started?"

"No. I was trying to do what the burglar over there suggested," he said, nodding at Watson. "I was trying to push matter from one place to another without actually carrying it. A man paddling a log and a man riding a rocket, they're not different in *kind*, you're only talking about an improvement in technique. I was looking for a difference in *kind*."

"I've got scientists who say it's impossible," Watson said.

Rafferty didn't look very nice when his eyes narrowed. "Mr. Watson, in my lab I've got a unit just big enough for a man your size. Would you like to try it out and then talk about possibilities and impossibilities?"

"So you started out to make a matter transmitter," Navarre said. "How did it turn into a garbage disposal unit?"

"Money. As you can probably

read in that file there, my factory's for repetition engineering, and this thing's just a hobby of mine. The firm makes enough so it can be a high-priced hobby, and there have been economic by-products in the past, but still, so far it's been a hobby. Well, I ran into a deadend. The transmitter, the matter transmitter works fine. It's, uh, the *receiver* end that still has some bugs to iron out."

"What bugs?" Clemens said.

"One very simple one. It doesn't work. The transmitter's fine. You put something in, you throw the power, it goes away. It doesn't disintegrate, burn, atomize, or get washed down a drain. It just goes away. Now it ought to be going into the receiver. But it doesn't. It goes somewhere else."

"Where?"

"I don't know. It must be going somewhere. I used to watch the newspapers. I used to have this nightmare that an explorer was going to come back and say that he'd found the Lost Valley of the Incas and it was filled to the brim with orange peel and beer cans and coffee grounds. Now I think the stuff's not ending up on this planet at all. The odds are it's in deep space somewhere. It's going somewhere in space-time, anyway. I'm conventional enough not to believe that all that matter's just being destroyed. So I had a matter transmitter but no matter receiver. I needed development money, a lot of it, so I went to the government. Whose representatives, Dr. Navarre, told me very politely that I had shot my lid." Rafferty lit a cigarette. "Now that didn't alter the fact I still needed money for development, and the thing it worked best at was getting rid of things. Which to me said garbage disposal. So I put in about a dozen fail-safe devices to stop tampering idiots from losing arms, and I got it on the market this week, and the orders look very nice indeed. No status-home is going to be without one."

"The government will recompense you, but we've got to get every single one back." Watson winced at Navarre's use of the word "recompense," but nodded.

Rafferty smiled. "I wish you luck then. They're already distributed coast-to-coast, and our sales are running into thousands."

It wasn't until a week later that the garbage started coming back.

Rafferty always ate breakfast in his laboratory, because that was the place in the house the best morning sun got to. It was also the place in the house where he felt most comfortable.

He finished eating, put a toast crust and two egg shells into the rind of a grapefruit, and threw the lot into the maw of his big experimental Watson-sized disposal unit. He switched the

power on and turned away to pour himself some coffee.

Sproiiing.

Rafferty looked back. His unit had never said *sproiiing* before. He was in time to see the grapefruit rind, the two egg shells and the toast crust come flying through the opening. Something else followed them.

On the domestic models there were spring-loaded doors and an automatic shut-off if they were opened. Rafferty's lab model ran to power rather than to refinements like doors and idiot-proofing.

Rafferty went to the machine. The power was still on. The grey vortex in the transmission area was as it should have been. Rafferty had a peach left over from his breakfast. He put it on the conveyor belt. The conveyor belt bore the peach into the grey vortex, where it disappeared. Rafferty waited.

Squelch!

Rafferty straightened up, wiping peach out of his eyes. Rafferty was a gentle man and would never have laid hands on his own invention, and besides there wasn't an axe in the laboratory. He left the machine for the moment, and looked at what had come out the first time. He seemed to remember seeing something fly out that he hadn't thrown in.

He picked it up. It resembled a cat and it resembled a four-legged bunch of broccoli, and it wasn't either. It was dead, and among the things it *didn't* resemble was a bunch of violets. Rafferty got a towel and a carving knife. The towel he tied round his mouth and nose. His past included being a slaughterman and skin-diving for a marine biologist, so he didn't think anyone would mind if he had a first, semi-professional cut.

He had made three cuts and decided it wasn't cat or broccoli, fish or steer, when the phone rang.

"Rafferty."

"Jim here, from the factory. Two of the units on the test bench. Garbage is coming *back* through them."

"Other stuff as well? Stuff that doesn't look like . . . well normal sorts of garbage?"

"Well, I don't know, what some people throw out, others'd live on for a week. I mean, what's *normal* garbage?"

"But you're just getting back what you're putting in?"

"Yeah."

"How fast?"

"Some oozes back, some flies back."

"Any pattern?"

"Not yet."

"I'll keep in touch."

He hung up. Looked at the broccoli cat again. No pattern. At least he'd have something to throw at the first biologist who

told him that a broccoli cat was theoretically impossible and that his DNA spelling grades were on the other side of illiterate.

Then he took an apple, and tossed it into the grey vortex. Then instantly switched off the power. And waited. Nothing. So when he switched off, the stuff couldn't get back. Logical, except that it was illogical for it to come back at all.

He sat on the stool at his drawing board, and he cracked his scarred knuckles for a while and stared at the wall like he was going to take it apart. Then he swung on the stool, and leaned back, and took a piece of paper tape in his right hand. Put one twist into it, and held the two ends between finger and thumb, making a Moebius strip. He knew that the pad of his finger and the pad of his thumb were touching different parts of the same side of the strip. That they were both twelve inches and one millimeter apart. He threw the tape away. Somewhere . . .

Where?

He looked out the laboratory window. Then he whistled as he went to the lab unit, turned it on, then went to the bookshelves on the wall and selected a volume. Then watched as the grey vortex of the unit slowly enveloped the book of maps of the night sky as seen from earth.

The phone rang.

"Rafferty?"

"Yes. That's Watson, is it?"

"We want to see you, Rafferty. There's been a complication."

"You mean the garbage is coming back through *your* test units too?"

"Not on the phone, Rafferty, not on the phone. You'll be picked up in five minutes."

"I've things to do at the factory."

"Five minutes, Rafferty."

Rafferty hung up, and then phoned his factory, and made a priority order for delivery to him that afternoon.

The biologist looked up from his examination of the broccoli cat. He smiled. "It's an extremely convincing fake, gentlemen."

"Fake?" Navarre's hands were tightening.

"Well, of course, nothing like this exists."

"Thank you, Professor." After the man had gone, Navarre used the telephone. "Send me a *real* biologist. If the ancestors of that one had been as adaptable as he is, he would now be a sea squirt which knew that free oxygen was a poison and that mobility and limbs were something an adult grew out of." He sat down.

Rafferty grinned at him. "Any other . . . fakes coming back through the units?"

"We're sifting the material as fast as we can. It appears that

there's some vegetable material that's . . . well, unknown, but that . . . thing of yours is the first . . . is it an animal?"

"Roughly speaking, yes. Can you find out for me what it breathes and eats?"

Watson cleared his throat. "Now your theory, Rafferty, is that you've somehow . . . punched I think was your word, punched a hole in space-time, and the other end of the hole is on some planet circling another star."

"Yes, I think so."

"But even if we accept the principle of punching holes in space-time," Clemens said, "the odds against finding the other ends of those holes on another planet in another solar system, well, the odds are, if you'll pardon the expression, astronomical."

"I shan't pardon the expression," Rafferty said, "but odds like that have come off before. And if you don't believe they've come off this time, then tell me where on this planet the broccoli cat comes from."

"But why should the thing come back through the machine at all?" Watson couldn't bring himself to call it a broccoli cat.

"You ever live in a slum, Mr. Watson? I guess not." Rafferty had his grin tucked down at the corners. "Well you throw garbage onto someone else's back landing, they'll throw it back, uh? And some people, they get mad, they'll throw a dead cat with it." Rafferty's hands were palms up, and more pious than his eyes. "It's terrible what some people'll do when they get mad."

Navarre had a grin of his own. "Well, I've had the problem of First Contact on my hands for three years now, and I never thought it'd be garbage over the fence."

"And that, Mr. Navarre, is because you've never lived in a slum either. But where you can put a dead cat, you can put other things. And I thought even a cat thrower's not going to throw back something that looks important. So that's why I sent him the star maps."

"What star maps?" Navarre was quiet, cold.

"You know the sort of book. Amateur astronomers use them. They show the night sky, northern and southern skies as they are at the various months of the year. I sent it through my lab unit this morning. Nearest thing I could give them to an address."

The way Watson looked, Rafferty should have had a snakebite kit on him. "You're under arrest, Rafferty. Last week I called you a traitor. Today you proved it. Gave them our address, did you? Do you expect them to pay you?"

"Pay me, Watson?"

"When they invade."

"No one's going to be invading,

Mr. Watson. They can't be closer than four light-years. They're probably further."

"They can get a dead cat here. They can get an army here in the same way."

"But, Watson," and Rafferty smiled, "how do you know the cat was dead when it left there?"

"What do you mean?"

"Maybe it was alive, and got killed on the trip through."

"But who'd throw a live animal into a thing like that? Why, it'd be . . ."

"Please don't say *inhuman*, Watson, I don't think I could bear it." Navarre turned to Rafferty. "You mean you don't think someone could go through there alive?"

"I don't know. Until I knew there was something at the other end, I wasn't very keen about trying it. Couldn't see myself making a laughing exit into hard vacuum and absolute zero. Or into the center of a sun. But now? Well the odds are better. But I still say that there's tourism and tourism."

Watson was putting down his phone. "The general will be here in one moment."

"General?"

"Rafferty's action has made this a military matter."

The general heard them through and then refilled his corncob pipe. "Should have been in on this at the jump. But it's not irretrievable. One thing, we've got no problem delivering the bombs."

"The bombs!" Rafferty stood up.

"Of course. Now they know where we are, we'll have to exterminate them. You say a grapefruit rind came back through your unit. Could just as easily have been a grenade. Or an H-bomb. We have to hit them first. Before they hit us."

"But they've shown no signs . . ."

"Can you assure me they won't?"

"I don't know them!"

"Neither do I, Mr. Rafferty, neither do I." He turned to Watson. "I'll be recommending a simultaneous, all-out attack. Enough to take an earth-size planet apart."

Professor Clemens leaned forward. "General, I must protest! This is our first chance to contact what might be an intelligent alien species, and . . ."

"You're not a military man, Professor. You wouldn't understand."

Rafferty was sitting again, and looking relaxed. Which was a danger sign. "General, I'm not a military man either, but I guess it'd take a lot of power to smash an earth-size planet."

"An immense amount," Clemens said before the general could answer.

"And we know these units pro-

vide a two-way tunnel," Rafferty continued. "Now Watson, how many units have you got back so far?"

"Fifteen hundred, give or take twenty. As at close of business yesterday."

"Leaves about four thousand still in the field. Now supposing you used about a thousand in your attack . . ."

"I'm afraid that's classified . . ."

"Just supposing. Now these four thousand you haven't got back yet, if any were open, that is, switched on, during the attack, it'd be just like pumping high pressure steam into a sieve. You would literally be getting your own back. You were talking about assurances, General. Can you assure me they'd all be closed? Even if you made it an order? Can you assure me that among four thousand human beings there wouldn't be some who'd forget to turn off, or who wouldn't hear the radio and TV announcements, or some who wouldn't see it as a way to buck authority, or some who'd just think it would be a good idea to blow this planet at the same time? I think until you get all the sets back, General, and I'll make damn sure you don't, I think until then we'd better try talking to them. So I'd like to see my laboratory unit. I left it on. I just wonder whether the postman's been there."

"But you're under arrest," Watson said.

"Watson," said Navarre, "he's released into my custody. And if you want to find out if I have the authority, I suggest you check higher up. Now, Mr. Rafferty, we'll go check that letter box."

The sheets were probably synthetic, but they had the feel of an extremely thin leather. The markings on them were obviously writing, but which way it ran was by no means obvious. Rafferty revised his original thought. Was it so obvious that it was writing? At least they had shut Watson up for a while. He seemed hypnotized by the pale grey sheets with their black markings.

Clemens looked at Navarre. "Black on grey? Implies brighter light on their world?"

Navarre shrugged. "Could be. I wouldn't be in a hurry to assume anything. They may not see in the same range we do. Do we know that it's writing? Do we even know whether the information is in the black marks or in what we'd call the background?"

Watson came out of his trance. "But you notice one thing. You sent them star maps. They've sent back something which could easily be the equivalent of the *Daily News*. Hardly, Mr. Rafferty, a fair exchange."

Rafferty shrugged. "You're all educated men. Which of you has a

book of star charts in your home?" Only Navarre nodded. "One in three. And you three are scarcely representative of humanity in general. My guess is that he's sent through what he figures is a similar artifact as a sign of good faith. I think we can expect some more." The four of them looked at the machine. Nothing happened.

Nothing happened for another three quarters of an hour. Then the grey vortex at the back of the machine changed. Clemens was watching at the time, and he called the others over. They gathered, and watched as the sheets emerged from the vortex and piled in the transmission area of the machine. Rafferty switched off, reached in and got them, and then switched on again. He spread the sheets on the bench. They were star maps.

Rafferty looked at Watson. "Looks like someone with common sense got to their soldiers and bureaucrats, Mr. Watson. It seems they've sent us their address." He turned to Navarre. "How much astronomy do your computers know, Dr. Navarre?"

"Enough." Navarre grinned. "I'll get the boys working on it. By the way, you can stay here if you like. I don't think we'll lock you up just yet."

Rafferty smiled, and stretched. "Guess I could use a little lab-time anyway. Might even be able to get the bugs out of it. Seems the transmitter's a mite overpowered."

"There'll be a guard round your house," Navarre said. "They won't bother you. Some of our technical people will be over later. We might have to move you out of the house altogether in the next week or so, but we can leave that until later."

They left Rafferty alone with his machine. As soon as they were gone, he rang his factory. "That set-up I asked for this morning. Send it over."

Then he fed some picture magazines into the unit, and was busy at his bench until the arrival of some crates from the factory.

He opened them, and from the contents quickly assembled a disposal unit. From the last box he took the Ni-Cad batteries he had ordered. If you couldn't expect the same power supply in different countries on your own planet, to be optimistic about standard power on someone else's wasn't optimism, it was idiocy. When he finished, he had a self-powered unit big enough to send a book or a cat, but not big enough for a sabertoothed tiger. And the whole thing was small enough to put through the feed jaw of his big laboratory unit.

And it was too heavy to lift. Rafferty's prodigies of Anglo-Saxon four-letter expression should by rights have produced the smell of ozone. Then he stopped talking,

and smiled. Outside his house, he approached one of his guards.

"Can you help me with something?"

The guard raised a hand to one of his colleagues to cover for him. "Sure. What?"

"Just something I want to lift."

The guard followed him inside. Together they manhandled the small unit into the lab machine. They watched, Rafferty with satisfaction, the guard with awe, as it disappeared into the grey vortex.

"Never seen the inside of one of those things before. Kinda pretty, isn't it?"

"It works," Rafferty said. Then he smiled the gentle smile. "Which means I think it's kinda pretty."

"Where's it go?"

"I'll tell you when I find out," Rafferty said.

"Vega," Navarre said. "A planet orbiting round Vega."

"Vega," Rafferty repeated. "How far's that?"

"Twenty-six and a half light-years."

"A long way." It was a very rare thing for Rafferty to feel small. And even when he did feel small, Rafferty never said so. "It makes me feel small," Rafferty said.

"It's a long way to throw a dead cat."

Rafferty joined in the smile. "Broccoli cat. Do we know what it breathes and eats yet?"

"Breathes an oxygen-nitrogen mixture. Slightly richer in oxygen, they think. Food? The planet's got a carbon-hydrogen cycle, but they suggest you don't try eating his brother if you find him. Apparently there's a metal distribution on the planet that . . ."

And he stopped, because at that moment the window opened in the air.

Watson hurriedly backed behind the laboratory's central bench.

Clemens walked closer to it like a man mesmerized.

Navarre stared.

Rafferty smiled the smile that Watson had grown to know and loathe.

It was a grey, shimmering window in the air, big enough for a book, too small for a saber-toothed tiger. And out of it things started to flow. Sheets of what they thought was writing, small objects which could have been cups, toys, anything at all, and finally what looked like a magazine. The flow stopped, the window irised in on itself, and vanished. Rafferty picked up the thing that looked like a magazine. Every page was devoted to a single picture. What was pictured was a . . . creature. Humanoid enough if you didn't define the term too closely, residual feathery scales, and nothing else. Rafferty turned from the magazine to one of the other sheets, where there was a picture of a similar creature, except that

this one was wearing what could have been called clothes. Rafferty grinned and turned to Watson, handing him the magazine. "I think you should have this for your files. It's the first known example of the interstellar delivery of a . . . girlie magazine."

Watson looked at three of the pictures, snapped the magazine shut and then in a way which Rafferty found disconcerting, blushed. "It appears," Watson said, "that at the other end we have a Vegan version of Mr. Rafferty."

Navarre's voice was cold. "At the other end of *what*, Rafferty?"

"How do you mean?"

"These things didn't come out of *your* machine, Rafferty. What was that we saw in the air?"

"Oh, that? I sent 'em through a small unit."

"You what!" Watson came round the bench to Navarre. There were tears in his eyes. "Please, Dr. Navarre, you must let me have him. Just a simple firing squad, nothing elaborate, nothing elaborate, just a simple, simple, simple . . . " He wandered away into a corner.

"Why did you do it, Rafferty?" Navarre was beginning to sound old.

"He'd been polite enough to send his address. Figured I'd send him something so he could get in touch when he wanted, instead of having to wait for me to open the tunnel."

"Rafferty, you're going to come with us."

"Sure, but can I send him a copy of *Playboy* first?"

"If you must."

Two days later they came to him in his cell. It looked like a comfortably furnished hotel room, but as far as Rafferty was concerned, anything he couldn't get out of was a cell.

Navarre opened the conversation. "Rafferty, you're coming back home."

"I'm quite comfortable here, thanks."

"Nevertheless, you're coming home."

Rafferty detected a hardening of Navarre's attitude. It was an effect he had had the opportunity of studying in many other people he had come into contact with. "Why?"

"Because it appears you're the only man who has more than a mechanic's knowledge of these things. On your feet."

Rafferty shrugged. Navarre had disappointed him. The only point on which Rafferty's knowledge of his device was wider than that of his highly prized mechanics was that Rafferty knew that by guess and by the seat of his faded levis and by fiddling and by *the feel*, he had made the thing work. He had tried to explain to Navarre that this didn't mean theoretical knowledge. He had told Navarre that

Edison hadn't known what electricity was. Navarre still wouldn't believe that Rafferty was simply what he said he was: an engineer.

So Rafferty shrugged, and followed Navarre out of his comfortable cell.

Now his home itself was a cell, but Rafferty found he didn't mind much. He was getting to know his Vegan neighbor, and the anthropologists who came round to exchange artifacts with the Vegans were good company.

The next three months were busy. Although the air was right and the temperatures and gravities matched closely enough to be tolerable, small animals sent through the machines died quickly of sicknesses from which they had no immunities. So far, neither side was willing to send through an ambassador, only to have him die of a xeno-analogue to a cold in the nose or a splinter under the nail. Fortunately, something in the matter-shift prevented an exchange of atmospheres, but after the first experimental animal died, they took to freezing and sealing off the carcasses.

In his time, Rafferty had made many strange friendships, and now he was getting on passably well with the Vegan whose home contained the other end of the tunnel created by the lab unit. Rafferty called the Vegan Kelly because he couldn't manage the mixture of clicks, groans and diphthongs that the Vegan had put onto tape on the tape recorder they had sent him. In the three months, he and Kelly had established a kind of basic picture and written form of communication, and they used it to send messages back and forth after hours, like two rather unskilled radio hams.

So he half suspected he knew what Navarre was talking about when the government scientific adviser arrived, almost choking on his anger.

"Rafferty! What have you done to us now?"

"What do you mean?"

"We've got reports of three more windows. That means the Vegans have got three more machines. Did you make them and send them through this?"

"I'm a lot of things, Dr. Navarre," Rafferty said with some dignity, "but I am not a goddamn altruist! And as long as you're impounding everything that comes through, there's no way of their paying. So of course I didn't send them any."

"Well, they've got them. How?"

"I admit I sent them the plans," said Rafferty. "Much more sensible than sending them the units, anyway. They pay me a royalty, and I collect when trade gets easier." He lit a cigarette. "Did you know Kelly tried to tell me he'd never heard of com-

pound interest? I just pointed out that since he had worked out how to use the unit I'd sent him, he belonged to a technological civilization, and that I couldn't conceive of technology without compound interest. Then he broke down and admitted he was a trader himself."

"How in the . . . how did you express the concept of compound interest in sign language?"

"I'm just a simple engineer, but the day I can't explain compound interest to a Vegan is the day I go out of business."

Suddenly, Navarre began to sob. This embarrassed Rafferty, who hated having men cry in public. Navarre looked up, and out of his tear-stained face shone what they used to call a look of indescribable horror. "Watson was right," Navarre muttered. "Poor Watson, he was right. They should have used a firing squad."

Rafferty wanted to change the subject. "Whatever happened to Watson?"

"Transfer. He's doing accounts in the naval dockyards now. Poor fellow. He was right all along." With an effort, Navarre steadied his voice. "So they've got the plans now and they're manufacturing."

"Well, of course."

"Of course. Of course." Navarre tottered out. Rafferty wondered whether there was any room left in the accounts branch of the naval dockyards.

The next day, Navarre was back. "Can I have a drink?"

Rafferty got him a drink.

Navarre took it in one. "The Soviet Union is calling it a gross imperialist provocation. The French have mobilized and are on the point of declaring war on every other member of the United Nations. The British are calling it an attack on the Monarchy, and the Chinese are rattling rockets and talking about running-dog revisionist stooges of fascist Wall Street imperialism." He reached out his glass and Rafferty filled it again. Navarre emptied it without seeming to notice. "Something like vegetable peel falling out of the air in Lenin's tomb. Dead Vegan cats in the Louvre. The Royal Coach covered with something which I hope is indescribable. The Majority Leader was talking in the House when a grey shimmering window opened in front of him and he was hit in the face with the Vegan equivalent of a pail of wash water. And the Chinese say that their Great Helmsman was on his fifteenth lap of the Yangtze when he was sunk and nearly drowned by a barrage of strangely shaped soft-drink bottles. Apparently he was only saved by remembering his own thoughts."

Rafferty poured him another drink, and then poured one for himself. "I knew I'd forgotten to tell you something yesterday."

"What was that?"

"I forgot to tell you Kelly was selling them as garbage disposal units."

Six months later, Navarre was looking a lot better. The Earth-Vegan trade treaty had been signed, and wholesale garbage disposal was a thing of the past. Rafferty was doing well. Kelly, as head of Vegan Export, was also doing well.

Then one day Rafferty got a phone call from the office. It was his business manager. "Mr. Rafferty, Vegan Export has just made an announcement about its new transmission unit."

"Oh?"

"They're taking advantage of a clause in the trade treaty to sell them on the Earth market," the manager continued.

"Oh?"

"And they're undercutting us seven and a half percent."

"Seven and a . . . thanks."

Rafferty drove around looking for a vacant lot. When he got back to his laboratory, he turned on his unit, and sent through a message for Kelly to come to the end of the tunnel.

When the acknowledgment came that Kelly was there, Rafferty shaped up like a pitcher and let fly.

At speed, the very dead cat hurtled into the grey vortex.

Rapidly, Rafferty switched off.

Slowly, Rafferty smiled.

As a grey, shimmering window appeared in the air and a bucket of Vegan wash water swept his bench clear.

Rafferty still smiled. After all, it wasn't every day that a man could trade with a nice, quiet, sensible friend like Kelly.

Coming next month

is, first of all and definitely, the books column that we promised for this issue, the very same one that was squeezed out because of the special nature of this issue. There is also a story by **Vance Aandahl**, a beautiful and horrifying and shocking story. The title is AN ADVENTURE IN THE YOLLA BOLLY MIDDLE EEL WILDERNESS, and you have never read anything like it before. Really. Also, a funny story about an alien telepath, the New York Giants and the Green Bay Packers. **Samuel R. Delany** will be on hand with a report on "The Illustrated Man."

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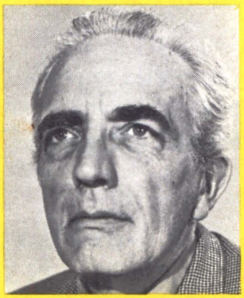

Fritz Leiber's first story was published in 1939. Since then, he has published twenty books, hundreds of short stories and articles, and has received every honor and award the field has to offer. He lives in Venice, California, where he is working—among other things—on a sequel to "Ship of Shadows," which is featured in this special issue.

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