

VAN VOGT'S Complete Novelette THE SILKIE

WORLDS OF



SCIENCE FICTION

JULY 1964

40c



Beginning This Issue — **FARNHAM'S FREEHOLD**

The Great New Science-Fiction Novel

by **ROBERT A. HEINLEIN**



NOW MONTHLY!

(effective with July issue)



brings you the finest in science fiction

Don't delay—send in your subscription order today and get the new, better-than-ever MONTHLY issues of IF delivered to your door, bringing you stories by all your favorites in science fiction!

ROBERT A. HEINLEIN

His great new novel, **Farnham's Freehold**, takes you into a time where humanity has done its best to destroy itself—and the survivors have built themselves a strange new life!

A. E. VAN VOGT

The Silkie—the story of a man whose heritage and training transcend humanity—a creature whose one mission is to protect the human race, though he is no longer a part of it!

And coming soon—

E. E. SMITH, Ph.D.

Fourth and greatest of the immortal "Skylark" stories, his brilliant new **Skylark DuQuesne** will be one of IF's most memorable serials!

SUBSCRIBE NOW AND SAVE MONEY TOO!

Send in your order today and we will send you the next 19 BIG ISSUES for only \$5.45—saving you \$2.15 over the newsstand price. But act now!

SUBSCRIBE TODAY!

Use this order blank or order by letter—but don't delay!

IF—Subscription Department
421 Hudson Street, New York, N. Y. 10014

Yes, send me the next 19 issues of IF! I enclose \$5.45.

New

Renewal

Name

Address

City..... State..... Zip No.....

(Outside of N. and S. America add \$1.50 for postage)



**SCIENCE
FICTION**

**ALL NEW
STORIES**

Frederik Pohl, Editor
David Perton, Production Manager

Sol Cohen, Publisher
Dave Geller, Assoc.

SERIAL — First of Three Parts

FARNHAM'S FREEHOLD by **ROBERT A. HEINLEIN** **6**

NOVELETTES

THE MATHENAUTS by **NORMAN KAGAN** **82**

THE SILKIE by **A. E. VAN VOGT** **104**

SHORT STORIES

WEETL by **JACK SHARKEY** **78**

OLD TESTAMENT by **JEROME BIXBY** **97**

FEATURE

EDITORIAL by **FREDERIK POHL** **4**

Cover by MORROW for THE SILKIE

IF published monthly by Galaxy Publishing Corporation, Robert M. Guinn, President, Vol 14, No. 3, Main Office: 421 Hudson Street, New York 14, New York. 40c per copy. Subscriptions 12 issues \$4.00 in the United States, Canada, Mexico, South America and Central America and U.S. possessions, elsewhere \$5.00. Second-class postage paid at New York, New York, and at additional mailing offices. Copyright by Galaxy Publishing Corporation, 1964. All rights including translations reserved. All material submitted must be accompanied by self-addressed stamped envelopes. The publisher assumes no responsibility for unsolicited material. All stories are fiction, and any similarity between character and actual persons is coincidental.

Printed in the U. S. A. by the Guinn Company, New York 14, N. Y.

NOW THAT WE'RE MONTHLY—

Now that IF has gone monthly, we start what we sincerely hope—and believe—will be the finest sequence of serials, novelettes, complete short novels and short stories the magazine has ever known!

To begin with, take a look at this issue's contents page. A brand-new Robert A. Heinlein and a complete A. E. Van Vogt—there's a lineup you haven't seen anywhere for a good many years. Next on the heels of the Heinlein serial, we have a Keith Laumer, *The Hounds of Hell*. And after that another three-part serial, this one Doc Smith's final, mightiest Skylark story, *Skylark DuQuesne*. And in between and all around them, the greatest collection of shorts and novelettes and features we can find.

We haven't spent much time in these pages in telling you what we were trying to do with IF—figuring you could see for yourself what we were doing, after all. But by now we hope it has become clear that IF is filling the gap in the science-fiction spectrum that has unaccountably been vacated for the past dozen-odd years. Adventure. Excitement. Drama. Color. Not hack pulp-writing

or gory comic-strip blood and thunder, but the sort of story that attracted most of us to science fiction in the first place.

In order to do this, we have had to go after all the old-time masters and try to lure them back into the fold...and, at the same time, try to develop new ones. As you have seen, in every issue for the past couple of years we have made it a point to publish at least one story by a brand-new, never-before-in-print writer. (This issue, for example, we bring you a wild and wonderful mathematical delight by Norman Kagan, a graduate student in one of New York's universities.)

We think this is beginning to pay off for all of us—and hope you feel the same!

One last thing: In order to get the present big chunk of fiction in this issue, we had to scrimp on the pages for features—which meant eliminating our letter column, *Hue and Cry*. But it will be back...and don't let its temporary absence keep you from sending in your letters of comment. We need them!

— FREDERIK POHL

These great minds were Rosicrucians . . .

WHAT SECRET POWER DID THEY POSSESS?



Benjamin Franklin



Isaac Newton



Francis Bacon

Why were these men great?

How does anyone — man or woman — achieve greatness? Is it not by mastery of the powers within ourselves?

Know the mysterious world within you! Attune yourself to the wisdom of the ages! Grasp the inner power of your mind! Learn the secrets of a full and peaceful life!

Benjamin Franklin, statesman and inventor . . . Isaac Newton, discoverer of the Law of Gravitation . . . Francis Bacon, philosopher and scientist . . . like many other learned and great men and women . . . were Rosicrucians. The Rosicrucians (NOT a religious organization) have been in existence for centuries. Today, headquarters of the Rosicrucians send over seven million pieces of mail annually to all parts of the world.

The ROSICRUCIANS

San Jose

(AMORC)

California, U.S.A.

THIS BOOK FREE!



Write for your FREE copy of "The Mastery of Life" — TODAY. No obligation. A non-profit organization. Address: Scribe X.Y.T.

Scribe X.Y.T.
The ROSICRUCIANS
(AMORC)

San Jose, California, U.S.A.

Please send me the free book, *The Mastery of Life*, which explains how I may learn to use my faculties and powers of mind.

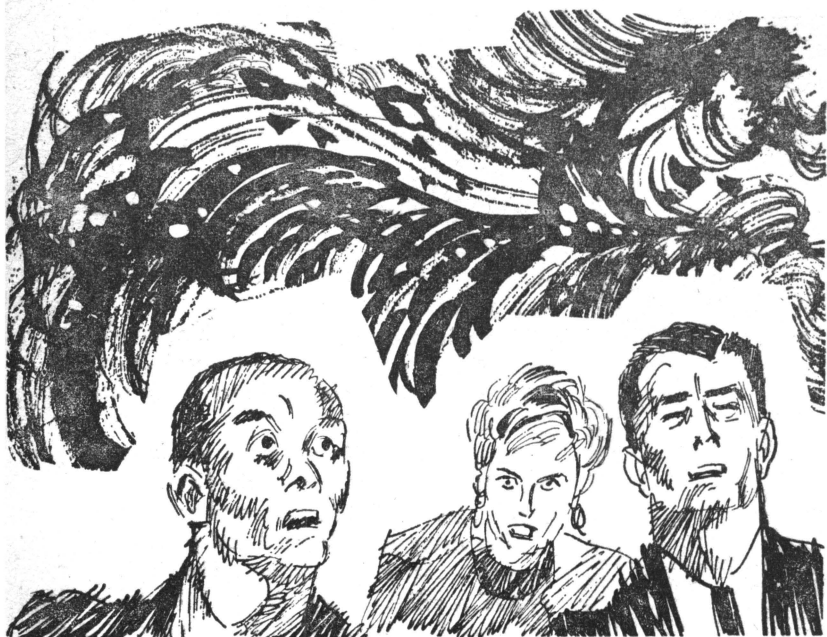
SEND THIS COUPON

Name _____

Address _____

City _____

State _____

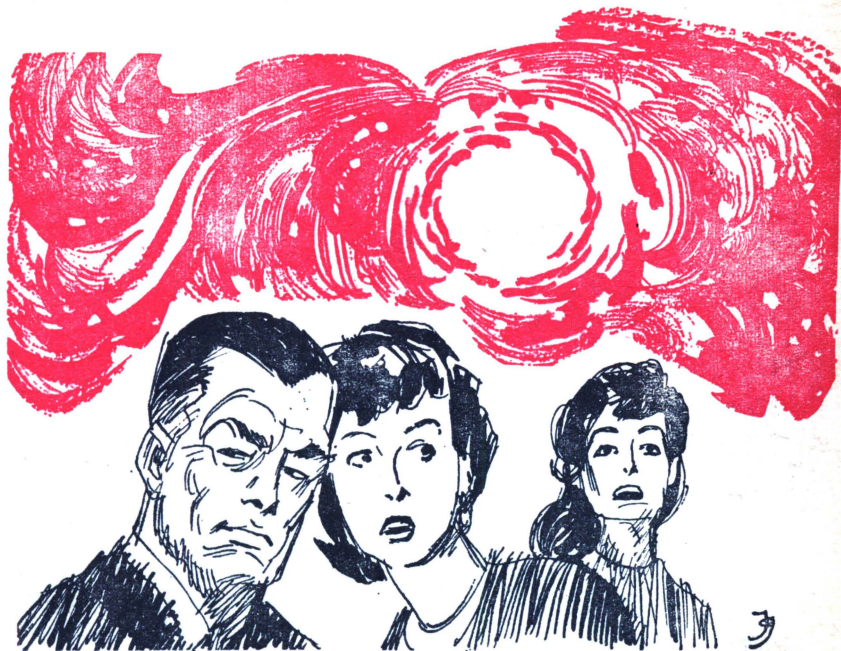


FARNHAM'S

BY ROBERT A. HEINLEIN

*In the wreck of the world they
knew they found a life stranger
than any they dared dream!*

ILLUSTRATED BY GAUGHAN



FREEHOLD

I

“It’s not a hearing aid,” Hubert Farnham explained. “It’s a radio, tuned to the emergency frequency.”

Barbara Wells stopped with a bite halfway to her mouth. “Mr. Farnham! You think they are going to attack?”

Her host shrugged. “The Kremlin doesn’t let me in on its secrets.”

His son said, “Dad, quit scaring the ladies. Mrs. Wells — ”

“Call me ‘Barbara.’ I’m going to ask the court to let me drop the ‘Mrs.’ ”

“You don’t need permission.”

“Watch it, Barb,” his sister Karen said. “Free advice is expensive.”

“Shaddap. Barbara, with all respect to my worthy father, he sees spooks. There is not going to be a war.”

"I hope you're right," Barbara Wells said soberly. "Why do you think so?"

"Because the communists are realists. They never risk a war that would hurt them, even if they could win. So they won't risk one they can't win."

"Then I wish," his mother said, "that they would stop having these dreadful crises. Cuba. All that fuss about Berlin — as if anybody cared! And now this. It makes a person nervous. *Joseph!*"

"Yes, ma'am?"

"You fetch me coffee. And brandy. Cafe royale."

"Yes, ma'am." The houseboy, a young Negro, removed her plate, barely touched.

Young Farnham said, "Dad, it's not these phony crises that has Mother upset; it's the panicky way you behave. You must stop it."

"No."

"You must! Mother didn't eat her dinner . . . and all because of that silly button in your ear. You can't —"

"Drop it, Duke."

"Sir?"

"When you moved into your own apartment, we agreed to live as friends. As my friend your opinions are welcome. But that does not make you free to interfere between your mother — my wife — and myself."

His wife said, "Now, Hubert."

"Sorry, Grace."

"You're too harsh on the boy. It does make me nervous."

"Duke is not a boy. And I've done nothing to make you nervous."

"I'm sorry, too, Mother. But if Dad regards it as interference, well —" Duke forced a grin — "I'll have to find a wife of my own to annoy. Barbara, will you marry me?"

"No, Duke. Anyway, I agree with your father. Every car in our family has a survival kit. My father's idea. If anything happened, Pops would expect me to head up into the mountains."

"You won't need to."

"Sir?"

"Dad means," explained Karen, "that you are welcome in our panic hole."

Barbara showed a questioning look. Her host said, "Our bomb shelter. 'Farnham's Folly' my son calls it. I think you would be safer there than you would be running for the hills — despite the fact that we are only ten miles from a MAMMA Base. If an alarm comes, we'll duck into it. Right, Joseph?"

"Yes, sir! That way I stay on your payroll."

"The hell you do. You're fired the instant the sirens sound — and I start charging you rent."

"Do I pay rent, too?" asked Barbara.

"You wash dishes. Everybody does. Even Duke."

"Count me out," Duke said grimly.

"Eh? Not that many dishes, Son."

"I'm **not** joking, Dad; Khrushchev said he would bury us — and you're making it come true. I'm **not** going to crawl into a hole in the ground!"

"As you wish, sir."

"Sonny boy!" His mother put down her cup. "If an attack comes, of course you're going into the shelter!" She blinked back tears. "Promise Mother."

Young Farnham looked stubborn, then sighed. "All right. If an attack comes—If an alarm sounds, I mean; there isn't going to be an attack—I'll go into your panic hole. But, Dad, this is just to soothe Mother's nerves."

"Nevertheless you are welcome."

"Okay. Let's go into the living room and break out the cards—with a firm understanding that we drop the subject."

Barbara played as Farnham's partner, and the father and son had a private wager of a cent a point. The stakes made her tense, even though it was not her money. Her nervousness was increased by suspicion that her partner was a match player with a lot of experience.

Her nerves relaxed, though not her care, as it began to appear that Mr. Farnham found her bidding satisfactory. But she welcomed the rest that came from being dummy. She spent these vacations studying Hubert Farnham.

She decided that she liked him, for the way he handled his family and for the way he played bridge—quietly, thoughtfully, exact in bidding, precise and sometimes brilliant in play. She admired the way he squeezed out the last trick, of a contract in which she had forced them too high, by having the boldness to sluff an ace.

Hubert Farnham looked up from the last trick. "Three spades, game and rubber. Well bid, partner."

She flushed again. "Well played, you mean. I invited too much."

"Not at all. At worst we would have been down one. If you don't bet, you can't win. Karen, has Joseph gone to bed?"



Hugh Farnham

"Studying. He's got a quiz."

"I thought we might invite him to cut in. Barbara, Joseph is the best player in this house — always adacidity at the right time. Plus the fact that he is studying to be an accountant and never forgets a card. Karen, can you find us something without disturbing Joseph?"

"Spect ah kin, Boss. Vodka and tonic for you?"

"And muching food."

"Come on, Barbara. Let's buttle."

Hubert Farnham watched them go, while thinking it was shame that so nice a child as Mrs. Wells should have had a sour marriage. A sound game of bridge and a good disposition. Gangly and horsefaced, perhaps. But a nice smile and a mind of her own. If Duke had any gump-tion —

But Duke didn't have any. Farnham went to where his wife was nodding by the television receiver, and said, "Grace? Grace darling, ready for bed?" — then helped her into her bedroom.

Karen came in carrying drinks, followed by Barbara. "Hi! Barb got a look at our kitchen and decided to make crepes Suzettes."

"Fine. If you will snap the television on, we might get part of the ten o'clock roundup."

" — agreed in principal to three out of four of the President's major points and has agreed to meet again to discuss the fourth point, the presence of their nuclear submarines in our coastal waters. It may now be safely stated that the crisis, the most acute in post-World-War-Two years, does seem to be tapering off to a mutual accommodation that both countries can live with. We pause to bring you exciting news from General Motors followed by an analysis in depth — "

Karen turned it down. Duke said, "Just as I said, Dad. You can take that cork out of your ear."

"Later. I'm busy with crepes Suzettes. Barbara, I'll expect these

for breakfast every morning."

"Dad, quit trying to seduce her and cut the cards. I want to win back what I've lost."

"That'll be a long night." Mr. Farnham finished eating, stood up to put his plate aside; the doorbell rang. "I'll answer it."

He went to the door, returned shortly. Karen said, "Who was it, Daddy? I cut for you. You and I are partners. Look pleased."

"I'm delighted. But remember that a count of eleven is not an opening bid. Somebody got lost, I guess. Possibly a nut."

"My date. You scared him off."

"Possibly. A bald-headed old coot, very weather-beaten and ragged."

"My date," Karen confirmed. "President of the Dekes. Go get him, Daddy."

"Too late. He took one look at me and fled. Whose bid is it?"

Barbara continued to try to play like a machine. But it seemed to her that Duke was overbidding; she found herself thereby bidding timidly and had to force herself to overcome it. They went set several times in a long, dreary rubber which they "won" but lost on points.

It was a pleasure to lose the next rubber with Karen as her partner. They shifted and again she was Mr. Farnham's partner. He smiled at her. "This time we clobber them!"

"I'll try."

"Just play as you did. By the book. Duke will supply the mistakes."

"Put your money where your

mouth is, Dad. Want a side bet of a hundred dollars on this rubber?"

"A hundred it is."

Barbara thought about seventeen lonely dollars in her purse and got nervous. She was still more nervous when the first hand ended at five clubs, bid and made — by Duke — and realized that he had overbid and would have been down one had she covered his finesse.

Duke said, "Care to double that bet, Governor?"

"Okay. Deal."

Her morale was bolstered by the second hand: her contract at four spades and made possible by voids; she was able to ruff before cleaning out trumps. Her partner's smile was reward enough. But it left her shaky.

Duke said, "Both teams vulnerable, no part score. How's your

blood pressure, Daddy-o? Double again?"

"Planning on firing your secretary?"

"Speak up, or accept a white feather."

"Four hundred. You can sell your car."

Mr. Farnham dealt. Barbara picked up her hand and frowned. The count was not bad — two queens, a couple of jacks, an ace, a king — but no biddable suit and the king was unguarded. It was a strength and distribution which she had long tagged as "just good enough to go set on." She hoped that it would be one of those sigh-of-relief hands in which everyone passes.

Her partner picked up his hand and glanced at it. "Three no trump."

Barbara repressed a gasp, Karen did gasp. "Daddy, are you feverish?"

"Bid."

"Pass!"

Barbara said to herself, "Dod oh dod, what I do now?"

Her partner's bid promised twenty-five points — and invited slam. She held thirteen points. Thirty-eight points in the two hands — Grand slam.

That's what the book said! Barbara girl, "three no trump" is 25, 26, or 27 points — add thirteen and it reads "Grand Slam."

But was Mr. Farnham playing by the book? Or was he bidding a shut-out to grab the rubber and nail down that preposterous bet?

If she passed, then game and rubber — and four hundred dollars — was certain. But grand slam (if



they made it) was, uh, around fifteen dollars at the stakes Duke and his father were playing. Risk four hundred dollars of her partner's money against a chance of fifteen? Ridiculous!

(But her partner had said, "Play by the book.")

"Seven no trump," she said firmly.

Duke whistled. "Thanks, Barbara. We're ganging up on you, Dad. Double."

"Pass."

"Pass," Karen echoed.

Barbara again counted her hand. That singleton king looked awfully naked. But . . . either the home team had thirty-eight points — or it didn't. "Redouble."

Duke grinned. "Thanks, sweetie pie. Your lead. Karen."

Mr. Farnham put down his hand and abruptly left the table. His son said, "Hey! Come back and take your medicine!"

Mr. Farnham snapped on the television, moved on and switched on the radio, changed its setting. "Red alert!" he snapped. "Somebody tell Joseph!" He ran out of the room.

"Come back! You can't duck this with that kind of stunt!"

"Shut up, Duke!" Karen snapped.

The television screen flickered into life: "*— closing down. Tune at once to your emergency station. Good luck, good-by, and God bless you all!*"

As the screen went blank the radio cut in: "*— not a drill. This is not a drill. Take shelter. Emergency*

personnel report to their stations. Do not go out on the street. If you have no shelter, stay in the best protected room of your home. This is not a drill. Unidentified ballistic objects have been radar-sighted by our early-warning screens and it must be assumed that they are missiles. Take shelter. Emergency personnel report to their — "

"He means it," Karen said in an awed voice. "Duke, show Barb where to go. I'll wake Joseph." She ran out of the room.

Duke said, "I don't believe it."

"Duke, how do we get into the shelter?"

"I'll show you." He stood up un-hurriedly, picked up the hands put each in a separate pocket. "Mine and Sis's in my trousers, yours and Dad's in my coat. Come on. Want your suitcase?"

"No!"

II

Duke led her through the kitchen to basement stairs. Mr. Farnham was halfway down, his wife in his arms. She seemed asleep. Duke snapped out of his attitude. "Hold it, Dad! I'll take her."

"Get on down and open the door!"

The door was steel set into the wall of the basement. Seconds were lost because Duke did not know how to handle its latch. At last Mr. Farnham passed his wife over to his son, opened it himself. Beyond, stairs led farther down. They managed it by carrying Mrs. Farnham, hands and feet, a limp doll, and took her

through a second door into a room beyond. Its floor was six feet lower than the basement and under, Barbara decided, their back garden. She hung back while Mrs. Farnham was carried inside.

Mr. Farnham reappeared. "Barbara! Get in here! Where's Joseph? Where's Karen?"

Those two came rushing down the basement stairs as he spoke. Karen was flushed and seemed excited and happy. Joseph was looking wild-eyed and was dressed in undershirt and trousers, his feet bare.

He stopped short. "Mr. Farnham! Are they going to hit us?"

"I'm afraid so. Get inside."

The young Negro turned and yelled, "*Doctor Livingstone I presume!*" He dashed back up the stairs.

Mr. Farnham said, "Oh, God!" and pressed his fists against his temples. He added in his usual voice, "Get inside, girls. Karen, bolt the door but listen for me. I'll wait as long as I can." He glanced at his watch. "Five minutes."

The girls went in. Barbara whispered, "What happened to Joseph? Flipped?"

"Well, sort of. Dr.-Livingstone-I-Presume is our cat. Loves Joseph, tolerates us." Karen started bolting the inner door, heavy steel, and secured with ten inch-thick bolts.

She stopped. "I'm damned if I'll bolt this all the way while Daddy is outside!

"Don't bolt it at all."

Karen shook her head. "I'll use a couple, so he can hear me draw

them. That cat may be a mile away."

Barbara looked around. It was an L-shaped room; they had entered the end of one arm. Two bunks were on the righthand wall; Grace Farnham was in the lower and still asleep. The left wall was solid with packed shelves; the passage was hardly wider than the door. The ceiling was low and arched and of corrugated steel. She could see the ends of two more bunks at the bend. Duke was not in sight but he quickly appeared from around the bend, started setting up a card table in the space there. She watched in amazement as he got out the cards he had picked up — how long ago? It seemed an hour. Probably less than five minutes.

Duke saw her, grinned, and placed folding chairs around the table.

There came a clanging at the door. Karen unbolted it; Joseph tumbled in, followed by Mr. Farnham. A lordly red Persian cat jumped out of Joseph's arms, started an inspection. Karen and her father bolted the door. He glanced at his wife, then said, "Joseph! Help me crank."

"Yes, sir!"

Duke came over. "Got her nut-toned up, Skipper?"

"All but the sliding door. It has to be cranked."

"Then come take your licking." Duke waved at the table.

His father stared. "Duke, are you seriously proposing to finish a *card game* while we're being attacked?"

"I'm four hundred dollars serious. And another hundred says we

aren't being attacked. In a half hour they'll call it off and tomorrow's papers will say the northern lights fouled up the radar. Play the hand? Or default?"

"Mmm. My partner will play it; I'm busy."

"You stand behind the way she plays it?"

"Of course."

Barbara found herself sitting down at the table with a feeling that she had wandered into a dream. She picked up her partner's hand, studied it. "Lead, Karen."

Karen said, "Oh, hell!" and led the trey of clubs. Duke picked up the dummy, laid it out in suits. "What do you want on it?" he asked.

"Doesn't matter. I'll play both hands face up."

"Better not."

"It's solid." She exposed the cards.

Duke studied them. "I see," he admitted. "Leave the hands; Dad will want to see this." He did some figuring. "Call it twenty-four hundred points Dad!"

"Yes, Son?"

"I'm writing a check for four hundred and ninety-two dollars — and let that be a lesson to me."

"You don't need to —"

All lights went out, the floor slammed against their feet. Barbara felt frightening pressure on her chest, tried to stand up and was knocked over. All around was a noise of giant subway trains, and the floor heaved like a ship in a cross sea.

"Dad!"

"Yes Duke! Are you hurt?"

"I don't know. But make that five hundred and ninety-two dollars!"

The subterranean rumbling went on. Through this roar Barbara heard Mr. Farnham chuckle. "Forget it!" he called out. "The dollar just depreciated."

Mrs. Farnham started to scream. "Hubert! Hubert, where are you? Hubert! Make it stop! Please make it stop!"

"Coming, dear!" A pencil of light cut the blackness, moved toward the bunks near the door. Barbara raised her head, made out that it was her host, on hands and knees with a flashlight in his teeth. He reached the bunk, succeeded in quieting Grace; her screams ceased. "Karen?"

"Yes, Daddy."

"Are you all right?"

"Yes. Just bruised. My chair went over."

"All right. Get the emergency lighting on in this bay. Don't stand up. Crawl. I'll light you from here. Then get the hypo kit and — *Ow!* Joseph!"

"Yes, sir."

"You in one piece?"

"I'm okay, Boss."

"Persuade your furry-faced Falstaff to join you. He jumped on me."

"He's just friendly, Mr. Farnham."

"Yes, yes. But I don't want him doing that while I'm giving a hypo. Call him."

"Sure thing. Here, Doc! Doc, Doc, Doc! Fish, Doc!"

Some minutes later the rumbling had died out, the floor was steady, Mrs. Farnham had been knocked out by injected drug, two tiny lights were glowing in the first bay, and Mr. Farnham was inspecting.

Damage was slight. Despite guard rails, cans had popped off shelves; a fifth of rum was broken. But liquor was almost the only thing stored in glass. The worst casualty was the shelter's battery-driven radio, torn loose from the wall and smashed.

Mr. Farnham was on his knees, retrieving bits of it. His son looked down. "Don't bother, Dad. Sweep it up and throw it away."

"Some parts can be salvaged."

"What do you know about radios?"

"Nothing," his father admitted.

"But I have books."

"A book won't fix that. You should have stocked a spare."

"I have a spare."

"Then for God's sake get it! I want to know what's happened."

His father got up slowly and looked at Duke. "I would like to know, too. I can't hear anything over this radio I'm wearing. Not surprising, it's short range. But the spare is packed in foam and probably wasn't hurt."

"Then-get it hooked up."

"Later."

"Later, hell. Where is it?"

Mr. Farnham breathed hard. "I've had all the yap I'm going to take. I'm going to wait until I'm sure the attack is over. If you're itching to know what's happening outside, you can leave. If that's what you want

I'll unbolt this door, crank back the armor door, and you can open the upper door yourself."

"Eh? Don't be silly."

"But close it after you. I don't want it open — both for blast and radioactivity."

"That's another thing. Don't you have any way to measure radioactivity? We ought take steps to —"

"SHUT UP!"

"What? Dad, I don't appreciate being bawled out in the presence of others."

"Then keep your voice down."

They were in the first bay near the door. Mrs. Farnham was snoring by them; the others had retreated around the bend, unwilling to witness. "Are you ready to listen to me now?"

"Very well, sir," Duke said stiffly.

"Good. Son, I was not joking.

Either leave . . . or do exactly as I tell you. That includes keeping your mouth shut when I tell you to. Which will it be? Absolute obedience, prompt and cheerful? Or will you leave?"

"Aren't you being rather high-handed?"

"I intend to be. This shelter is a lifeboat and I am boat officer. For the safety of all I shall maintain discipline. Even if it means tossing somebody, even my own son, overboard."

"That's a far-fetched simile. Dad, it's a shame you were in the Navy. It gives you romantic ideas."

"I think it's a shame, Duke, that you never had service. You're not realistic. Well, which is it?"

"Uh, I'll be cooperative. But this absolute dictatorship — Dad, tonight you made quite a point of the fact that you are a free man. Well, so am I. I'll cooperate. But I won't take unreasonable orders and, as for keeping my mouth shut, I'll try to be diplomatic. But when I think it's necessary, I'll voice my opinion. Free speech. Fair enough?"

His father sighed. "Not nearly good enough, Duke. Stand aside. I want to unbolt the door."

"Don't push a joke too far, Dad."

"I'm not joking. I'm putting you out."

"Dad . . . I hate to say this . . . but I don't think you are man enough. I'm bigger than you are and a lot younger."

"Duke, please! I built this shelter. Not two hours ago you were sneering at it, telling me that it was a 'sick' thing to do. Now you want to use it, since it turned out you were wrong. Can't you admit that?"

"Oh, certainly. You've made your point."

"Yet you are telling me how to run it. Telling me that I should have provided a spare radio. When you hadn't provided anything. Can't you be a man, give in, and do as I tell you? When your life depends on my hospitality?"

"Cripes! I told you I would cooperate."

"But you haven't been doing so. You've been making silly remarks, getting in my way, giving me lip, wasting my time when I have urgent things to do. Duke, I don't want

your cooperation, on your terms, according to your judgment. While we are in this shelter I want your absolute obedience."

Duke shook his head. "Get it through your head that I'm no longer a child, Dad. My cooperation, yes. But I won't promise the other."

Mr. Farnham shook his head sorrowfully and turned away, "Joseph!"

"Yes, sir?"

"It's condition seven."

"Condition seven, sir?"

"Yes, and getting worse. Be careful with the instruments and don't waste time."

"Right away, sir!"

"Thank you." He turned to his son. "Duke, if you really want to cooperate, you could pick up the pieces of this radio. It's the same model as the one in reserve. There may be pieces we can use to repair the other one, if it becomes necessary. Will you do that?"

"Sure, sure. I told you I would cooperate." Duke got on his knees, started to complete the task he had interrupted.

"Thank you." His father turned away.

"Mr. Duke! Get your hands up!"

Duke looked over his shoulder, saw Joseph by the card table, aiming a Thompson submachine gun at him. He jumped to his feet. "What the hell!"

"Stay there!" Joseph said. "I'll shoot."

"Yes," agreed Duke's father, "he doesn't have the compunctions you thought I had. Joseph, if he moves, shoot him."

"Daddy! What's going on?"

Mr. Farnham turned to face his daughter. "Get back!"

"But, Daddy —"

"Shut up. Both of you get into that lower bunk. Karen on the inside. *Move!*"

Karen moved. Barbara looked wide-eyed at the automatic her host now held in his hand and got quickly into the lower bunk of the other bay. "Arms around each other," he said briskly. "Don't either of you let the other one move." He went back to the first bay.

"Duke."

"Yes?"

"Lower your hands slowly and unfasten your trousers. Let them fall but don't step out of them. Then turn slowly and face the door. Unfasten the bolts."

"Dad —"

"Shut up. Joseph, if he does anything but exactly what I told him to, shoot. Try for his legs, but hit him."

Face white, expression dazed, Duke did as he was told: let his trousers fall until he was hobbled, turned and started unbolting the door. His father let him continue until half the bolts were drawn. "Duke. Stop. The next few seconds determine whether you go — or stay. You know the terms."

Duke barely hesitated. "I accept."

"I must elaborate. You will not only obey me, you will obey Joseph."

"Joseph?"

"My second-in-command. I have to have one, Duke; I can't stay awake all the time. I would gladly



have had you as deputy — but you would have nothing to do with it. So I trained Joseph. He knows where everything is, how it works, how to repair it. So he's my deputy. Well? Will you obey him just as cheerfully? No back talk?"

Duke said slowly, "I promise."

"Good. But a promise made under duress isn't binding. There is another commitment always given under duress and nevertheless binding, a point which as a lawyer you will appreciate. I want your parole as a prisoner. Will you give me your parole to abide by the conditions until we leave the shelter? A straight quid-pro-quo: your parole in exchange for not being forced outside?"

"You have my parole."

"Thank you. Throw the bolts and fasten your trousers. Joseph, stow the Tommy gun."

"Okay, Boss."

Duke secured the door, secured his pants. As he turned around his father offered him the automatic, butt first. "What's this for?" Duke asked.

"Suit yourself. If your parole isn't good, I would rather find it out now."

Duke took the gun, removed the clip, worked the slide and caught the cartridge from the chamber, put it back into the clip and reloaded the gun — handed it back. "My parole is good. Here."

"Keep it. You were always a headstrong boy, Duke, but you were never a liar."

"Okay . . . Boss." His son put

the pistol in a pocket. "Hot in here."

"And going to get hotter."

"Eh? How much radiation do you think we're getting?"

"I don't mean radiation. Fire storm." He walked into the space where the bays joined, looked at a thermometer, then at his wrist. "Eighty-four and only twenty-three minutes since we were hit. It'll get worse."

"How much worse?"

"How would I know, Duke? I don't know how far away the hit was, how many megatons, how wide-spread the fire. I don't even know whether the house is burning overhead, or was blasted away. Normal temperature in here is about fifty degrees. That doesn't look good. But there is nothing to do about it. Yes, there's one thing. Strip down to shorts. I shall."

He went into the other bay. The girls were still in the lower bunk, arms around each other, keeping quiet. Joseph was on the floor with his back to the wall, the cat in his lap. Karen looked round-eyed as her father approached but she said nothing.

"You kids can get up."

"Thanks," said Karen. "Pretty warm for snuggling." Barbara backed out and Karen sat up.

"So it is. Did you hear what just happened?"

"Some sort of argument," Karen said cautiously.

"Yes. And it's the last one. I'm boss and Joseph is my deputy. Understood?"

"Yes, Daddy," said Karen.

"Mrs. Wells?"

"Me? Why, of course! It's your shelter. I'm grateful to be in it — I'm grateful to be alive! And please call me Barbara, Mr. Farnham."

"Sorry, Hmm. Call me 'Hugh,' I prefer it to 'Hubert.' Duke, everybody — first names from now on. Don't call me 'Dad,' call me 'Hugh.' Joe, knock off the 'Mister' and the 'Miss.' Catch?"

"Okay, Boss, if you say so."

"Make that 'Okay, Hugh.' Now you girls peel down, panties and bra or such, then get Grace peeled to her skin and turn the light out there. It's hot, it's going to get hotter. Joe, strip to your shorts." Mr. Farnham took his packet off, started unbuttoning his shirt.

Joseph said, "Uh, I'm comfortable."

"I wasn't asking, I was telling you."

"Uh . . . Boss, I'm not wearing shorts!"

"He's not," Karen confirmed. "I rushed him."

"So?" Hugh looked at his ex-houseboy and chuckled. "Joe, you're a sissy. I should have made Karen straw boss."

"Suits me."

"Get a pair out of stores and you can change in the toilet space. While you're about it, show Duke where it is. Karen, the same for Barbara. Then we'll gather for a powwow."

The powwow started five minutes later. Hugh Farnham was at the table, dealing out bridge hands, as-

sessing them. When they were seated he said, "Anybody for bridge?"

"Daddy, you're joking."

"My name is 'Hugh.' I was not joking, a rubber of bridge might quiet your nerves. Put away that cigarette, Duke."

"Uh . . . sorry."

"You can smoke tomorrow, I think. Tonight I've got pure oxygen cracked pretty wide and we are taking in no air. You saw the bottles in the toilet space?" The space between the bays was filled by pressure bottles, a water tank, a camp toilet, stores, and a small area where a person might manage a stand-up bath. Air intakes and exhausts, capped off, were there, plus a hand-or-power blower, and scavengers for carbon dioxide and water vapor. This space was reached by an archway between the tiers of bunks.

"Oxygen in those? I thought it was air."

"Couldn't afford the space penalty. So we can't risk fire, even a cigarette. I opened one inlet for a check. Very hot — heat 'hot' as well as making a Geiger counter chatter. Folks, I don't know how long we'll be on bottled breathing. I figured thirty-six hours for four people, so it's nominally twenty-four hours for six, but that's not the pinch. I'm sweating — and so are you. We can take it to about a hundred and twenty. Above that, we'll have to use oxygen just to cool the place. It might end in a fine balance between heat and suffocation. Or worse."

"Daddy — Hugh, I mean. Are

you breaking it gently that we are going to be baked alive?"

"You won't be, Karen. I won't let you be."

"Well . . . I prefer a bullet."

"Nor will you be shot. I have enough sleeping pills to let twenty people die painlessly. But we aren't here to die. We've had vast luck; with a little more we'll make it. So don't be morbid."

"How about the radioactivity?" asked Hugh.

"Can you read an integrating counter?"

"No."

"Take my word for it that we are in no danger yet. Now about sleeping. This side, where Grace is, is the girls' dorm; this other side is ours. Only four bunks but that's okay; one person has to monitor air and heat, and the other one without a bed can keep him awake. However I'm taking the watch tonight and won't need company; I've taken dexedrine."

"I'll stand watch." — "I'll stay up with you." — "I'm not sleepy let me stay here —"

"Slow down!" Hugh said. "Joe, you can't stand watch now because you have to relieve me when I'm tuckered out. You and I will alternate until we are sure that the situation is safe."

Joe shrugged and kept quiet. Duke said, "Then it's my privilege."

"Can't either of you add? Two bunks for women, two for men. What's left over? We'll fold this table and the gal left over can sprawl

on the floor here. Joe, break out the blankets and put a couple here and a couple in the tank space for me."

"Right away, Hugh!"

Both girls insisted on standing watch. Hugh shut them off. "Cut for it."

"But —"

"Pipe down, Barbara. Ace low, and low girl sleeps on a bunk, the other here on the floor. Duke, do you want a sleeping pill?"

"That's one habit I don't have."

"Don't be an iron man."

"Well — A rain check?"

"Surely. Joe? Secondal?"

"Well, I'm so relieved that I don't have to take that quiz tomorrow . . ."

"Glad somebody is happy. All right."

"I was going to add that I'm pretty keyed up. You're sure you won't need me?"

"I'm sure. Karen, get one for Joe. You know where?"

"Yes and I'm going to get one for me, since I won the cut. I'm no iron man! And a Miltown on top of it."

"Do that. Sorry, Barbara, you can't have one; I might have to wake you and have you keep me awake. You can have Miltown. You'll probably sleep from it."

"I don't need it."

"As you wish. Bed, everybody. It's midnight and two of you are going on watch in eight hours."

In a few minutes all were in bed with Barbara where the table had been, all lights out save one in the tank space. Hugh squatted on blankets there, playing solitaire — badly.

Again the floor heaved, again came that terrifying rumble. Karen screamed.

Hugh was up at once. This one was not as violent; he was able to stay on his feet. He hurried into the girls' dorm. "Baby! Where are you?" He fumbled, found the light switch.

"Up here, Daddy. Oh, I'm scared! I was just dropping off and it almost threw me out. Help me down."

He did so; she clung to him, sobbing. "There, there," he said, patting her. "You've been a brave girl, don't let it throw you."

"I'm not brave. I've been scared silly all along. I just didn't want it to show."

"Well . . . I'm scared too. So let's not show it, huh? Better have another pill. And a stiff drink."

"All right. Both. I'm not going to sleep in that bunk. It's too hot up there, as well as scary when it shakes."

"All right, I'll pull the mattress down."

Duke and Barbara were sitting on the blanket she had been napping on; they were looking very solemn. Hugh said, "Where's Joe? He wasn't hurt, was he?"

Duke gave a short laugh. "Want to see 'Sleeping Innocence'? That bottom bunk."

Hugh found his second-in-command sprawled on his back, snoring, as deeply unconscious as Grace Farnham. Dr.-Livingstone-I-Presume was curled up on his chest. Hugh came back. "Well, that blast was farther away. I'm glad Joe could sleep."

"It was too damned close to suit me! When are they going to run out of those things?"

"Soon, I hope. Folks, Karen and I have just formed the 'I'm-scared-too' club and are about to celebrate with a drink. Any candidates?"

"I'm a charter member!"

"So am I," agreed Barbara. "Yes!"

Hugh fetched paper cups, and bottles — Scotch, seconal, and Miltown. "Water, anyone?"

Duke said, "I don't want anything interfering with the liquor."

"Water, please," Barbara answered. "It's so hot."

"How hot is it, Daddy?"

"Duke, I put the thermometer in the tank room. Go see, will you?"

"Sure. And may I use that rain check?"

"Certainly." Hugh gave Karen another seconal capsule, another Miltown pill, and told Barbara that she must take a Miltown — then took one himself, having decided that dexedrine had made him edgy. Duke returned.

"One hundred and four degrees," he announced. "I opened the valve another quarter turn. All right?"

"Have to open it still wider soon. Here are your pills, Duke."

"Thanks." Duke swallowed them, chased them with whisky. "I'm going to sleep on the floor, too. Coolest place in the house."

"Smart of you. All right, let's settle down. Give the pills a chance."

Hugh sat with Karen after she bedded down, then gently extracted his hand from hers and re-

turned to the tank room. The temperature was up two degrees. He opened the valve on the working tank still wider, listened to it sigh to emptiness, shook his head, got a wrench and shifted the gauge to a full tank. Before he opened it, he attached a hose, led it out into the main room. Then he went back to pretending to play solitaire.

A few minutes later Barbara appeared in the doorway. "I'm not sleepy," she said. "Could you use some company?"

"You've been crying."

"Does it show? I'm sorry."

"Come sit down. Want to play cards?"

"If you want to. All I want is company."

"We'll talk. Would you like another drink?"

"Oh, would I! Can you spare it?"

"I stocked plenty. Barbara, can you think of a better night to have a drink? But both of us will have to see to it that the other one doesn't go to sleep."

"All right. I'll keep you awake."

They shared a cup, Scotch with water from the tank. It poured out as sweat faster than they drank it. Hugh increased the gas flow again and found that the ceiling was unpleasantly hot. "Barbara, the house must have burned over us. There is thirty inches of concrete above us and then two feet of dirt."

"How hot do you suppose it is outside?"

"Couldn't guess. We must have been close to the fireball." He felt the ceiling again. "I beefed this thing

up—roof, walls, and floor are all one steel-reinforced box. It was none too much. We may have trouble getting the doors open. All this heat—And probably warped by concussion."

She said quietly, "Are we trapped?"

"No, no. Under these bottles is a hatch to a tunnel. Thirty-inch culvert with concrete around it. Leads to the gully back of the garden. We can break out—crowbars and a hydraulic jack—even if the end is crushed in and covered with crater glass. I'm not worried about that; I'm worried about how long we can stay inside . . . and whether it will be safe when we leave."

"How bad is the radioactivity?"

He hesitated. "Barbara, would it mean anything to you? Know anything about radiation?"

"Enough. I'm majoring—I was majoring—in botany; I've used isotopes in genetics experiments. I can stand bad news, Hugh, but not knowing—well, that's why I was crying."

"Mmm. The situation is worse than I told Duke." He jerked his thumb over his shoulder. "Integrating counter back of the bottles. Go look."

She went to it, stayed several minutes. When she came back, she sat down without speaking. "Well?" he asked.

"Could I have another drink?"

"Certainly." He mixed it.

She sipped it, then said quietly, "If the slope doesn't change, we'll hit the red line by morning." she

frowned. "But that marks a conservative limit. If I remember the figures, we probably won't start vomiting for at least another day."

"Yes. And the curve should level off soon. That's why heat worries me more than radiation." He looked at the thermometer, cracked the valve still wider. "I've been running the water-vapor getter on battery; I don't think we should crank the blower in this heat. I'm not going to worry about Cee-Oh-Two until we start to pant."

"Seems reasonable."

"Let's forget the hazards. Anything you'd like to talk about? Yourself?"

"Little to tell, Hugh. Female, white, twenty-five years old. Back in school, or was, after a bad marriage. A brother in the Air Force — so possibly he's all right. My parents were in Acapulco, so perhaps they are, too. No pets, thank God — and I was so pleased that Joe saved his cat. No regrets, Hugh, and not afraid . . . not really. Just . . . sad." She sniffed. "It was a pretty nice world, even if I did crumb up my marriage."

"Don't cry."

"I'm not crying; Those drops are sweat."

"Yes. Surely."

"They are. It's terribly hot." Suddenly she reached both hands behind her ribs. "Do you mind? If I take this off? It's smothering me."

"Go ahead. Child, if you can get comfortable — or less uncomfortable — do so. Skin doesn't shock

me." He stood up, went behind the oxygen bottles, and looked at the record of radiation. Having done so, he checked the thermometer and increased the flow of oxygen.

As he sat down he remarked, "I might as well have stored air instead of oxygen, then we could smoke. But I did not expect to use it for cooling." He ignored the fact that she had accepted his invitation to be comfortable. He added, "I was worried about heating the place. I tried to design a stove to use contaminated air safely. Possible. But difficult."

"I think you did amazingly well. This is the only shelter I've ever heard of with stored air. You're a scientist. Aren't you?"

"Me? Heavens, no. High school only. What little I know I picked up here and there. Some in the Navy, metal work and correspondence courses. Then I worked for a public utility and learned something about construction and pipe lines. Then I became a contractor." He smiled. "No Barbara, I'm a 'general specialist'. 'The Elephant Child's 'satiating curiosity.' Like Dr.-Livingstone-I-Presume."

"How did a cat get a name like that?"

"Karen. Because he's a great explorer. That cat can get into anything. Do you like cats?"

"I don't know much about them. But Dr. Livingstone is a beauty."

"So he is but I like all cats. You don't own a cat, he is a free citizen. Take dogs; dogs are friendly and fun and loyal. But slaves. Not their

fault, they've been bred for it. But slavery makes me queasy, even in animals."

He frowned. "Barbara, I'm not as sad over what has happened as you are. It might be good for us. I don't mean us six; I mean our country."

She looked very startled. "How?"
"Well—It's hard to take the long view when you are crouching in a shelter and wondering how long you can hold out. But — Barbara, I've worried for years about our country. It seems to me that we have been breeding slaves — and I believe in freedom. This war may have turned the tide. This may be the first war in history which kills the stupid rather than the bright and able — where is makes any distinction."

"How do you figure that, Hugh?"

"Well, wars have always been hardest on the best young men. This time the boys in service are as safe or safer than civilians. And of civilians those who used their heads and made preparations stand a far better chance. Not every case, but on the average, and that will improve the breed. When it's over, things will be tough, and that will improve the breed still more. For years the surest way of surviving has been to be utterly worthless and breed a lot of worthless kids. All standard genetics. But it seems that will change."

She nodded. "That's cruel."

"It is cruel. But no government yet has been able to repeal natural laws, though they keep trying."

She shivered in spite of the heat. "I suppose you're right. No, I know

you're right. But I could face it more cheerfully if I thought there was going to be any country left. Killing the poorest third is good genetics . . . but there is nothing good about killing them all."

"Mmm, yes. I hate to think about it. But I did think about it. Barbara, I didn't stockpile oxygen just against radiation and fire storm. I had in mind worse things."

"Worse? How?"

"All the talk about the horrors of World War Three has been about atomic weapons — fallout, hundred megaton bombs, neutron bombs. The disarmament talks and the pacifist parades have all been about the Bomb, the Bomb, the Bomb — as if A-weapons were the only thing that could kill. This may not be just an A-weapon war; more likely it is an ABC war—atomic, biological, and chemical." He hooked a thumb at the tanks. "That's why I stocked that bottled breathing. Against nerve gas. Aerosols. Viruses. God knows what. The communists won't smash this country if they can kill us without destroying our wealth. I wouldn't be surprised to learn that bombs had been used only on military targets like the anti-missile base here, but that New York and Detroit and such received nerve gas. Or a 24-hour plague with 80% mortality. The horrid possibilities are endless. The air outside could be loaded with death that a counter won't detect and a filter can't stop." He smiled grimly. "Sorry. You had better go back to bed."

"I'm miserable anyway and don't want to be alone. May I stay?"

"Certainly. I'm happier with you present no matter how gloomy I sound."

"What you've been saying isn't nearly as gloomy as the thoughts I have alone. I wish we knew what was going on outside!" She added, "I wish we had a periscope."

"We do have,"

"Huh? *Where?*"

"Did have. Sorry. That pipe over there. I tried to raise it but it won't budge. However — Barbie, I tromped on Duke for demanding that I break out our spare radio before the attack was over. But maybe it's over. What do you think?"

"Me? How would I know?"

"You know as much as I do. That first missile was intended to take out the MAMMA base; they wouldn't bother with us otherwise. If they are spotting from orbiting spaceships, then that second one was another try at the same target. The timing fits, time of flight from Kamchatka is about half an hour and the second hit about forty-five minutes after the first. That one was probably a bull's-eye — and they know it, because more than an hour has passed and no third missile. That means they are through with us. Logical?"

"Sounds logical to me."

"It's crumby logic, my dear. Not enough data. Perhaps both missiles failed to knock out MAMMA, and MAMMA is now knocking out anything they throw. Perhaps the Russians have run out of missiles. Perhaps the third round will be delivered by bomber. We don't know. But I'm itching to find out."

"I would certainly like to hear some news."

"We'll try. If it's good news, we'll wake the others." Hugh Farnham dug into the corner, came out with a box, unpacked a radio. "Doesn't have a scratch. Let's try it without an antenna."

"Nothing but static," he announced shortly. "Not surprised. Although its mate could pull in local stations without an aerial. Now we'll hook to the fixed antenna. Wait here."

He returned shortly. "No soap. Stands to reason that there isn't anything left of the fixed antenna. So we'll try the emergency one."

Hugh took a wrench and removed a cap from an inch pipe that stuck down through the ceiling. He tested the opening with a radiation counter. "A little more count." He got two steel rods, each five feet long; with one he probed the pipe. "Doesn't go up as far as it should. The top of this pipe was buried just below ground. Trouble." He screwed the second rod into the first.

"Now comes the touchy part. Stand back, there may be debris — hot both ways — spilling down."

"It'll get on you."

"On my hands, maybe. I'll scrub afterwards. You can go over me with a Geiger counter." He tapped with a sledge on the bottom of the joined rods. Up they went about eighteen inches. "Something solid. I'll have to bang it."

Many blows later the rod was seated into the pipe. "It felt," he said, as he stopped to scrub his hands, "as if we passed into open

air the last foot or so. But it should have stuck out five feet above ground. Rubble, I suppose. What's left of our home. Want to use the counter on me?"

"Hugh, you say that as casually as 'What's left of yesterday's milk.'"

He shrugged. "Barbie girl, I was broke when I joined the Navy, I've been flat busted since; I will not waste tears over a roof and some plumbing. Get any count?"

"You're clean."

"Check the floor under the pipe."

There were hot spots on the floor; Hugh wiped them with damp Kleenex, disposed of it in a metal waste can. She checked his hands afterwards, and the spots on the floor.

"Well, that used up a gallon of water; this radio had better work." He clipped the antenna lead to the rod, switched it on.

Ten minutes later they admitted that they were getting nothing. Noise — static all over the dial — but no signal. He sighed. "I'm not surprised. I don't know what ionization does to radio waves, but that must be a sorcerer's brew of hot isotopes over our heads: I had hoped we could get Salt Lake City."

"Not Denver?"

"No. Denver had an ICBM base. I'll leave the gain up; maybe we'll hear something."

"Don't you want to save the battery?"

"Not really. Let's sit down and recite limericks." He looked at the integrating counter, whistled softly then checked the thermometer. "I'll give our sleeping beauties a little

more relief from the heat. How well are you standing it, Barbie?"

"Truthfully, I had forgotten it. The sweat pours off and that's that."

"Me, too."

"Well, don't use more oxygen on my account. How many bottles are left?"

"Not many."

"How many?"

"Less than half. Don't fret. I'll bet you five hundred thousand dollars — fifty cents in the new currency — that you can't recite a limerick I don't know."

"Clean, or dirty?"

"Are there clean ones?"

"Okay. 'A playful young fellow named Scott —'"

The limerick session was a flop. Hugh accused her of having a clean mind. She answered, "Not really, Hugh. But my mind isn't working."

"I'm not at my sharpest. Another drink?"

"Yes. With water, please, I sweat so; I'm dry. Hugh?"

"Yes, Barbie?"

"We're going to die. Aren't we?"

"Yes."

"I thought so. Before morning?"

"Oh, no! I feel sure we can live till noon. If we want to."

"I see. Hugh, would you mind if I moved over by you? Would you put your arm around me? Or is it too hot?"

"Any time I'm too hot to put my arm around a girl I'll know I'm dead and in hell."

"Thanks."

"Room enough?"

"Plenty," said Barbara, smiling.

"You're a little girl."

"I weigh a hundred and thirty-two pounds and I'm five feet eight and that's not little."

"You're a little girl. Put the cup aside. Tilt your face up."

"Mmmm — Again. Please, again."

"A greedy little girl."

"Yes. Very greedy. Thank you, Hugh."

"All right?"

"Wonderfully all right. And kiss me, too. Please?"

"Barbara, Barbara!"

"Hugh darling! I love you. Oh!"

"I love you, Barbara."

"Yes. Yes! Oh, please! *Now!*"

Some minutes later, the biggest slam of all hit them.

III

The light went out, Grace Farnham screamed, and Dr. Livingstone-I-Presume wailed. Barbara was knocked silly and came to heaped over a steel bottle and disoriented by blackness and no floors or walls.

She groped around, found a leg, found Hugh attached to it. He was limp. She felt for his heart beat, could not find it.

She shouted: "Hello! *Hello!* Anybody!"

Duke answered, "Barbara?"

"Yes, yes!"

"Are you all right?"

"I'm all right, Hugh is hurt. I think he's dead."

"Take it easy. When I find my trousers, I'll light a match — if I can get off my shoulders. I'm standing on them."

"Hubert! *Hubert!*"

"Yes, Mother! Wait." Grace continued to scream; Duke alternated reassurances and cursing the darkness. Barbara felt around, slipped on loose oxygen bottles, hurt her shin, and found a flat surface. She could not tell what it was; it was canted steeply.

Duke called out, "Got 'em!" A match flared up, torch bright in oxygen-rich air.

Joe's voice said, "Better put that out. Fire hazard." A flashlight beam cut the gloom.

Barbara called out, "Joe! Help me with Hugh!"

"Got to see about lights."

"He may be dying."

"Can't do a thing without light."

Barbara shut up, tried again to find heart beat — found it and clutched Hugh's head, sobbing.

Lights came on in the men's bay; enough trickled in that Barbara could make out her surroundings. The floor sloped about thirty degrees; she, Hugh, steel bottles, water tank, and other gear were jumbled in the lower corner. The tank had sprung a leak and was flooding the toilet space. She saw that, had the tilt been the other way, she and Hugh would have been buried under steel and water.

Minutes later Duke and Joe joined her, letting themselves down through the door. Joe carried a camp lamp. Duke said to Joe, "How are we going to move him?"

"We don't. It might be his spine."

"Still have to move him."

"We don't move him," Joe said firmly. "Barbara, have you moved him?"

"I took his head in my lap."

"Well, don't move him any more."

Joe looked his patient over, touching him gently. "I can't see any gross injuries," he decided. "Barbara, if you can stay put, we'll wait until he comes to. Then I can check his eyes for concussion, see if he can wiggle his toes, things like that."

"I'll hold still. Anybody else hurt?"

"Not to speak of," Duke assured her. "Joe thinks he's cracked some ribs and I wrenched a shoulder. Mother just got rolled into the corner of her bunk. Sis is soothing her. Sis is okay — a lump on her head where a can konked her. Are you all right?"

"Just bruises. Hugh and I were playing double solitaire and trying to keep cool when it hit." She wondered how long the lie would stand up. Duke had no more on than she did and didn't seem troubled by it; Joe was dressed in underwear shorts. She added, "The cat? Is he all right?"

"Dr.-Livingstone-I-Presume," Joe answered seriously, "escaped injury. But he is vexed that his sand box was dumped over. He's cleaning himself and criticizing."

"I'm glad he wasn't hurt."

"Notice anything about this blast?"

"What, Joe? It was the hardest of the three. Much the hardest."

"Yes. But no rumbling. Just one great, big, grand slam, then . . . nothing."

"What does that indicate?"

"I don't know. Barbara, can you stay here and not move? I want to get more lights on, check the damage, and see what to do about it."

"I won't move." Hugh seemed to

be breathing easily. In the silence she could hear his heart beat. She had nothing to be unhappy about.

Karen joined her, carrying a flashlight and moving carefully on the slant. "How's Daddy?"

"No change."

"Knocked cold, I guess. So was I. You okay?" She played the flashlight over Barbara.

"Not hurt."

"Well! I'm glad you're in uniform, too. I can't find my pants. Joe ignores it so carefully, it's painful. Is that boy square!"

"I don't know where my clothes are."

"Joe has the only pants among us. What happened to you? Were you asleep?"

"No. I was here. We were talking."

"Hmn — Further deponent sayeth not. I'll keep your grisly secret. Mother won't know; I gave her another hypo."

"Aren't you jumping at conclusions?"

"My favorite exercise. I hope my nasty suspicions are correct. I wish I had had something better to do than sleep last night. Since it's probably our last night." She leaned over and kissed Barbara. "I like you."

"Thanks, Karen. Me, too. You."

Let's hold a funeral and preach about what nice guys we are. You made my Daddy happy when you had the guts to bid that slam. If you made him happier still, I'm in favor of it." She straightened up. "'Bye. I'll go sort groceries. If Daddy wakes up, yell." She left.

"Barbara," said Hugh softly.

"Yes, Hugh? Yes!"

"Keep your voice down. I heard what my daughter said."

"You did?"

"Yes. She's a gentleman. Barbara I love you. I may not have another chance to say so."

"I love you."

"Darling."

"Shall I call the others?"

"Shortly. Are you comfortable?"

"Oh, very!"

"Then let me rest a bit. I feel woozy."

"As long as you like. Uh, can you wiggle your toes? Do you hurt any place?"

"I hurt lots of places, but not too much. Let me see — Yes, I can move everything. All right, call Joe."

"No hurry."

"Better call him. Work to do."

Shortly Mr. Farnham was back in charge. Joe required him to move himself — a mass of bruises but no break, sprain, nor concussion. It seemed to Barbara that Hugh had landed on the bottles and that she had landed on him. She did not discuss her theory.

Hugh's first act was to bind Joe's ribs with elastic bandage. Joe gasped as it tightened but seemed more comfortable with it. The lump on Karen's head was inspected; Hugh decided that there was something he could do for it.

"Will somebody fetch the thermometer?" he asked. "Duke?"

"It's busted."

"It's a bimetal job. Shockproof."

"I looked for it," Duke explained, "while you were doctoring. Seems cooler to me. While it may be shock-

proof, it couldn't stand being mashed between two tanks."

"Oh. Well, it's no big loss."

"Dad? Wouldn't this be a good time to try the spare radio?"

"I suppose so, but — I hate to tell you, Duke, but you'll probably find it smashed, too. We tried it earlier. No results." He glanced at his wrist. "An hour and a half ago. At two a.m. Has anyone else the time?"

Duke's watch agreed.

"We seem to be in fair shape," Hugh decided, "except for water. There are some plastic jugs of water but we need to salvage the tank water; we may have to drink it. With Halazone tablets. Joe, we need utensils of any sort, and everybody bail. Keep it as clean as you can." He added. "When Joe can spare you, Karen, scrounge some breakfast. We've got to eat, even if this is Armageddon."

"And Armageddon sick of it," Karen offered.

Her father winced. "Baby girl, you will write on the blackboard one thousand times: 'I will not make bad puns before breakfast.'"

"I thought it was pretty good, Hugh."

"Don't encourage her, Barbara. All right, get with it."

Karen returned shortly, carrying Dr. Livingstone. "I wasn't much help," she announced, "Because somebody has to hang onto this damn cat. He wants to help."

"Kalblerrrrt!"

"You did so! I'm going to entice him with sardines and get breakfast. What do you want, Daddy Hugh Boss? Crepes Suzettes?"

"Yes. That sounds very good."

"What you'll get is Spam and crackers."

"All right. How's the bailing going?"

"Daddy, I won't drink that water even with Halazone." She made a face. "You know where it wound up."

"We may have to drink it."

"Well . . . if you cut it with whiskey—"

"Mmm. Every case of liquor is leaking. The two I've opened each have one fifth, unbroken."

"Daddy, you've ruined breakfast."

"The question is, do I ration it evenly? Or save it all for Grace?"

"Oh." Karen's features screwed up in painful decision. "She can have my share. But the others shouldn't be deprived just because Gracie has a yen."

"Karen, at this stage it's not a yen. In a way, for her it's medicine."

"Yeah, sure. And diamond bracelets and sable coats are medicine for me."

"Baby, there's no point in blaming her. When you get to be my age—"

"Daddy, I don't expect to get to be your age — and we both know it. If we've got even two fifths of liquor, it's probably enough. Why don't you just serve it to whoever needs it?"

The lines in his face got deeper. "Karen, I haven't given up. It's distinctly cooler. We may get out of this yet."

"Well — I guess that's the proper attitude. Give me a kiss, Daddy."

He did. "Now pipe down and get to work."

Five of them gathered for breakfast, sitting on the floor as chairs would not stand up. Mrs. Farnham was still lethargic from heavy sedation. The others shared canned meat, crackers, cold Nescafe, canned peaches and warm comradeship. They were dressed, the men in shorts, Karen in shorts and halter, and Barbara in a muu muu belonging to Karen. Her underwear had been salvaged but was soaked and the air was too moist to dry it.

Hugh announced. "Time for a conference. Suggestions are welcome." He looked at his son.

"One item, Dad — Hugh," Duke answered. "The backhouse took a beating. I patched it and rigged a platform out of boards that had secured the air bottles. It's shaky."

"Good job, Duke. But with six of us I think we should rig a second one. Can we manage that, Joe?"

"Yes, we could. But . . ."

"But what?"

"Do you know how much oxy is left?"

"I do. We must shift to blower and filter soon. And there is not a working radiation counter left. So we won't know what we'll be letting in. However we've got to breathe."

"But did you look at the blower?"

"It looked all right."

"It's not. I don't think I can repair it."

Mr. Farnham sighed. "I've had a spare on order for six months. Well, I'll look at it, too. And you, Duke; maybe one of us can fix it."

"Okay."

"Let's assume we can't repair it. Then we use the oxygen as spring-

ly as possible. After that we can get along, for a while, on the air inside. But there will come a time when we have to open the door."

Nobody said anything. "Smile, somebody!" Hugh went on. "We aren't licked. We'll rig dust filters out of sheets in the door — better than nothing. We still have one radio — the one you mistook for a hearing aid, Barbara. I wrapped it and put it away; it wasn't hurt. I'll go outside and put up an antenna and we can listen to it down here; it could save us. We'll rig a flagpole, from the sides of a bunk perhaps, and fly a flag. A hunting shirt. No, the American flag; I've got one. If we don't make it, we'll go down with our colors flying!"

Karen started clapping. "Don't scoff, Karen."

"I'm not scoffing, Daddy! I'm crying. *The rockets red glare — the bombs bursting in air — gave proof through the night — that our flag was still —*" Her voice broke and she buried her face in her hands.

Barbara put an arm around her. Hugh Farnham went on as if nothing had happened. "But we won't go down. Soon they will search this area for survivors. They'll see our flag and take us out — helicopter, probably.

"So our business is to be alive when they come." He stopped to think. "No unnecessary work, no exercise. Sleeping pills for everybody and try to sleep twelve hours a day and lie down all the time; it will make the air last as long as possible. The only work is to repair that blower and we'll knock that off if we

can't fix it. Let's see — Water must be rationed. Duke, you are water marshal. See how much pure water there is; work out a schedule to stretch it. There is a one ounce glass with the medicines; use it to dispense water. That's all, I guess: Repair the blower, minimum exercise, maximum sleep, rationed water, Oh, yes! Sweat is wasteful. It's still hot and Barbara, you've sweat right through that sack. Take it off."

"May I leave the room?"

"Certainly." She left, walking carefully on the steep floor, went into the tank room, and returned wearing her soaked underwear. "That's better," he approved. "Now —"

"Hubert! *Hubert!* Where are you? I'm thirsty."

"Duke, give her one ounce. Charge it to her."

"Yes, sir."

"Don't forget that the cat has to have water.

"The dirty water, maybe?"

"Humm. We won't die through playing fair with our guest. Let's keep our pride."

"He's been drinking the dirty water."

"Well — You boss it. Suggestions, anyone? Joe does it suit you?"

"Well — No, sir."

"So?"

"No exercise, least oxygen used, makes sense. But when it comes time to open the door, where are we?"

"We take our chances."

"I mean, *can we?* Short on air, panting, thirsty, maybe sick — I'd like to be certain that anyone, Karen, say, with a broken arm, can get that door open."

"I see," said Hugh, nodding.

"I'd like to try all three doors. I'd like to leave the armor door open. A girl can't handle that crank. I volunteer to try the upper door."

"Sorry, it's my privilege. I go along with the rest. That's why I asked for suggestions. I'm tired, Joe; my mind is fuzzy."

"And if the doors are blocked? Probably rubble against the upper door —"

"We have the jack."

"Well, if we can't use the doors, we should make sure of the escape tunnel. Duke's shoulder isn't so good. My ribs are sore but I can work — today. Tomorrow Duke and I will be stiff and twice as sore. There are those steel bottles cluttering the hatch and plunder stored in the hole. Takes work. Boss, I say we've got to be sure of our escape — while we're still in pretty good shape."

"I hate to order heavy work. But you've convinced me." Hugh stood up, suppressing a groan. "Let's get busy."

"I've got one more suggestion."

"So?"

"You ought to sack in. You haven't been to bed at all and you got banged up pretty hard."

"I'm okay. Duke has a bad shoulder, you've got cracked ribs. And there's heavy work to be done."

"I plan to use block and tackle to skid those bottles aside. Barbara can help. She's husky, for a girl."

"Certainly I can," agreed Barbara. "I'm bigger than Joe is. Excuse me, Joe."

"No argument. Boss. Hugh. I don't like to emphasize it but I thought of this. You admit you're

tired. Not surprising, you've been on the go twenty-four hours. Do you mind my saying that I would feel more confident you could get us through if you would rest?"

Hugh grinned. "Ganging up on me. All right, I'll take a nap."

A few minutes later he was in the bottom bunk in the men's dormitory, his feet braced against the foot board. He closed his eyes and was asleep before he could get his worries organized.

Duke and Joe found that five of the bolts of the inned door were stuck. "We'll let them be," Joe decided. "We can always drift them back with a sledge hammer. Let's crank back the armor door."

The armor door, beyond the bolted door, was intended to withstand as much blast as the walls. It was cranked into place, or out, by a rack and gear driven by a long crank.

Joe could not budge it. Duke, heavier by forty pounds, put his weight on it — no results. Then they leaned on it together.

"Frozen."

"Yeah."

"Joe you mentioned a sledge hammer."

The young Negro frowned. "Duke, I would rather your father tried that. We could break the crank. Or a tooth on the rack."

"The trouble is, we're trying to crang a ton or so of door up hill when it was meant to move on the level."

"Yes. But this door always has been pesky."

"What do we do?"

"We get at the escape tunnel."

A block and tackle was fastened to a hook in the ceiling; the giant bottles were hauled out of the jumble and stacked, with Barbara and Karen heaving on the line and the men guiding them and then bracing them so that the stack could not roll. When the middle of the floor was clear they were able to get at the manhole cover to the tunnel. It was the massive, heavy-traffic sort and the hook in the ceiling was for lifting it.



It came up, creaking. It swung suddenly because of the 30° out-of-plumb of everything, taking a nick out of Duke's shin and an oath out of Duke.

The hole was packed with provisions. The girls dug them out, Karen, being smaller, going down inside as they got deeper and Barbara stocking the stuff.

Karen stuck her head up. "Hey! Water boss! There's canned water here."

"Well, goody for me!"

Joe said, "I had forgotten that. This hatch hasn't been opened since the shelter was stocked."

"Joe shall I knock out the braces?"

"I'll get 'em. You clear out the supplies. Duke, this isn't armored the way the door is. Those braces hold a piece of boiled plate against the opening, with the supplies behind it and the manhole cover holding it all down. Inside the tunnel, at ten-foot intervals, are walls of sand bags, and the mouth has dirt over it. Your father said the idea was to cofferdam a blast. Let it in, slow it down, a piece at a time."

"We'll find those sand bags jammed against that boiler plate."

"If so, we'll dig 'em out."

"Why didn't he use real armor?"

"He thought this was safer. You saw what happened to the doors. I would hate to have to pry loose a steel barrier in that tunnel."

"I see. Joe, I'm sorry I ever called this place a 'hole in the ground.'"

"Well, it isn't. It's a machine—a survival machine."

"I'm through," Karen announced. "Some gentleman help me up. Or you, Duke."

"I'll put the lid on with you under it." Duke helped his sister to climb out.

Joe climbed down, flinching at the strain on his ribs. Dr. Livingstone had been superintending. Now he followed his friend into the

hole, using Joe's shoulders as a landing.

"Duke, if you'll hand me that sledge — Stay out of the way, Doc. Get your tail down."

"Want me to take him?" asked Karen.

"No, he likes to be in on things. Somebody hold the light." The braces were removed and piled on the floor above.

"Duke, I need the tackle now. I don't want to hoist the plate. Just take its weight so I can swing it back. It's heavy."

"Here it comes."

"That's good. *Doc!* Darn you, Doc! Get out from under my feet! Just a steady strain, Duke. Somebody hand me the flashlight. I'll swing her back and have a look."

"And get a face full of isotopes."

"Have to chance it. A touch more — That's got her, she's swinging free."

Then Joe didn't say anything. At last Duke said, "What do you see?"

"I'm not sure. Let me swing it back, and hand me one brace."

"Right over your head. Joe, what do you see?"

The Negro was swinging the plate back when suddenly he grunted. "Doc! Doc, come back here! That little scamp! Between my legs and into the tunnel. *Doc!*"

"He can't get far."

"Well — Karen, will you go wake your father?"

"Damn it, Joe! *What do you see?*"

"Duke, I don't know. That's why I need Hugh."

"I'm coming down."

"There isn't room. I'm coming up, so Hugh can go down."

Hugh arrived as Joe scrambled out. "Joe, what do you have?"

"Hugh, look for yourself."

"Well — I should have built a ladder for this. Give me a hand." Hugh went down, removed the brace, swung back the plate.

He stared even longer than Joe had, then called up. "Duke! Let's heave this plate out."

"What is it, Dad?"

"Get the plate out, then you can come down." It was hoisted out; father and son exchanged places. Duke stared down the tunnel. "That's enough, Duke. Here's a hand," said Hugh extending his arm.

Duke rejoined them; his father said, "What do you think?"

"I don't believe it."

"Daddy," Karen said tensely, "somebody is going to talk, or I'm going to wrap this sledge hammer right around somebody's thick skull."

"Yes, baby. Uh, there's room for you girls to go down together."

Barbara was handed down by Duke and Hugh, she helped Karen down over her. Both girls scrunched down and looked.

Karen said softly. "I'll be gold-darned!" She started crawling into the tunnel.

Hugh called out, "Baby! Come back!" Karen did not answer. He added, "Barbara, tell me what you see."

"I see," Barbara said slowly, "a beautiful wooded hillside, green trees, bushes, and a lovely sunny day."

"That's what we saw."

"But it's impossible."

"Yes."



IV

Hugh turned to his deputy "Joe, I'm going out. Get me a forty-five and a belt. I shouldn't have let those girls go out unarmed." He eased himself down the hole. "You two guard the place."

His son said, "Against what? There's nothing to guard in here."

His father hesitated. "I don't know. Just a spooky feeling. All right, come along. But arm yourself. Joel!"

"Coming!"

"Joe, arm Duke and yourself. Then wait until we get outside. If we don't come back right away, use your judgment. This situation I hadn't anticipated. It just *can't be*."

"But it is."

"So it is, Duke." Hugh buckled on the pistol, dropped to his knees. Framed in the tunnel's mouth was

still the vision of lush greenness where there should have been blasted countryside and crater glass. He started to crawl.

He stood up and moved away from the mouth, then looked around.

"Daddy! Isn't this lovely!"

Karen was below him on a slope that ran down to a stream across it the land rose and was covered with trees. On this side was a semi-clearing. The sky was blue, sunlight warm and bright, and there was no sign of war's devastation, nor any sign of man — not a building, a road, a path, no contrails in the sky. It was wilderness, and there was nothing that he recognized.

"Daddy. I'm going down to the creek."

"Come here! Where's Barbara?"

"Up here, Hugh." He turned and saw her up the slope, above the shelter. "I'm trying to figure out what happened. What do you think?"

The shelter sat cocked on the slope, a huge square monolith. Dirt clung to it save where the tunnel had cracked off and a jagged place where the stair well had been. The armor door was exposed just above him.

"I don't think," he admitted.

Duke emerged, dragging a rifle. He stood up, looked around, and said nothing.

Barbara and Karen joined them. Dr. - Livingston - I - Presume came bounding up to tag Hugh on the ankle and dash away. Obviously the Persian gave the place full approval; it was just right for cats.

Duke said, "I give up. Tell me."

Hugh did not answer. Karen said,

"Daddy, why can't I go down to the creek? I'm going to take a bath. I stink."

"It won't hurt you to stink. I'm confused. I don't want to be confused still more by worrying about your drowning —"

"It's shallow."

"— or eaten by a bear or falling in quicksand. You girls go inside, arm yourselves, and then come out if you want to. But stick close and keep your eyes peeled. Tell Joe to come out."

"Yes, sir." The girls went.

"What do you think, Duke?"

"Well. . . I reserve my opinion."

"If you have one, it's more than I have. Duke, I'm stonkered. I planned for all sorts of things. This wasn't on the list. If you have opinions, for God's sake spill them."

"Well — This looks like mountain country in Central America. Of course that's impossible."

"No point in worrying about whether it's possible. Suppose it was Central America. What would you watch for?"

"Let me see. Might be cougars. Snakes certainly, Tarantulas and scorpions. Malaria mosquitoes. You mentioned bears."

"I meant bears as a symbol. We're going to have to watch everything, every minute, until we know what we're up against."

Joe came out carrying a rifle. He kept quiet and looked around. Duke said, "We won't starve. Off to the left down by the stream."

Hugh looked. A dappled fawn, hardly waist high, was staring at

them, apparently unafraid. Duke said, "Shall I drop it?" He raised the rifle.

"No. Unless you are dead set on fresh meat."

"All right. Pretty thing, isn't it?"

"Very. But it's no North American deer I ever saw. Duke? Where are we? And how did we get here?"

Duke gave a lopsided grin. "Dad, you appointed yourself Fuehrer. I'm not supposed to think."

"Oh, rats!"

"Anyhow, I don't know. Maybe the Russkis developed a hallucination bomb."

"But would we all see the same thing?"

"No opinion. But if I had shot that deer, I'll bet we could have eaten it."

"I think so, too. Joe? Ideas, opinions, suggestions?"

Joe scratched his head. "Mighty pretty country. But I'm a city boy."

"One thing you can do, Hugh."

"What, Duke?"

"Your little radio. Try it."

"Good idea." Hugh crawled inside, caught Karen about to climb down, sent her back for it. While he waited, he wondered what he had that was suitable for a ladder? Chinning themselves in a six-foot manhole was tedious.

The radio picked up static but nothing else. Hugh switched it off. "We'll try it tonight. I've gotten Mexico with it at night, even Canada." He frowned. "Something ought to be on the air. Unless they smeared us completely."

"Dad, you aren't thinking straight."

"How, Duke?"

"This area did not get smeared."

"That's why I can't understand a radio silence."

"Yet Mountain Springs really caught it. Ergo, we aren't in Mountain Springs."

"Who said we were?" Karen answered. "There's nothing like this in Mountain Springs. Nor the whole state."

Hugh frowned. "I guess that's obvious." He looked at the shelter, gross, huge, massive. "But where are we?"

"Don't you read comic books, Daddy? We're on another planet."

"Don't joke, baby girl. I'm worried."

"I wasn't joking. There is nothing like this within a thousand miles of home — yet here we are. Might as well be another planet. The one we had was getting used up."

"Hugh," Joe said, "it sounds silly. But I agree with Karen."

"Why, Joe?"

"Well, we're *someplace*. What happens when an H-bomb explodes dead on you?"

"You're vaporized."

"I don't *feel* vaporized. And I can't see that big hunk of concrete sailing a thousand miles or so, and crashing down with nothing to show for it but cracked ribs and a hurt shoulder. But Karen's idea —" He shrugged. "Call it the fourth dimension. That last big one nudged us through the fourth dimension."

Barbara said, "Karen, I don't see how this can be anything but Earth."

"Why? Spoilspout."

"Well —" Barbara chucked a pebble at a tree. "That's a eucalyptus, and an acacia beyond it. Not at all

like Mountain Springs but a normal grouping of tropical and subtropical flora. Unless your 'new planet' evolved plants just like Earth, this has to be Earth."

"Hubert! *Hubert!* Where are you? I can't *find* you!" Grace Farnham's voice echoed out the tunnel.

Hugh ducked into the tunnel. "Coming!"

They ate lunch under a tree a little distance from the shelter. Hugh decided that the tunnel had been buried so deeply that the chance of its mouth being more radioactive than the interior was negligible. As for the roof, he was not certain. So he placed a dosimeter (the only sort of radiation instrument that had come through the pummeling) on top of the shelter to compare it later with one inside. He was relieved to see that the dosimeters agreed that they had suffered less than lethal dosage — although large — and that they checked each other.

The only other precaution he took was for them to keep guns by them — all but his wife. Grace Farnham "couldn't stand guns," and resented having to eat with guns in sight.

But she ate with good appetite. Duke had built a fire and they were blessed with hot coffee, hot canned beef, hot peas, hot canned sweet potatoes, and canned fruit salad — and cigarettes with no worry about air or fire.

"That was lovely," Grace admitted. "Hubert dear? Do you know what it would take to make it just perfect? You don't approve of

drinking in the middle of the day but these are special circumstances and my nerves are still a teensy bit on edge — so, Joseph, if you will just run back inside and fetch a bottle of that Spanish brandy —”

“Grace.”

“What dear? —then all of us could celebrate our miraculous escape. You were saying?”

“Most of the liquor was broken. That brings up something else. Duke, you are out of a job as water boss. I’d like you to take over as bartender. There are at least two unbroken fifths. Whatever you find, split it six ways and make it share and share alike, whether it’s several bottles each, or just a part of a bottle.”

Mrs. Farnham looked blank Duke looked uneasy. Karen said hastily, “Daddy, you know what I said.”

“Oh, yes. Duke, your sister is on the wagon. So hold her share as a medicinal reserve. Unless she changes her mind.”

“I don’t want the job,” said Duke.

“We have to divide up the chores, Duke. Oh yes, do the same with cigarettes. When they are gone, they’re gone, whereas I have hopes that we can distill liquor later.” He turned to his wife. “Why not have a Mil-town, dear?”

“Drugs! Hubert Farnham, are you telling me that I *can’t* have a drink?”

“Not at all. At least two fifths came through. Your share would be about a half pint. If you want a drink, go ahead.”

“Well! Joseph, run inside and fetch me a bottle of brandy.”

“No!” her husband countermanded. “If you want it, Grace, fetch it yourself.”

“Oh, shucks, Hugh, I don’t mind.”

“I do. Grace, Joe’s ribs are cracked. It hurts him to climb. You can manage the climb with those boxes as steps — and you’re the only one who wasn’t hurt.”

“That’s not true!”

“Not a scratch. Everybody else was bruised or worse. Now about jobs. I want you to take over as cook. Karen will be your assistant. Okay, Karen?”

“Certainly, Daddy.”

“It will keep you both busy. We’ll build a grill and dutch oven, but it will be cook over a campfire and wash dishes in the creek for a while.”

“So? And will you please tell me Mr. Farnham, what Joseph is going to do in the meantime? To earn his wages?”

“Will you please tell me, how we’ll pay wages? Dear, dear — can’t you see that things have changed?”

“Don’t be preposterous! Joseph will get every cent coming to him and he knows it — just as soon as this mess is straightened out. After all, we’ve saved his life. And we’ve always been good to him, he won’t mind waiting. Will you, Joseph?”

“Grace! Quiet down and listen. Joe is no longer our servant. He is our partner in adversity. We’ll never pay him wages again. Quit acting like a child and face the facts. We’re broke. We’re never going to have any money again. Our house is gone. My business is gone. The Mountain Exchange Bank is gone. We’re **wiped** out . . . save for what we

stored in the shelter. But we are lucky. We're alive and by some miracle have a chance of scratching a living out of the ground. Lucky. Do you understand?"

"Oh!" She burst into tears and fled into the shelter.

Her behind was disappearing when Duke got up to follow. His father stopped him. "Duke!"

"Yes."

"One word and you can join your mother. I'm going exploring, I want you to go with me."

Duke hesitated. "All right."

"We'll start shortly. I think your job should be 'hunter.' You're a better shot than I am and Joe has never hunted. What do you think?"

"Uh — All right."

"Good. Well, go soothe her down and, Duke, see if you can make her see the facts."

"Maybe. But I agree with Mother. You were bullying her."

"As may be. Go ahead."

Duke turned abruptly and then left. Karen said quietly, "I think so, too, Daddy. You were bullying . . ."

"I intended to. I judged it called for bullying. Karen, if I hadn't tromped on it, she would do no work. . . and would order Joe around, treat him as a hired cook."

"Shucks, Hugh, I don't mind cooking. It was a pleasure to rustle lunch."

"She's a better cook than you are, Joe, and she's going to cook. Don't let me catch you fetching and carrying for her."

The younger man grinned. "You won't catch me."

"Better not. Or I'll skin you and nail it to the barn. Barbara, what do you know about farming?"

"Very little."

"You're a botanist."

"No, I simply might have been one, some day."

"Which makes you eight times as much of a farmer as the rest of us. I can barely tell a rose from a dandelion; Duke knows even less and Karen thinks you dig potatoes out of gravy. You heard Joe say he was a city boy. But we have seeds and a small supply of fertilizers. Also garden tools and books about farming. Look over what we've got and find a spot for a garden. Joe and I will do the spading and such. But you will have to boss."

Hugh and his son left a half hour later. "Joe," Hugh cautioned, "we plan to be back before dark but if we get caught, we'll keep a fire going all night and come back tomorrow. If you do have to search for us, don't go alone; take one of the girls. No, take Karen; Barbara has no shoes, just some spike-heeled sandals. Damn. Moccasins — we'll have to make. Got it?"

"Sure."

"We'll head for that hill — that one. I want to get high enough to get the lay of the land and maybe spot signs of civilization." They set out — rifles, canteens, hand ax, machete, matches, iron rations, compasses, binoculars, mountain boots, coveralls. Coveralls and boots fitted Duke as well as Hugh; Duke found that his father had stocked clothes for him.

They took turns, with the men following blazing trail and counting

paces, the leader keeping lookout, compass direction, and record.

The high hill Hugh had picked was across the stream. They explored its bank and found a place to wade. Everywhere they flushed game. The miniature deer were abundant and apparently had never been hunted. By man, at least — Duke saw a mountain lion and twice they saw bears.

It seemed to be about three o'clock local time as they approached the summit. The climb was steep, cluttered with under growth and neither man was in training. When they reached the flattish summit Hugh wanted to lay on the ground.

Instead he looked around. To the east the ground dropped off. He stared out over miles of prairie.

He could see no sign of human life.

He adjusted his binoculars and started searching. He saw moving figures, decided that they were antelope — or cattle; he made mental note that these herds must be watched. Later, later —

"Hugh?"

He lowered his binoculars. "Yes, Duke?"

"See that peak? It's fourteen thousand one hundred and ten feet high."

"I won't argue."

"That's Mount James. Dad, we're home!"

"What do you mean?"

"Look southwest. Those three gendarmes on that profile. The middle one is where I broke my leg when I was thirteen. That pointed mountain between there and Mount

James — Hunter's Horn. Can't you see? The skyline is as distinctive as a finger print. This is Mountain Springs!"

Hugh stared. This skyline he knew. His bedroom window was planned to let him see it at dawn; many sunsets he had watched it from his roof.

"Yes."

"Yes," Duke agreed. "Damned if I know how. But as I figure it —" he stomped the ground — "we're on the high reservoir. Where it ought to be." His brow wrinkled. "And as near as I can tell, our shelter is smack on our lot.

Hugh took out the notebook in which was recorded paces and compasses courses, did some arithmetic. "Yes. Within the limits of error."

"Well? How do you figure it?"

Hugh looked at the skyline. "I don't. Duke how much daylight do we have?"

"Well . . . three hours. The sun will be behind the mountains in two."

"It took two hours to get here; we should make it back in less. Do you have any cigarettes?"

"Yes."

"May I have one? Charged against me, of course. I would like to rest about one cigarette, then start back." He looked around. "It's open up here. I don't think a bear would approach us." He placed his rifle and belt on the ground, settled down.

Duke offered a cigarette to his father, took one himself. "Dad, you're a cold fish. Nothing excites you."

"So? I'm so excitable that I had to learn never to give into it."

"Doesn't seem that way to other people." They smoked in silence, Duke seated, Hugh sprawled out. He was close to exhaustion and wished that he did not have to hike back.

Presently Duke added, "Besides that, you enjoy bullying."

His father answered, "I suppose so, if you class what I do as bullying. No one ever does anything but what he wants to do — 'enjoys' — within the possibilities open to him. If I change a tire, it's because I enjoy it more than being stranded."

"Don't get fancy. You enjoy bullying Mother. You enjoyed spanking me as a kid . . . until Mother put her foot down and made you stop."

His father said, "We had better start back."

"Just a second. I want to show you something. Never mind your gear, this won't take a moment."

Hugh stood up. "What is it?"

"Just this. Your Captain Bligh act is finished." He clouted his father. "That's for bullying Mother!" He clouted him from the other side and harder, knocking his father off his feet. "And that's for having that nigger pull a gun on me!"

Hugh Farnham lay where he had fallen. "Not 'nigger,' Duke. Negro."

"He's a Negro as long as he behaves himself. Pulling a gun on me makes him a goddam nigger. You can get up. I won't hit you again."

Hugh Farnham got to his feet. "Let's start back."

"Is that all you've got to say? Go ahead. Hit me. I won't hit back."

"No."

"I didn't break my parole. I waited until we left the shelter."

"Conceded. Shall I lead? Better, perhaps."

"Do you think I'm afraid you might shoot me in the back? Look, Dad, I had to do it!"

"Did you?"

"Hell, yes. For my own self respect."

"Very well." Hugh buckled on his belt, picked up his gun, and headed for the last blaze.

They hiked in silence. At last Duke said, "Dad?"

"Yes, Duke?"

"I'm sorry."

"Forget it."

They went on, found where they had forded the stream, crossed it. Hugh hurried as it was growing darker. Duke closed up again. "Just one thing, Dad? Why didn't you assign Barbara as cook? She's the freeloader. Why pick on Mother?"

Hugh took his time in answering. "Barbara is no more a freeloader than you are, Duke, and cooking is the only thing Grace knows. Or were you suggesting that she loaf while the rest of us work?"

"No. Oh, we all have to pitch in — granted. But no more bullying, no more bawling Mother out in public. Understand me?"

"Duke."

"Yeah?"

"I've been studying karate three afternoons ... week ... the past year."

"So?"

"Don't try it again. Shooting me in the back is safer."

"I hear you."

"Until you decide to shoot me, it would be well to accept my leader-

ship. Or do you wish to assume the responsibility?"

"Are you offering it?"

"I am not in a position to. Perhaps the group would accept you. Your mother would. Possibly your sister would prefer you. Concerning Barbara and Joe I offer no opinion."

"How about you, Dad?"

"I won't answer that; I owe you nothing. But until you decide to make a bid for leadership, I expect the same willing discipline you showed under parole."

"'Willing discipline' indeed!"

"In the long run there is no other sort. I can't quell a mutiny every few hours — and I've had two from you plus an utter lack of discipline from your mother. No leader can function on those terms. So I will assume your willing discipline. That includes no interference should I decide again to use what you call 'bullying.'"

"Now see here, I told you I would not stand for —"

"Quiet! Unless you make up your mind to that, your safest choice is to shoot me in the back. Don't come at me with bare hands nor risk giving me a chance to shoot first. At the next sign of trouble, Duke, I will kill you. If possible. One of us will surely be killed."

They trudged along in silence, Mr. Farnham never looking back. At last Duke said, "Dad, for Christ's sake, why can't you run things democratically? I don't want to boss things, I simply want you to be fair about it."

"Mmm, you don't want to boss. You want to be a backseat driver — with a veto over the driver."

"Nuts! I simply want things run democratically."

"You do? Shall we vote on whether Grace is to work like the rest of us? Whether she shall hog the liquor? Shall we use Robert's Rules of Order? Should she withdraw while we debate it? Or should she stay and defend herself against charges of indolence and drunkenness? Do you wish to submit your mother to such ignominy?"

"Don't be silly!"

"I am trying to find out what you mean by 'democratically.' If you mean putting every decision to a vote, I am willing — if you will bind yourself to abide by every majority decision. You're welcome to run for chairman. I'm sick of the responsibility and I know that Joe does not like being my deputy."

"That's another thing. Why should Joe have any voice in these matters?"

"I thought you wanted to do it 'democratically?'"

"Yes, but he is—"

"What, Duke? A 'nigger'? Or a servant?"

"You've got a nasty way of putting things."

"You've got nasty ideas. We'll try formal democracy — rules of order, debate, secret ballot, everything — any time you want to try such foolishness. Especially any time you want to mutiny and move a vote of no confidence and take over the leadership . . . and I'm so bitter as to hope that you succeed. In the meantime we *do* have a good democracy."

"How do you figure?"

"I'm serving by consent of the ma-

majority—four to two, I think. But that doesn't suit me; I want it to be unanimous, I can't put up indefinitely with wrangling from the minority. You and your mother, I mean. I want it to be five to one before we get back, with your assurance that you will not interfere in my efforts to persuade, or cajole, or *bully*, your mother into accepting her share of the load—until you care to risk a vote of no confidence."

"You're asking me to agree to that?"

"No, I'm *telling* you. Willing discipline on your part... or at the next clash one of us will be killed. I won't give you the slightest warning. That's why your safest course is to shoot me in the back."

"Quit talking nonsense! You know I won't shoot you in the back."

"So? I will shoot *you* in the back or anywhere at the next hint of trouble. Duke, I can see only one alternative. If you find it impossible to give willing disciplined consent, if you don't think you can displace me, if you can't bring yourself to kill me, if you don't care to risk a clash in which one of us will be killed, then there is still a peaceful solution."

"What is it?"

"Any time you wish, you can leave. I'll give you a rifle, ammunition, salt, matches, a knife, whatever you find needful. You don't deserve them but I won't turn you out with nothing."

Duke gave a bitter laugh. "Sending me out to play Robinson Crusoe... and leaving all the women with you!"

"Oh, no! Any who wish are free to go. With a fair share of anything and some to boot. All three women if you can sell the idea."

"I'll think about it."

"Do. And do a little politicking and size up your chances of winning a vote against me 'democratically'—while being extraordinarily careful not to cross wills with me and thereby bring on a showdown sooner than you wish. I warn you, I'm feeling very short-tempered; you loosened one of my teeth."

"I didn't mean to."

"That wasn't the way it felt. There's the shelter; you can start that 'willing discipline' by pretending that we've had a lovely afternoon."

"Look, Dad, if you won't mention—"

"Shut up. I'm sick of you."

As they neared the shelter Karen saw them and yoo-hooed; Joe and Barbara came crawling out the tunnel. Karen waved her shovel. "Come see what I've done!"

She had dug privies, on each side of the shelter. Saplings formed frameworks which had been screened by tacking cardboard from liquor cases. Seats had been built of lumber remnants from the tank room. "Well?" demanded Karen. "Aren't they *gorgeous*?"

"Yes," agreed Hugh. "Much more lavish than I had expected." He refrained from saying that they had cost most of the lumber.

"I didn't do it all. Barbara did the carpentry. You should hear her swear when she hits her thumb."

"You hurt your thumb, Barbara?"

"It'll get well. Come try the ladder."

"Sure thing." He started inside, Joe stopped him.

"Hugh, while we've still got light, how about seeing something?"

"All right. What?"

"The shelter. You've been talking about building a cabin. Suppose we do: What do we have? A mud floor and a roof that leaks, no glass for windows and no doors. Seems to me the shelter is better."

"Well, perhaps," agreed Hugh. "I had thought we could use it while pioneering, if we had to."

"I don't think it's too radioactive, Hugh. That dosimeter should have gone sky high if the roof is really hot. It hasn't."

"That's good news. But, Joe, look at it. A slant of thirty degrees is uncomfortable. We need a house with a level floor."

"That's what I mean. Hugh, that hydraulic jack — it's rated at thirty tons. How much does the shelter weigh?"

"Oh. Let me think how many yards of mix we used and how much steel." Hugh pondered it, got out his notebook. "Call it two hundred fifty tons."

"Well, it was an idea."

"Maybe it's a good idea." Hugh prowled around the shelter, a block twenty feet square and twelve high, sizing up angles, estimating yardages.

"It can be done," Hugh decided. "We dig under on the uphill side, to the center line, cutting out enough to let that side settle down level. Damn, I wish we had power tools."

"How long will it take?"

"Two men could do it in a week if they didn't run into solid rock. With no dynamite a boulder can be a problem."

"Too much of a problem?"

"Always some way to cope. Let's pray we don't run into solid rock. As we get it dug out, we brace it with logs. At the end we snag the logs out with block and tackle. Then we put the jack under the downhill side and tilt it into place, shore it up and fill with what we've removed. Lots of sweat."

"I'll start bright and early tomorrow."

"You will like hell. Not until your ribs have healed. I will start tomorrow, with two husky girls. Plus Duke, if his shoulder isn't sore, after he shoots us a deer; we've got to conserve canned goods. Reminds me — what was done with the dirty cans?"

"Buried 'em."

"Dig them up and wash them. A tin can is more valuable than gold; we'll use them for all sorts of things. Let's go in. I've still to admire the ladder."

The ladder was two trimmed saplings, with treads cut from boards and notched and nailed. Hugh reflected again that lumber had been used too lavishly; treads should have been fashioned from things that could no longer be ordered by picking up a telephone.

"That's a beautiful ladder, Barbara!"

She looked very pleased. "Joe did the hard parts."

"I did not," Joe denied. "I just

gave advice and touched up with the chisel."

"Well, whoever did it, it's lovely. Now we'll see if it will take my weight."

"Oh, it will!" Barbara said proudly.

The shelter had all lights burning. Have to caution them about batteries, too. Must tell the girls to look up how to make candles. "Where's Grace, Karen?"

"Mother isn't well. She's lying down."

"So? You had better start dinner." Hugh went into the women's bay, saw what sort of not-well his wife suffered. She was sleeping heavily, mouth open, snoring, and was fully dressed. He reached down, peeled back an eyelid; she did not stir. "Duke."

"Yes?"

"Come here. Everybody else outside."

Duke joined him. Hugh said, "After lunch, did you give Grace a drink?"

"Huh? You didn't say not to."

"I wasn't criticizing. How much?"

"Just a highball. An ounce and a half of Scotch, with water."

"Does that look like one highball? Try to rouse her."

Duke tried, then straightened up. "Dad, I know you think I'm a fool. But I gave her just one drink. Damn it, I'm more opposed to her drinking than you are!"

"Take it easy, Duke. I assume that she got at the bottle after you left."

"Well, maybe." Duke frowned. "As soon as I found an unbroken

bottle I gave Mother that drink. Then I took inventory. I think I found it all, unless you have some hidden away—"

"No, the cases were together."

"Right. I found thirteen unbroken bottles, twelve fifths and a quart of bourbon. I remember thinking that was two fifths each and the quart I would keep in reserve. I had opened one bottle of King's Ransom. I made a pencil mark on it. We'll know if she found it."

"You hid the liquor?"

"I stashed it in the upper bunk on the other side; I figured it would be hard for her to climb up there. I'm not a complete fool, Dad. She couldn't see me, she was in her bunk. But maybe she guessed."

"Let's check."

Thirteen bottles were between springs and mattress; twelve nearly full. Duke held it up. "See? Right to the line. But there was another bottle we had a snort from, after that second bombing. What happened to it?"

"Barbara and I had some after you went to sleep, Duke. There was some left. I never saw it again. It was in the tank room."

"Oh! I did, while we were bailing. Busted. I give up—where *did* she get it?"

"She didn't, Duke."

"What do you mean?"

"It wasn't liquor." Hugh went to the medicines drawer, got a bottle with a broken seal. "Count these second capsules. You had two last night."

"Yeah."

"Karen had one at bedtime, one later; Joe had one. Neither Barbara nor I had any, nor Grace. Five."

"Hold it, I'm counting."

His father began to count as Duke pushed them aside.

"Ninety-one," Duke announced.

"Check." Hugh put the capsules back. "So she took four."

"What do we do, Dad? Stomach pump? Emetic?"

"Nothing."

"Why, you heartless — She tried to kill herself!"

"Slow down, Duke. She did nothing of the sort. Four capsules, six grains, simply produces stupor in a healthy person — and she's healthy as a horse; she had a physical a month ago. No, she snatched those pills to get drunk on." Hugh scowled. "An alcohol drunk is bad enough.

But people kill themselves without meaning to with sleeping pills."

"Dad, what do you mean, 'she took them to get drunk on'?"

"You don't use them?"

"I never had one in my life until those two last night."

"Do you remember how you felt just before you went to sleep? Warm and happy and woozy?"

"No. I just lay down and konked out. Next thing I knew I was against the wall on my shoulders."

"You haven't developed tolerance for them. Grace knows what they can do. A very happy drunk. I've known her to take more than one but she's never been chopped off from liquor before. When a person eats sleeping pills because he can't get liquor, he's in a bad way — a very bad way."

"Dad, you should have kept liquor away from her long ago!"

"How, Duke? Tell her she couldn't have a drink? Take them away from her at parties? Quarrel with her in public? Fight with her in front of Joe? Not let her have cash, close out her bank account, see that she had no credit? Would that have stopped her from pawning furs?"

"Mother would never have done that."

"It's typical behavior in such cases. Duke, it is impossible to keep liquor away from any adult who is determined to have it. The United States government wasn't that powerful. I'll go further. It is impossible for anyone to be responsible for another person's behavior."

"Uh... that's beside the point. What do we do now?"

"So it is, counselor. Well, we keep these pills away from her."

"And I'm damned well going to chop off the liquor completely!"

"Oh, I wouldn't."

"You wouldn't, em? Did I hear correctly when you said I was liquor boss?"

"The decision is up to you. I simply said that I wouldn't. I think it's a mistake."

"Well, I don't. Dad, I won't go into the matter of whether you could, or should, have stopped Mother from getting the way she is. But I intend to stop it."

Very well, Duke. Mmm, she's going to be cut off anyhow in a matter of days. It might be easier to taper her off. If you decide to, I'll contribute a bottle from my share.

Hell, you can have both of mine. I like a snort as well as the next man. But Grace needs it."

"That won't be necessary," his son said crisply. "I'm not going to let her have any. Get it over with, she'll be well that much sooner."

"Your decision. May I offer a suggestion?"

"What?"

"In the morning, be up before she is. Move the liquor out and bury it, someplace known only to you. Then have open one bottle at a time and dispense it by the ounce. Tell the others to drink where she can't see it. You had better ditch the open bottle outdoors, too."

"Sounds reasonable."

"But that makes it all the more urgent to keep sleeping pills away from her."

"Bury them?"

"No. We need them inside, and it's not just sleeping pills. Demerol. Hypodermic needles. Several drugs, some poisonous and some addictive and all irreplaceable. If she can't find second — five bottles of a hundred each, it's bulky — there's no telling what she might get into. We'll use the vault."

"Eh?"

"A little safe set into concrete back of that cupboard. Nothing in it but birth certificates and such, and some reserve ammo, and two thousand silver dollars. Toss the money in with the hardware, we'll use it as metal. The combo is 'July 4th, 1776' — '74-17-76.' Better change it, Grace may know it."

"At once!"

"No rush, she won't wake up. 'Re-

serve ammo —' Duke, you were liquor and cigarette boss and now you are drugs boss. I'm going whole hog, you are rationing officer. Responsible for everything that can't be replaced: liquor, tobacco, ammunition, nails, toilet tissue, matches, dry cells, Kleenex, needles —"

"Good God! Got any more dirty jobs?"

"Lots of them. Duke, I'm trying to make it each according to his talents. Joe is too diffident — and he missed obvious economies today. Karen doesn't think ahead. Barbara feels like a freeloader even though she's not, she wouldn't crack down. I would, but I'm swamped. You are a natural for it; you don't hesitate to assert yourself. And you have foresight when you take the trouble to use it."

"Thank you too much. All right."

"The hardest thing to drill into them will be saving every scrap of metal and paper and cloth and lumber, things Americans have wasted for years. Fish hooks. Groceries aren't as important; we'll replace them, you by hunting, Barbara by gardening. Nevertheless better note what can't be replaced. Salt. You must ration salt especially."

"Salt?"

"Unless you run across a salt lick in hunting. Salt — Damn it, we're going to have to tan leather. All I used to do with a hide was rub it with salt and give it to the taxidermist. Is salt necessary?"

"I don't know."

"I'll look it up. Damnation, we're going to find that I failed to stock endless things we'll be miserable without."

"Dad," Duke admitted, "I think you've done mighty well."

"So? That's pleasant to hear. We'll manage to—"

"Yes?" Hugh went to the tank room. Karen's head stuck up out of the manhole.

"Daddy, can we *please* come in? It's dark and scary and something *big* chased Doc in. Joe won't let us until you say."

"**S**orry Baby. Everybody come in. And we'll put the lid on."

"Yes, sir. But Daddy, you ought to look outside. Stars. The Milky Way like a neon sign! And the Big Dipper—so maybe this isn't another planet? Or would we still see the Big Dipper?"

"I'm not certain." He recalled that the discovery that they were still in James County, Mountain Spring area, had not been shared. But Duke must tell it; it was his deduction. "Duke, want to take a look before we close up?"

"Thanks, I've seen a star."

"As you wish." Hugh went outside waited while his eyes adjusted, saw that Karen was right: Never before had he seen the heavens on a clear mountain night with no other light, nor trace of smog, to dim its glory.

"Beautiful!"

Karen slipped her hand into his. "Yes," she agreed. "But I could use some street lights. There are *things* out there. And we heard coyotes."

"There are bears and Duke saw a mountain lion. Joe, better keep the cat in at night, and try to keep him close in the daytime."

"He won't go far, he's timid. And something just taught him a lesson."

"And me, too!" announced Karen. "Bears! Come, Barbie, let's go in. Daddy, if the Moon comes up, this must be Earth—and I'll never trust a comic book again."

"Go ask your brother."

Duke's discovery was the main subject at dinner. Karen's disappointment was offset by her interest in how they had mislaid Mountain Springs. "Duke, are you sure you saw what you thought you saw?"

"No possible mistake," Hugh answered for him. "If it weren't for the trees, you could have spotted it. We had to climb Reservoir Hill to get a clear view."

"You were gone all that time just to Reservoir Hill? Why, that's only five minutes away!"

"Duke, explain to your sister about automobiles."

"I think the bomb did it," Barbara said suddenly.

"Why, certainly, Barb. The question is *how*?"

"I mean the enormous H-bomb the Russians claimed to have in orbit. The one they called the 'Cosmic Bomb.' I think it hit us."

"**G**o on, Barbara."
"Well, the first bomb was awful and the second one was bad; they almost burned us up. But the third one just hit us *whammy!* and then no noise, no heat, no rumbling, and the radioactivity got less instead of worse. Here's my notion: You've heard of parallel worlds? A million worlds side by side, almost alike but not quite? Worlds where Elizabeth married Essex and Mark Anthony hated redheads? And Ben Franklin

got electrocuted with his kite? Well, this is one."

"First automobiles and now Benjamin Franklin. I'll go watch Ben Casey."

"Like this, Karen. The Cosmic Bomb hits us, dead on — and kicks us into the next world. One exactly like the one we were in, except that it never had men in it."

"I'm not sure I like a world with no men. I'd rather have a strange planet, with warlords riding thots. Or is it zitidars?"

"What do you think of my theory, Hugh?"

"I'm keeping an open mind. I'll go this far: We should not count on finding other human beings."

"I go for your theory, Barbara," Duke offered. "It accounts for the facts. Squeezed out like a melon seed. Pht!"

"And we landed here."

Duke shrugged. "Let it be known as the Barbara Wells Theory of Cosmic Transportation and stand adopted. Here we are. We're stuck with it — and I'm going to bed. Who sleeps where, Hugh?"

"Just a second. Folks, meet the Rationing Officer. Take a bow, Duke." Hugh explained the austerity program: "Duke will work it out but that's the idea. For example, I noticed a bent nail on the ground in the powder room. That calls for being spreadeagled and flogged. For a serious offense, such as wasting a match, it's keelhauling. Second offense — hang him at the yardarm!"

"Geel! Do we get to watch?"

"Shut up, Karen. No punishments, just the miserable knowledge that

you have deprived the rest of something necessary to life, health, or comfort. So don't give Duke any backtalk. I want to make another assignment. Baby, you know shorthand."

"That's putting it strongly. Mr. Gregg wouldn't think so."

"Hugh, I take shorthand. What do you want?"

"Okay, Barbara, you are historian. Today is Day One. Or start with the calendar we are used to, but we may adjust it; those were winter stars. Every night jot down the events and put it in longhand later. Your title is Keeper of the Flame. As soon as possible, you really will be Keeper of the Flame; we will have to light a fire, then bank it every night. Sorry to have held you up, Duke."

They got ready for bed. Hugh was pleased to see that Joe undressed completely and got into the lower bunk, as he had been told to. Duke stretched out on the floor, bare. The room was hot; the mass cooled slowly and air no longer circulated with the manhole cover in place, despite the vents in the tank room. Hugh made note that he must devise a bearproof — and catproof — gried in place of the cover. Later, later —

He took the camp lamp into the tank room.

Someone had put the books back on shelves but some were open to dry; he fluffed these, hoped for the best.

The last books in the world — So it seemed.

He felt sudden grief that abstract knowledge of deaths of millions had not given him. Somehow, the burning of millions of books felt more brutally obscene than the killing of people. All men must die, it was their single common heritage. But a book need never die and should not be killed; books were the immortal part of man. Book burners — To rape a defenseless friendly book.

Books had always been his best friends. In a hundred public libraries they had taught him. From a thousand newsstands they had warmed his loneliness. He suddenly felt that, if he had not been able to save some books, it would hardly be worthwhile to live.

Most of his collection was functional: *The Encyclopedia Britannica* — Grace had thought the space should be used for a television receiver “because they might be hard to buy afterwards.” He had grudged its business too, but it was the most compact assemblage of knowledge on the market. “Che” Guevera’s *War of the Guerrillas* — thank God he wasn’t going to need that! Nor those next to it: “Yank” Levy’s manual on resistance fighting, Griffith’s Translation of Mao Tse-tung’s *On Guerrilla Warfare*, Tom Wintringham’s *New Ways of War*, the new TR on special operations — forget ‘em! Aint a-gonna study war no more!

The Boy Scout Handbook, Eshbach’s *Mechanical Engineering*, *The Radio Repairman’s Guide*, *Outdoor Life’s Hunting and Fishing*, *Edible Fungi and How to Know Them*, *Home Life in the Colonial Days*, *Your Log Cabin*, *Chimneys and*

Fireplaces, *The Hobo’s Cook Book*, *Medicine Without a Doctor*, *Five Acres and Independence*, *Russian Self-Taught* and *English-Russian* and *Russian - English* dictionaries, *The Complete Herbalist*, the survival manuals of the Navy Bureau of Weapons, *The Air Force’s Survival Techniques*, *The Practical Carpenter* — all sound books, of the brown and useful sort.

The Oxford Verse, *A Treasury of American Poetry*, *Hoyle’s Book of Games*, *Burton’s Anatomy of Melancholy*, a different *Burton’s Thousand Nights and a Night*, the good old *Odyssey* with the Wyeth illustrations, *Kipling’s Collected Verse* and his *Just So Stories*, a one-volume Shakespeare, the *Book of Common Prayer*, the *Bible*, *Mathematical Recreations and Essays*, *Thus Spake Zarathustra*, T. S. Eliot’s *The Old Possum’s Book of Practical Cats*, *Robert Frost’s Verse*, *Men Against the Sea* —

He wished that he had found time to stock the list of fiction he had started. He wished that he had fetched down his works of Mark Twain regardless of space. He wished —

Too late, too late. This was it. All that was left of a mighty civilization. “*The cloud-capped towers.*”

He jerked awake and found that he had fallen asleep standing up. Why had he come in here? Something important. Oh, yes! Tanning leather — Leather? Barbara was barefooted, Barbara must have moccasins. Better try the *Britannica*. Or that *Colonial Days* volume.

No, thank God, you didn’t have

to use salt! Find some oak trees. Better yet, have Barbara find them; it would make her feel useful. Find something that only Joe could do, too; make the poor little bastard feel appreciated. Loved. Remember to —

He stumbled back into the main room, looked at the upper bunk and knew that he couldn't make it. He lay down on the edge of Duke's blanket and fell instantly asleep.

V

Grace did not get up for breakfast. The girls quietly fed them, then stayed in to clean up. Duke went hunting, carrying a forty-five, and a hunting bow. It was his choice; arrows could be recovered or replaced, bullets were gone forever. Duke tried a few flights and decided that his shoulder was okay.

He checked watches and set out, with an understanding that a smoky fire would be built to home on if he was not back by three.

Hugh told the girls to take outdoors any book not bone dry, then broke out quick the shovel and started leveling their house. Joe tried to join him; Hugh vetoed it.

"Look, Joe, there are a thousand things to do. Do them. But no heavy work."

"Such as what, Hugh?"

"Uh, correct the inventories. Give Duke a hand by starring everything that can't be replaced. In the course of that you'll think of things; write them down. Look up how to make soap and candles. Check both dosimeters. Strap on a gun and keep

your eyes open — and see that those girls don't go outside without guns. Hell, figure out a way to get plumbing and running water, with no pipe and no lead and no water closets and no portland cement."

"How in the world could you do that?"

"Somebody did it the first time. And tell this bush-tailed sidewalk superintendent that I need no help."

"Okay. Come here, Doc! Come, come, come!"

"And Joe. Speaking of bathrooms, you might offer to stand guard for the girls while they bathe. You don't have to look."

"All right, I'll offer. But I'll tell them you suggested it. I don't want them to think —"

"Look, Joe. They are a couple of clean, wholesome, evil-minded American girls. Say what you please, they will still believe you are sneaking a peek. It's part of their credo that they are so fatally irresistible that a man just has to. So don't be too convincing; you'll hurt their feelings."

"I get it. I guess." Joe went away, Hugh started digging, while reflecting that he had never missed a chance, given opportunity without loss of face — but that incorrigible Sunday School lad probably would not sneak a peek at Lady Godiva. A good lad — no imagination but utterly dependable.

Very quickly Hugh knew what his worst oversight had been: no wheelbarrow.

He had dug only a little before reaching this new appreciation. Digging by muscle power was bad but

carrying it away in buckets was an affront to good sense.

So he carried and thought about how to build a wheel—with no metal, no heating tools, no machine shop, no foundry, no—

Now wait! He had steel bottles. There was strap iron in the bunks and soft iron in the periscope housing. Charcoal he could make and a bellows was simply an animal skin and some branches. Whittle a nozzle. Any dam fool who couldn't own a wheel with all that was at his disposal deserved to lift and carry.

He had ten thousand trees, didn't he? Finland didn't have a damn thing but trees. Yet Finland was the finest little country in the world.

"Doc, get out from under my feet!" If Finland was still there. Wherever the world was.

Maybe the girls would like a Finnish bath. Down where they could plunge in afterwards and squeal and feel good. Poor kids, they would never see a beauty parlor; maybe a *sauna* would be a "moral equivalent." Grace might like it. Sweat off that blubber, get her slender again. What a beauty she had been!

Barbara showed up, with a shovel. "Where did you get that? And what do you think you're doing?"

"It's the one Duke was using. I'm going to dig."

"In bare feet? You're cra— Hey, you're wearing shoes!"

"Joe's. The jeans are his, too. The shirt is Karen's. Where shall I dig?"

"Just beyond me, here. Any boulder over five hundred pounds, ask for help. Where's Karen?"

"Bathing. I decided to stink worse and bathe later."

"When you like. Don't try to stick on this job all day. You can't."

"I like working with you, Hugh. Almost as much as—" She let it hang.

"As playing bridge?"

"Yes, you could mention that too."

"Barbie girl."

He found that just digging was fun. Gave the mind a rest and the muscles a workout. Happy making. Hadn't tried it for much too long.

Barbara had been digging an hour when Mrs. Farnham came around a corner. Barbara said, "Good morning," added a shovelful to a bucket, picked both up half filled, and disappeared around the other corner.

Grace Farnham said, "Well! I wondered where you were hiding. I was left quite alone. Do you realize that?" She was in the clothes she had slept in. Her features looked puffy.

"You were allowed to sleep, dear."

"It isn't pleasant to wake up in a strange place alone. I'm not accustomed to it."

"Grace, you weren't being slighted. You were being pampered."

"Is that what you call it? Then we'll say no more about it, do you mind?"

"Not at all."

"Really?" She seemed to brace herself, then said bleakly, "Perhaps you can stop long enough to tell me where you have hidden my liquor. **My** liquor. **My** share. I wouldn't

think of touching yours — after the way you've treated me! In front of servants and strangers, may I add?"

"Grace, you must see Duke."

"What do you mean?"

"Duke is in charge of liquor. I don't know where he put it."

"You're lying!"

"Grace, I haven't lied to you in twenty-seven years."

"Oh! You brutal, brutal man!"

"Perhaps. But I'm not lying and the next time you say I am, it will go hard with you."

"Where's Duke? He won't let you talk to me that way! He told me so, he promised me!"

"Duke has gone hunting. He hopes to be back by three."

She stared, then rushed back around the corner. Barbara reappeared, picked up her shovel. They went on working.

Hugh said, "I'm sorry you were exposed to that."

"To what?"

"Unless you were at least a hundred yards away, you know what."

"Hugh, it's none of my business."

"Under these conditions, anything is everybody's business. You have formed a bad opinion of Grace."

"Hugh, I would not dream of being critical of your wife."

"You have opinions. But I want you to have one in depth. Visualize her as she was, oh, twenty-five years ago. Think of Karen."

"She would have looked like Karen."

"Yes. But Karen has never had responsibility. Grace had and took it well. I was an enlisted man; I wasn't commissioned until after Pearl Har-

bor. Her people were what is known as 'good family.' Not anxious to have their daughter marry a penniless enlisted man."

"I suppose not."

"Nevertheless she did. Barbara, have you any notion what it was to be the wife of a junior enlisted man in those days? With no money? Grace's parents wanted her to come home — but would not send her a cent as long as she stuck with me. She stuck."

"Good for Grace."

"Yes. She had no preparation for living in one room and sharing a bath down the hall, nor for waiting in Navy out-patient clinics. For making a dollar go twice as far as it should. For staying alone while I was at sea. Young and pretty and in Norfolk, she could have found excitement. She found a job instead — in a laundry, sorting dirty clothes. And whenever I was home she was bright and cheerful and uncomplaining. Alexander was born the next year —"

"'Alexander'?"

"Duke. Named for his maternal grandpappy; I didn't get a vote. Her parents were anxious to make up once they had a grandson; they were even willing to accept me. Grace stayed cool and never accepted a cent — back to work with our landlady minding the baby in weeks.

"Those years were the roughest. I went up fast and money wasn't such a problem. The war came and I was bucked from chief to j.g. and ended as a lieutenant commander in

Seabees. In 1946 I had to choose between going back to chief or becoming a civilian. With Grace's backing, I got out. So I was on the beach with no job, a wife, a son in grammar school, a three-year-old daughter, living in a trailer, prices high and going higher. We had some war bonds and a little that we had managed to put in the bank.

"That was the second rough period. I took a stab at contracting, lost our savings, went to work for a water company. We didn't starve but scraped icebox and dishrag soup were on the menu. Barbara, she stood it like a trouper—a hard-working den mother, a pillar of the PTA, and always cheerful.

"I was a construction boss before long and presently I tried contracting again. This time it clicked. I built a house on spec and a shoe string, sold it before it was finished and built two more at once. We've never been broke since," he paused "until now."

Hugh Farnham looked puzzled. "That was when she started to slip. When she started having help. When we kept liquor in the house. We didn't quarrel—we never did, save over the fact that I tried to raise Duke fairly strictly and Grace couldn't bear to have the boy touched.

"But that was when it started, when I started making money. She isn't built to stand prosperity. Grace has always stood up to adversity magnificently. This is the first time she hasn't. I still think she will."

"Of course she will, Hugh."

"I hope so."

"I'm glad to know more about her, Hugh. I'll try to be considerate."

"Damn it, I'm not asking that. I just want you to know that fat and foolish and self-centered isn't all there is to Grace. Nor was her slipping entirely her fault. I'm not easy to live with, Barbara."

"So?"

"So! When we were able to slow down, I didn't. I let business keep me away evenings. When a woman is left alone, it's easy to slip out for another beer when the commercial comes on and to nibble all evening along with the beer. If I was home, I was more likely to read than to visit, anyhow. And I didn't just let business keep me away; I joined the local duplicate club. She joined but she dropped out. She plays a good social game—but I like to fight for every point. No criticism of her, there's no virtue in playing as if it were life or death. Grace's way is better—had I been willing to take it easy, too... well, she wouldn't be the way she is."

"Nonsense!" said Barbara, suddenly flaring up.

"Pardon me?"

"Hugh Farnham, what a person is can never be somebody else's fault, I think. I am what I am because Barbie herself did it. And so did Grace. And so did you." She added in a low voice, "I love you. And that's not your fault, nor is anything we did your fault. I won't listen to you beating your breast and sobbing, 'Mea culpa!' You don't take credit for Grace's virtues. Why take blame for her faults?"

He blinked and smiled. "Seven no trump."

"That's better."

"I love you. Consider yourself kissed."

"Kiss back. Grand slam. But watch it," she said out of the corner of her mouth. "Here come the cops."

It was Karen, clean, shining, hair brushed, fresh lipstick, and smiling. "What an inspiring sight!" she said.

"Would you poor slaves like a crust of bread and a pannikin of water?"

"Shortly," her father agreed. "In the meantime don't carry these buckets too heavily loaded."

Karen backed away. "I wasn't volunteering!"

"That's all right. We aren't formal."

"But, Daddy, I'm clean!"

"Has the creek gone dry?"

"Daddy! I've got lunch ready. Out front. You're too filthy to come into my lovely clean house."

"Yes, baby. Come along, Barbara." He picked up the buckets.

Mrs. Farnham did not appear for lunch. Karen stated that Mother had decided to eat inside; Hugh let it go at that — there would be enough hell when Duke got back.

Joe said, "Hugh? About that notion of plumbing —"

"Got it figured out?"

"Maybe I see a way to have running water."

"If we get running water, I guarantee to provide plumbing fixtures."

"Really, Daddy? I know what I want. In colored tile. Lavender, I think. And with a dressing —"

"Shut up, infant. Yes. Joe?"

"Well, you know those Roman aqueducts. This stream runs uphill that way. I mean it's higher up that way, so someplace it's higher than the shelter. As I understand it, Roman aqueducts weren't pipe, they were open."

"I see." Farnham considered it. There was a waterfall a hundred yards upstream. Perhaps above it was high enough. "But that would mean a lot of masonry, whether dry-stone, or mud mortar. And each arch requires a frame while it's being built."

"Couldn't we just split logs and hollow them out? And support them on other logs?"

"We could." Hugh thought about it. "There's an easier way, and one that would kill two birds. Barbara, what sort of country is this?"

"I beg your pardon?"

"You said that this area is at least semi-tropical. Can you tell what season it is? And what the rest of the year is likely to bring? What I'm driving at is this: Are you going to need irrigation?"

"Good heavens, Hugh, I can't answer that!"

"You can try?"

"Well —" She looked around. "I doubt if it ever freezes here. If we had water, we might have crops all year. This is not a tropical rain forest, or the undergrowth would be much more dense. It looks like a place with a rainy season and a dry season."

"Our creek doesn't go dry; it has lots of fish. Where were you thinking of having your garden?"

"How about this stretch downstream to the south? Several trees should come out, though, and a lot of bushes."

"Trees and bushes are no problem. Mmm — Joe, let's take a walk. I'll carry a rifle, you strap on your forty-five. Girls, don't dig so much that it topples down on you. We would miss you."

"Daddy, I was thinking of taking a nap."

"Good. Think about it while you're digging."

Hugh and Joe worked their way upstream. "What are you figuring on, Hugh?"

"A contour-line ditch. We need to lead water to an air vent on the roof. If we can do that, we've got it made. A sanitary toilet. Running water for cooking and washing. And for gardening, coming in high enough to channel it wherever Barbara wants it. But the luxury that will mean most to our womenfolk is a bath and kitchen. We'll clear the tank room and install both, using partitions."

"Hugh, I see how you might get water with a ditch. But what about fixtures? You can't just let water splash, any which way, down through the roof."

"I don't know yet, but we'll build them. Not a flush toilet, it's too complex. But a constant-flow toilet, a sort that used to be common aboard warships. It's a trough with seats. Water runs into one end, out the other. We'll bail it down the manhole, out the tunnel, and away from the house. Have you seen any clay?"

"There is a clay bank at the stream below the house. Karen complained about how sticky it was. She went upstream to bathe, a sandy spot."

"I'll look at it. If we can bake clay, we can make all sorts of things. A toilet. A sink. Dishes. Tile pipe. Build a kiln out of unbaked clay, use the kiln to bake anything. But clay just makes it easier. Water is the real gold; all civilizations were built on water. Joe, we are about high enough."

"Maybe a little higher? It would be embarrassing to dig a ditch a couple of hundred yards long—"

"Longer."

"—or longer, and find that it's too low and no way to get it up to the roof."

"Oh, we'll survey it first."

"Survey it? Hugh, maybe you didn't notice but we don't even have a spirit level. That big smash broke its glasses. And there isn't even a tripod, much less a transit and all those things."

"The Egyptians invented surveying with less, Joe. Losing the spirit level doesn't matter. We'll build an unspirit level."

"Are you making fun of me, Hugh?"

"Not at all. Mechanics were building level and square centuries before you could buy instruments. We'll build a plumb-bob level. That's an upside down T, and a string with a weight to mark the vertical. You can build it about six feet long and six high to give us a long sighting arm — minimize the errors. Have to take apart one of the bunks for

boards. It's light, fussy work you can do while your ribs heal. While the girls do the heavy, unfussy excavating."

"You draw it, I'll build it."

"When we get the building leveled we'll mount it on the roof and sight upstream. Have to cut a tree or two but we won't have any trouble running a base line. Intercepts we run with a smaller level. Duck soup, Joe."

"No sweat, huh."

"Mostly sweat. But twenty feet a day of shallow ditch and we'll have irrigation water when the dry season hits. The bathroom can wait—the gals will be cheered just by the fact that there will be one, someday. Joe, it would suit me if our base line cuts the stream about here. See anything?"

"What should I see?"

"We fell those two trees and they dam the creek. Then chuck in branches, mud, and some brush and still more mud and rocks and the stream backs up in a pond." Hugh added, "Have to devise a gate, and that I do not see, with what we have to work with. Every problem leads straight to another. Damn."

"Hugh, you're counting your chickens before the cows come home."

"I suppose so. Well, let's go see how much the girls have dug while we loafed."

The girls had dug little; Duke had returned with a miniature four-point buck. Barbara and Karen had it strung up against a tree and were trying to butcher it. Karen

seemed to have as much blood on her as there was on the ground.

They stopped as the men approached. Barbara wiped her forehead, leaving a red trail. "I hadn't realized they were so complicated inside."

"Or so messy!" sighed Karen.

"With that size it's easier on the ground."

"Now he tells us. Show us, Daddy. We'll watch."

"Me? I'm a gentleman sportsman; the guide did the dirty work. But—Joe, can you lay hands on that little hatchet?"

"Sure. It's sharp; I touched it up yesterday."

Hugh split the breast bone and pelvic girdle and spread the carcass, then peeled out viscera and lungs and spilled them, while silently congratulating the girls on not having pierced the intestines. "All yours, girls. Barbara, if you can get that hide off, you might be wearing it soon. Have you noticed any oaks?"

"There are scrub forms. And sumach, too. You're thinking of tanning?"

"Yes."

"I know how to extract it."

"Then you know more about tanning than I do. I'll bow out. There are books."

"I know, I was looking it up. Doc! Don't sniff at that boy."

"He won't eat it," Joe assured her, "unless it's good for him. Cats are fussy."

While butchering was going on Duke and his mother crawled out and joined them. Mrs. Farnham seemed cheerful but did not greet

anyone; she simply looked at Duke's bill. "Oh, the poor little thing! Duke dear, how did you have the heart to kill it?"

"It sassed me and I got mad."

"It's a pretty piece of venison, Duke," Hugh said. "Good eating."

His wife glanced at him. "Perhaps you'll eat it; I couldn't bear to."

Karen said, "Have you turned vegetarian, Mother?"

"It's not the same thing. I'm going in, I don't want that on me. Karen, don't you dare come inside until you've washed; I won't have you tracking blood in after I've slaved away getting the place spotless." She headed toward the shelter. "Come inside, Duke."

"In a moment, Mother." Karen gave the carcass an unnecessarily vicious cut.

"Where did you nail it?" Hugh asked.

"Other side of the ridge. I should have been back sooner."

"Why?"

"Missed an easy shot and splintered an arrow on a boulder. Buck fever. It has been years since I used a 'bow season' license."

"One lost arrow, one carcass, is good hunting. You saved the arrow-head?"

"Of course. Do I look foolish?"

Karen answered, "No, but I do. Buddy, I cleaned house. If Mother did any cleaning, it was a mess she made herself."

"I realized that."

"And I'll bet when she smells these steaks, she won't want Spam!"

Hugh moved away, signaling Duke to follow.

"I'm glad to see Grace looking cheerful. You must have soothed her."

Duke looked sheepish. "Well — As you pointed out, it's rough, chopping it off completely." He added, "But I rationed her. I gave her one drink and told her she could have one more before dinner."

"That's doing quite well."

"I had better go inside. The bottle is there."

"Perhaps you had."

"Oh, it's all right. I put her on her honor. You don't know how to handle her, Dad."

"That's true. I don't."

VI

From the Journal of Barbara Wells:

I am hobbled by a twisted ankle, so I am lying down and adding to this. I've taken notes every night — but in shorthand. I haven't transcribed very much.

The longhand version goes in the fly leaves of the Britannica. There are ten blank pages in each volume, twenty-four volumes, and I'll squeeze a thousand words to a page. 240,000 words. Enough to record our doings until we reclaim the art of making paper — especially as the longhand version will be censored.

Because I can't let my hair down to anyone — and sometimes a gal needs to! This shorthand record is a diary which no one can read but me, as Karen is as poor at Gregg as she claimed.

Or perhaps Joe knows Gregg.

Isn't it required in business colleges? But Joe is a gentleman and would not read this without invitation. I am fond of Joseph; his goodness is not a sham. I am sure he is keeping his lip buttoned on many unhappy thoughts; his position is as anomalous as mine and more difficult.

Grace has quit ordering him around—save that she orders all of us. Hugh gives orders, but for the welfare of all. Nor does he give many; we are settled in a routine. I'm the farmer, and plan my own work; Duke keeps meat on the table and gives me a hand when he doesn't hunt; Hugh hasn't told either of us what to do for a long time, and Karen has a free hand with the house. Hugh has about two centuries of mechanical work planned out and Joe helps him.

But Grace's orders are for her own comfort. We usually carry them out; it's easier. She gets her own way and more than her share, simply by being difficult.

She got the lion's share of liquor. Liquor doesn't matter to me; I rarely "need" a drink. But I enjoy a glow in company and had to remind myself that it was not my liquor, it was Farnham liquor.

Grace finished her share in three days. Duke's was next to go. And so on. At last all was gone save one quart of bourbon earmarked "medicinal." Grace spotted where Duke had it and dug it up. When Duke came home, she was passed out and the bottle was dead.

The next three days were horrors. She screamed. She wept. She threatened suicide. Hugh and Duke

teamed up and one of them was always with her. Hugh acquired a black eye, Duke got scratches down his handsome face. I understand they put a lot of B-1 into her and force-fed her.

On the fourth day she stayed in her bunk; the next day she got up and seemed almost normal.

But during lunch she asserted, as something "everybody knows," that the Russians had attacked because Hugh insisted on building a shelter.

Duke says we must be patient. I should not criticize Duke; he is probably going to be my husband. I mean, who else is there? In this vicinity he is quite a catch.

(Polygamy? Of course I would! Even with Grace as senior wife. But I haven't been asked.)

The trouble is, while I like Duke, no spark jumps. So I am putting it off and avoiding circumstances where he might pat me on the fanny. It would be a hell of a note if I married him and there came a night when I was so irritated at his mother and so vexed with him for indulging her that I would tell him coldly that he is not half the man his father is.

No, that must not happen. Duke does not deserve it.

Joe? My admiration for him is unqualified.

Joe is the first Negro I've had a chance to know well—and I think most well of him. He plays better contract than I do; I suppose he's smarter than I am. The trouble with Joe is the same as with Duke: No spark jumps.

But I am fond of him — as a younger brother. He is never too busy to be accommodating. He is usually bear guard for Karen and me when we bathe and it's a comfort to know that Joe is alert — Duke has killed five bears and Joe killed one while he was actually guarding us. It took three shots and dropped dead almost in Joe's lap. He stood his ground.

We adjourned without worrying about modesty, which upset Joe more than bears do.

Or wolves, or coyotes, mountain lions, or a cat which Duke says is a mutated leopard and especially dangerous because it attacks by dropping out of a tree. We don't bathe under trees and don't venture out of our clearing without an man. It is as dangerous as crossing Wilshire against the lights.

It took three weeks to excavate under the house. Boulders! This area is a wide, flat saucer-shaped valley, with boulders most anywhere. Whenever we hit a big one, we dug around it and the men would worry it out with crowbar and block and tackle.

Mostly the men could get boulders out. But Karen found one that seemed to go down to China. Hugh looked it over and said, "Fine. Now dig a hole just north of it and deeper."

Karen just looked at him.

So we dug. And hit another big boulder. "Good," said Hugh. "Dig another hole north of that one."

We hit a third oversize boulder. But in three days the last one had

been tumbled into a hole next to it, the middle one had been worried into a hole where the last one had been, and the one that started the trouble was buried where the middle one had been.

As fast as any spot had been cut deeply enough Hugh propped it up with pieces of log; he was worried lest the shelter shift and crush someone. So when we finished the shelter had a forest of posts under it.

Hugh then set two very heavy posts under the uphill corners and started removing the inner ones, using block and tackle. Sometimes they had to be dug under. Hugh was nervous during this and did *à* the rigging and digging himself.

At last the uphill half was supported on these two big chunks.

They would not budge.

There was so much weight on those timbers that they sneered at our efforts. I said, "What do we do now, Hugh?"

"Try the next-to-the-last resort."

"What's the last resort?"

"Burn them. But it would take roaring fires and we would have to clear grass and bushes and trees for quite a distance. Karen, you know where the ammonia is. And the iodine. I want both."

I had wondered why Hugh had stocked so much ammonia. But he had, in used plastic Clorox bottles; the stuff had ridden through the shocks. I hadn't known that iodine was stocked in quantity, too; I don't handle the drugs.

Soon he had sort of a chemistry lab. "What are you making, Hugh?" I asked.

"Ersatz 'dynamite.' And I don't need company," he said. "The stuff is so touchy it explodes at a harsh look."

"Sorry," I said, backing away.

He looked up and smiled. "It's safe until it dries. I had it in mind in case I ever found myself in an underground. Occupying troops take a sour view of natives having explosives, but there is nothing suspicious about ammonia or iodine. The stuff is safe until you put it together and does not require a primer. But I never expected to use it for construction; it's too treacherous."

"Hugh, I just remembered I don't care whether a floor is level or not."

"If it makes you nervous, take a walk."

Making it was simple; he combined tincture of iodine and ordinary household ammonia; a precipitate settled out. This he filtered through Kleenex, the result was a paste.

Joe drilled holes into those stubborn posts; Hugh wrapped this mess in two batches, in paper, and packed a bundle into each hole, tamping with his finger. "Now we wait for it to dry."

Everything that he used he flushed down with water, then took a bath with his clothes on, removed them in the water and left them, weighted down with rocks. That was all that day

Our armament includes two lovely ladies' guns, .22 magnum rimfires with telescopic sights. Hugh had Duke and Joe sight them in.

The sighting-in was done with sand-bag rest — heaped up dirt, that is. Hugh had them expend five bullets each, so I knew he was serious. "One bullet, one bear" is his motto.

When the explosive was dry, everything breakable was removed from the shelter. We women were chased far back. Karen was charged with hanging onto Dr. Livingstone, and I had Duke's bear rifle.

Duke and Joe were on their bellies a measured hundred feet from the posts. Hugh stood between them. "Ready for count?"

"Ready, Hugh." — "Ready, Dad."

"Deep breath. Let part of it out. Hold it, steady on target, take up the slack. Five . . . four . . . three . . . two . . . one . . . *fire!*"

A sound like a giant slammed door and the middle of each post disintegrated. The shelter stuck out like a shelf, then tilted ponderously down, touched, and was level.

Karen and I cheered; Grace started to clap; Dr. Livingstone jumped down to investigate. Hugh turned his head and grinned.

And the shelter tilted back the other way as the ridge crumbled; it started to slide. It pivoted on the tunnel protuberance, picked up speed and tobogganned down the slope. I thought it was going to end up in the creek.

But the slope leveled off; it ground to a stop, with the tunnel choked with dirt and the whole thing farther out of plumb than before!

Hugh picked up the shovel he had used to heap up shooting supports, walked down to the shovel, began to dig.

I ran down, tears bursting from my eyes. Joe was there first. Hugh looked up and said, "Joe, dig out the tunnel. I want to know if anything is damaged and the girls will want to get lunch."

He was correct. The shelter was level in a week, and this time he triggered the end posts with cross pieces; blasting was not needed. Best of all, the armor door cranked back without a murmur and we had air



"Boss —" Joe choked out. "Boss! Oh, gosh!"

Hugh said, in a tone you use to child, "Why are you upset, Joe. This has saved us work."

I thought he had flipped. Joe said, "Huh?"

"Certainly," Hugh assured him. "See how much lower the roof is? Every foot it dropped saves at least a hundred feet of aqueduct. And leveling will be simple here; the ground is loam and boulders are few. A week, with everybody pitching in. Then we bring water to the house and garden two weeks early."

and sunlight inside — it had been stuffy and candles made it pretty rank. Joe and Hugh started the ditch the same day. In anticipation of the glorious day Karen sketched on the walls of the tank room lifesize pictures of a wash stand, a bath tub, a pot.

Truthfully, we are comfortable. Two mattress covers Karen filled with dried grass; sleeping on the floor is no worse than the bunks. We sit in chairs and play our evening rubber at the table. It is amazing what a difference level floors make and how much better it is to have a

door than to climb down a ladder and crawl out a hole.

We had to cook over a campfire a while as our grill and Dutch oven were smashed. Karen and I have thrown together a make-do because, as soon as water is led to the house, Hugh intends to start on ceramics, not only for a toilet and a sink but also for a stove vented out through the periscope hole. Luxury!

My corn is coming up beautifully. I wonder what I can use to grind corn? The thought of hot corn bread makes me drool.

VII

Karen and Barbara were washing themselves, the day's dishes, and the week's laundry. Above them, Joe kept watch. Bushes and then trees had been cut away around the stretch they used for bathing; a predator could not approach without Joe having a clear shot at it. His eyes swung constantly, checking approaches. He wasted no seconds on the Elysian tableau he guarded.

Karen said, "Barbie, this sheet won't stand another laundering."

"We need rags."

"But what will we use for sheets? It's this soap." Karen scooped a handful from a bowl on the bank. It was soft and gray and harsh and looked like oatmeal mush. "The stuff eats holes."

"I'm not fretted about sheets but I dread the day when we are down to our last towel."

"Which will belong to mother?"

Karen stated. "Our rationing officer will have some excellent reason."

"Nasty, nasty. Karen, Duke has done a wonderful job."

"I wasn't bitching. Duke can't help it. It's his friend Eddie."

"Eddie?"

"Edipus Rex, dear."

Barbara turned away and began rinsing a pair of ragged blue jeans.

Karen said, "You dig me?"

"We all have faults."

"Sure, everybody but me. Even Daddy has a shortcoming. His neck pains him."

Barbara looked up. "Is Hugh having trouble with his neck? Perhaps it would help if we massaged it."

Karen giggled. "Your weakness, sister mine, is that you wouldn't know a joke if it bit you. Daddy is stiff-necked and nothing will cure it. He doesn't have weaknesses and that's his weakness. Don't frown. I love Daddy. I admire him. But I'm glad I'm not like him. I'll take this load up to the thorn bushes. Damn it, why didn't Daddy stock clothes pins? Those thorns are as bad as the soap."

"Clothes pins we can do without. Hugh did an incredible job. Everything from an eight-day clock —"

"Which got busted, right off."

"— to tools and seeds and books and I don't know what. Karen! Don't climb out naked!"

Karen stopped, one foot on the bank. "Nonsense. Old Stone Face won't look. Humiliating, that's what it is. I think I'll yoo-hoo at him."

"You'll do no such thing. Joe is being a gentleman under trying circumstances. Karen, Joe is sweet. I wish you had heard him explain about Doc."

"Explain what?" Karen asked.

"Well, Doc is beginning to accept me. I was holding Doc yesterday and noticed something and said, 'Joe, Doc is getting terribly fat. Or was he always?'"

"That was a time when he blushed. But he answered with sweet seriousness, 'Barbara, Dr. Livingstone isn't as much of a boy cat as he thinks he is. Old Doc is more a girl-type cat. That isn't fat. Uh, you see — Doc is going to have babies.' He blurted it out."

Karen looked puzzled. "Come to think of it, I haven't picked him up lately. Just petted him and tried to keep him out of things. Lately it hasn't been safe to open a drawer; he's into it. Looking for a place to have kittens of course. I should have twigged."

"Karen, why do you keep saying 'he' and 'him'?"

"Why?" Joe told you, Doc *thinks* he is a boy cat — and who am I to argue? Mmm — Calendar girl, how long have we been here?"

"Sixty-two days. I've looked it up; it's sixty days with a normal range to seventy."

"So it's any time now. I'll bet you two back rubs that we are up all night tonight. Cats never have kittens at a convenient hours." Karen abruptly began on the dishes.

Presently she said in a low voice, "Barbie, Doc won't hand this household half the surprise I'm going to."

"How, hon?"

"I'm pregnant."

"Huh?"

"You heard me. Pregnant I had a test, the froggie winked at me. Hell, I'm four months gone." Karen threw herself into the arms of the older girl. "And I'm scared!"

Barbara hugged her. "There, there, dear. It's going to be all right."

"The hell it is," Karen blubbered. "Mother's going to raise hell . . . and there aren't any hospitals . . . nor doctors. Oh, why didn't Duke study medicine? Barbie, I'm going to die. I know I am."

"Karen, that's silly. More babies have been born without doctors and hospitals than ever were wheeled into a delivery room. You're not scared of dying, you're scared of telling your parents."

"Well, that, too." Karen wiped at her eyes and sniffed. I was going to. But the attack hit . . . and then Mother went to pieces . . . and Daddy has been loaded down with worries and there's never been the right time."

"Karen, you aren't scared to tell your father, just your mother."

"Well . . . Mother mostly. But Daddy, too. Besides being shocked and hurt — he'll think it was silly of me to get caught."

"While he's certain to be surprised, I doubt the other." Barbara hesitated. "Karen, you needn't take this alone. I can share it."

"That's what I had hoped. That's why I asked you to come home with me. I told you."

"I mean really share it. I'm pregnant, too."

"What?"

"Yes. We can tell them together."

"Good Lord, Barbara! How did it happen?"

Barbara shrugged. "Careless. How did it happen to you?"

Karen suddenly grinned. "How? A bee sprinkled pollen on me; how else? 'Who' you mean."

"'Who' I don't care about. Your business. Well, dear? Shall we go tell them? I'll do the talking."

"Wait a minute. You hadn't planned to tell anybody? Or had you?"

"Why no," Barbara answered truthfully, "I was going to wait until it showed."

Karen looked at Barbara's waistline. "You don't look it. And I do; I've been careful not to undress around Mother. Since you don't, let's hold that back and use it as a whammy if things get sticky."

"If you like. Karen, tell Hugh first. Then let him tell your mother. And quit worrying. We'll have our babies and won't have any trouble and we'll raise them together and it'll be fun. We'll be happy."

Karen's eyes lit up. "And you'll have a girl and I'll have a boy and we'll marry them and be grandmothers together!"

"That sounds more like Karen." Barbara kissed her. "Run tell Hugh."

Karen found Hugh bricking up the kiln; she told him that she would like a private talk.

"All right," he agreed. "Let me tell Joe to get this fired up. I should inspect the ditch. Come along and talk?"

He gave her a shovel, carried a rifle. "Now what's on your mind."

"Let's get farther away." They walked a meandering distance. Hugh stopped, exchanged rifle for shovel, and built up a stretch of wall.

"Daddy? Perhaps you've noticed a shortage of men?"

"No. Three men and three women. The usual division."

"Perhaps I should say 'eligible bachelors.'"

"Then say it."

"All right, I've said it. I need advice."

He placed another shovelful, tamped it. "Say what you want, baby. Perhaps I can help."

"Hardly. I'm pregnant. Daddy."

He dropped the shovel, took her in both arms. "Oh, wonderful!"

Presently she said, "Daddy... I can't shoot a bear with you hugging me."

He put her down, grabbed the rifle. "Where?"

"Nowhere. But you're always warning us."

"Oh. All right, I'll take over guard duty. Who's the father. Karen? Duke? Oh Joe?"

"Neither. Earlier, at school."

"Oh. Still better!"

"How? Damn it, Daddy, this isn't going the way it's supposed to. A girl comes home ruined, her father is supposed to raise hell. All you say is, 'Just dandy!' You've got me confused."

"Sorry. Under other circumstances, I might feel that you had been careless. But don't you see, dear? You have almost doubled the chances of this colony surviving."

He smiled. "I don't feel like working. Let's go spread the good news."

Hugh leaned on his shovel. "That just about does it, Joe."

"Let me tidy up around the gate." They were at the upper end of their ditch where the stream had been dammed against the dry season. It had been on them for weeks; the forest was sear, the heat oppressive. They were extremely careful about fire.

But no longer so careful about bears. It was still standard practice to be armed, but Duke had killed so many carnivores, ursine and feline, they seldom saw one.

The water spilling over the dam was only a trickle but there was water for irrigation and for household needs. Without the ditch they would have lost their garden.

It was necessary every day or so to adjust the flow. Hugh had not built a water gate; paucity of tools, scarcity of metal, and a total lack of lumber had baffled him. Instead he had devised an expedient. The point where water was taken from the pond had been faced with brick and a spillway set of halfround tile. To increase the flow this was taken out, the spill cut deeper, bricks adjusted, and tiles replaced. It was clumsy, it worked.

The bottom of the ditch was tiled all the way to house and garden; a minimum of water was lost. Their kiln had worked day and night; most of their capital gain had come out of the clay bank below the house and it was becoming difficult to dig good clay.

This did not worry Hugh; they

had almost everything they needed.

Their bathroom was no longer a joke. Water flowed in a two-stall trough toilet, partitioned with deer hide; tile drain pipe "leaded" with clay ran down the manhole, out the tunnel, and to a cesspool.

Forming drain pipe Hugh found very difficult. After many failures he had whittled a male form in three parts — in parts because it was necessary to shape the clay over it, let it dry enough to take out the form before it cracked from shrinking over the form.

With practice he cut his failures to about 25% in forming, 25% in firing.

The damaged water tank he had cut painfully, mallet and chisel, lengthwise into tubs, a bath tub indoors and a wash tub outdoors. The seams he had caulked with shaved hide. The tubs did not leak — much.

A brick fireplace-oven filled one corner of the bath-kitchen. It was not in use; days were long and hot; they cooked outdoors and ate under an awning of empty bears — but it was ready against next rainy season.

Their house now had two stories. Hugh had concluded that an addition strong enough to stop bears and tight enough to discourage snakes would have to be of stone, and solidly roofed. That he could do — but how about windows and doors? Glass he would make some day if he solved the problems of soda and lime. But not soon. A stout door and tight shutters he could manage but it would be stuffy.

So they had built a shed on the roof, a grass shack. With the ladder

up, a bear faced a twelve-foot wall. Unsure that a wall would stop all their neighbors, Hugh had arranged trip lines around the edge so that disturbing them would cause an oxygen bottle to fall over. Their alarm was tripped the first week, scaring off the intruder. It had also, Hugh admitted, scared the bejassus out of him.

Anything that could not be hurt by weather had been moved out and the main room was rearranged into a women's dormitory and nursery.

Hugh stared downstream while Joe finished fussing. He could make out the roof of his penthouse. Good enough, he mused. Everything was in fair shape and next year would be better. So much better that they might take time to explore — even Duke had not been as much as twenty miles away. Nothing but feet for travel and too busy scratching to live —

Next year would be soon enough. *"A man's reach should exceed his grasp, or what's a heaven for?"* They had started with neither pot nor window. This year a pot. Next year a window? No hurry. Things were going well. Even Grace seemed contented, after one horrible day-long rant. He felt certain she would settle down and be a happy grandmother. Grace liked babies — how well he remembered.

Not long now. Karen was fuzzily vague but her guesses seemed to show that D-day was about two weeks off, and her condition matched her guess.

The sooner, the better! Hugh had studied everything in his library on pregnancy and childbirth; he made every preparation he could. His patients seemed to be in perfect health, both had satisfactory pelvic measurements, both seemed unafraid, and they helped each other not to gain too much weight, with friendly nagging. With Barbara to hold Karen's hand, with Karen to hold Barbara's hand, with Grace's motherly experience to bolster them, Hugh could see no trouble ahead.

It would be wonderful to have babies in the house.

With a warm wave of euphoria Hugh Farnham realized that he had never been so happy in his life.

"That's it, Hugh. Let's catch those tiles on the way back."

"Okay. Take the rifle, I'll carry the tools."

"I think," Joe said, "we ought to —"

His words chopped off at a gunshot; they froze. It was followed by two more.

They ran.

Barbara was in the door. She held up a gun and waved, went inside. She came out before they reached the house, stepping carefully down off the stoop and moving slowly; she was very gravid. Her belly bulged huge in shorts made from worn-out jeans that had belonged to Duke; she wore a man's shirt altered to support her breasts. She was barefooted and no longer carried the gun.

Joe outdistanced Hugh, met her

near the house. "Karen?" he demanded.

"Yes. She's started. Grace is with her. But she wants you."

"Let me catch my breath." Hugh wiped his face, tried to control his trembling. He took a deep breath, held it, let it out slowly. He went inside, Barbara following.

The bunks near the door had been taken down. A bed stuck out into the doorway but space cleared by removing shelves left passage. One bunk was not a cot in the living corner. The bed was padded with a grass mattress and a bear rug; a calico cat, one of Doc's litter, was on it.

Hugh squeezed past, felt another cat brush his ankles. He went into the other bay. The bunks there had been rebuilt into a bed across the end; Karen was in bed, Grace was seated, fanning her, and Joe stood by with an air of grave concern.

Hugh smiled at his daughter. "Hi, Fatty!" He stooped and kissed her. "How are you? Hurting?"

"Not now. But I'm glad you're here."

"We hurried."

A cat jumped up, landing on Karen. "Unh! Damn you, Maggie!"

"Joe," said Hugh, "round up the cats and put them in Coventry." The tunnel mouth had been bricked up, but with air holes, and a cat door which could be filled with a large brick. The cats had a low opinion of this but it had been built after Happy New Year had become missing and presumed dead.

Karen said, "Daddy, I want Maggie with me!"

"Joe, make that all but Maggie. When we get busy, grab Maggie and shut up her, too."

"Daddy, you should have been a doctor."

"I am a doctor. The best doctor in the world."

As he left the house he encountered Duke, soaked from a long run. "I heard three shots. Sis?"

"Yes. No hurry, labor has just started. I'm about to take a bath. Want to join me?"

"I want to say hello' to Sis first."

"Hurry up; they're about to bathe her. And grab Joe; he's incarcerating cats. They'll want us out of the way."

"Shouldn't we be boiling water?"

"Do so, if it will calm you. Duke, my O. B. kit, such as it is, has been ready for a month. There are six jars of boiled water, for this and that. Go kiss your sister and don't let her see that you're worried."

"You're a cold fish, Dad."

"Son, I'm scared silly. I can list thirteen major complications — and I'm not prepared to cope with any of them. Mostly I pat her hand and tell her that everything is dandy — and that's what she needs. I examine her, solemn as a judge, and don't know what to look for. It's just to reassure her . . . and I'll thank you to help out.

Duke said soberly, "I will, sir. I'll kid her along."

"Don't overdo it. Just let her see that you share her confidence in old Doc Farnham."

"I will."

"If Joe gets the jitters, get him out. He's the worst. Grace is doing

fine. Hurry up or they won't let you in."

All that hot and weary day the woman brought to bed fought to void herself of her burden, white-faced and shrieking, belly hardening with each attempt, muscles in arms and neck standing out as she strained—then fell back limp as the contraction died away, tired and trembling, not speaking, uninterested in anything but the ordeal.

It got steadily worse. Contraction became three minutes apart; each one longer and seemed to hurt more.

At nine that night there was bleeding. Grace became frantic; she had heard many stories of the dangers of hemorrhage. Hugh assured her that it was normal and showed that the baby would arrive soon. He believed it, as it was not massive and did not continue—and it did not seem possible that birth could be far away.

Grace looked angry and got up; Barbara slipped into the chair she vacated. Hugh hoped that Grace would rest—the women had been taking turns.

But Grace returned a few minutes later. "Hubert," she said in a high, brittle voice. "Herbert, I'm going to call a doctor.

"Do that," he agreed, his eyes on Karen.

"You listen to me, Hubert Farnham. You should have called a doctor at once. You're killing her, you hear me? I'm going to call a doctor—and you are not going to stop me."

"Yes, Grace. The telephone is in there." He pointed into the other wing. Grace looked puzzled, then turned suddenly and went away.

"Duke!"

His son hurried in. "Yes, Dad?"

Hugh said forcefully, "Duke, your mother has decided to telephone for a doctor. You go help her. *Do you understand?*"

Duke's eyes widened. "Where are the needles?"

"In the smaller bundle on the table. Don't touch the large bundle; it's sterile."

"Got it. What dosage?"

"Two c.c. Don't let her see the needle, or she'll jerk" Hugh's head jerked; he realized that he was groggy. "Make that three c.c.; I want her to go out like a light and sleep until morning. She can tolerate it."

"Right away." Duke left.

Karen had been lying quiet between contractions, apparently in semi-coma. Now she whispered, "Poor Daddy. Your women give you a lot of grief."

"Rest, dear."

"I — Oh, God, here it comes again!"

Around down—it seemed to Hugh that the torture had been going on for weeks but his watch showed that Karen had been in labor eighteen hours—Barbara said urgently, "Hugh, she can't take any more."

"I know," he admitted, looking at his daughter. She was at the peak of a pain, face gray and contorted, mouth squared in agony, high sobbing moans filling the room.

"Well? We have to do something."

"I suppose she should have had a Caesarean. But I'm no surgeon."

"I wonder."

"I don't. I'm not."

"You know more about it than the first man who ever did one! You know how to keep it sterile. We have sulfa drugs and you can load her up with demerol." She did not try to keep Karen from hearing; their patient was beyond caring.

"No."

"Hugh, you must. She's dying."

"I know." He sighed. "But it's too late for a Caesarean, even if I knew how. To save Karen with one, I mean. We might save her baby." He blinked and swayed. "Only it would not. *Who's to wet-nurse? You can't, not yet. And cows we don't have.*"

He took a deep breath, tried to get a grip on himself. "Only one thing left. Try to get it out Eskimo style."

"What's that?"

"Get her up and let gravity help. Maybe it'll work. Call the boys, we'll need them. I've got to scrub again; I might have to do an episiotomy. Oh, God."

Five minutes and two contractions later they were ready to try it. When Karen lay back exhausted after the second one, Hugh tried to explain what they were going to do. It was hard to get her attention.

At last she nodded slightly and whispered, "I don't care."

Hugh went to the table where his equipment was now opened out, and got his one scalpel, took the camp

lamp in his other hand. "All right, boys. As soon as she starts, pick her up."

They had only seconds to wait. Hugh saw the contraction start, nodded to Duke. "Now!"

"With me, Joe." They started to lift her, each with an arm under her back, a hand under a thigh.

Karen screamed and fought them off. "No, no! Don't touch me — *I can't stand it! Daddy, make them stop! Daddy!*"

They stopped. Duke said, "Dad?"

"Lift her up! Now!"

They got her high in a squatting position, thighs pulled open. Barbara got behind Karen, arms around her, and pressed down on the girl's tortured belly. Karen screamed and struggled; they held her fast.

Hugh barely had time to get to the floor before he had both hands full of wet, slippery, bloody baby. He knew there was something else he should do now but all he could think of was to get it by both feet in his left hand, lift it and slap its tiny bottom.

It let out a choked wail.

"Get her on the bed, boys — but easy! It's still fastened by the cord."

They made it, Hugh on his knees and burdened with a feebly wiggling load. Once they had Karen down, Hugh started to put her baby in her arms — but saw that Karen was not up to it. She seemed to be awake. Her eyes were open. But she was in total collapse.

Hugh was close to collapse. He looked dazedly around, handed the baby to Barbara. "Stay close."



"Dad?" said Duke. "Aren't you supposed to cut the cord?"

"Not yet." Where was that knife? He found it, rubbed it quickly with iodine — hoped that it was sterile. Placed it by two boiled lengths of cotton string — turned and felt the cord to see if it was pulsing.

"He's beautiful," Joe said softly.

"She," Hugh corrected. "The baby is a girl. Now, Barbara, if you —"

He broke off. Suddenly everything happened too fast. The baby started to choke; Hugh grabbed it, turned it upside down, dug into its mouth, scooped out a plug of mucus, handed the baby back, started again to check the cord — saw that Karen was in trouble.

With a nightmare feeling that he needed to be twins he got one of the strings, tied a square knot around the cord near the baby's belly, trying to control his trembling so as not to tie it too hard — started to tie the second, saw that it was not needed;

Karen suddenly delivered the placenta and was hemorrhaging. She moaned.

With one slash Hugh cut the cord, snapped at Barbara, "Get a belly band on it!" — turned to take care of the mother.

She was flowing like a river; her face was gray and she seemed unconscious. Too late to attempt to take stitches. This flood was from inside. He tried to stop it by packing her with their last roll of gauze while shouting to Joe and to Duke to get a belly band compress on Karen, himself to put pressure on her uterus.

Some agonized time later the belly compress was in place. Hugh raised his eyes and looked at Karen's face — then in sudden panic tried to find her pulse.

Karen had survived the birth of her daughter by less than seven minutes. The child lingered for a few hours, then joined her.



X

They went on. Duke hunted, Duke and Joe farmed, Hugh worked harder than ever. Grace worked, too, and her cooking improved—and her eating; she got fatter. She never mentioned her conviction that her husband had been responsible for the death of their daughter.

She did not speak to him at all. When a problem had to be discussed she spoke to Duke. She quit attending even their church services.

In the last month of Barbara's pregnancy Duke sought out his father, privately. "Dad, you told me that any time I wanted to leave—or any of us—we could."

Hugh was startled. "Yes."

"A pro-rata share, you said. Ammo, tools, and so forth."

"Better than that; we're a going concern. Duke, you are leaving?"

"Yes—but not just myself. Mother wants to. She's the one who's dead set on it. I've got reasons, but Mother's wishes are the deciding factor."

"Mmm. Let's talk about your reasons. Are you dissatisfied with the way I'm running things? I will gladly step aside. I feel sure that I can get Joe and Barbara to go along, so

that you will have unanimous support." He sighed. "I am anxious to turn over the burden."

Duke shook his head. "That's not it, Dad. I don't want to be boss and you've done a good job. Oh, I won't say I liked the high-handed way you started in. But results count and you got results. I'd rather not discuss my reasons except to say that they don't have to do with you—and wouldn't be enough to make me leave if Mother weren't hipped on it. She wants to leave. She's going to leave. I can't let her leave alone."

Hugh pondered it. "Duke, if that's how your mother feels, I won't try to persuade her; I've long since lost my influence over her. But I have two ideas. You may find one of them practical."

"I doubt it."

"Hear me. You know we have copper tubing; we used some in the kitchen. We have everything for a still; I stocked the items to build one if a war came along—not just for us but because liquor is money in any primitive society.

"I haven't built it for reasons we both know. But I could and I know how to make liquor." He smiled slightly. "Not book knowledge. While I was in the South Pacific, I bossed a still, with the shut-eye connivance of my C. O. I learned how to turn corn or potatoes or most anything into vodka, or fruit into brandy. Duke your mother might be happy if she had liquor.

"She would drink herself to death!"

"Duke, Duke! If she is happy doing it, who are we to stop her?"

What does she have to live for? She loved television, she enjoyed parties, she could spend a happy day at the hairdresser's, followed by a movie, then drinks with one of her friends. That was her life, Duke. Now where is it? Gone, gone! There is just this we can give her to make up for what she has lost. Who are *you* to decide that your mother must not drink herself to death?"

"Dad, that's not the situation!"

"So?"

"You know I don't — didn't — approve of Mother's excessive drinking. But I might go along with letting her drink all she wants now. If you build that still, we might be customers. But we would still leave. Because that won't solve Mother's problem."

"Well, Duke, that leaves only my other idea. I'll get out instead. Only —" Hugh frowned. "Duke, tell her that I will leave as soon as Barbara has her baby. I can't walk out on my patient. You can give Grace my assur —"

"Dad, that won't solve a thing!"

"I don't understand."

"**O**h, Christ, I might as well spill it. It's Barbara. She's — Well, hell, Mother is nuts on the subject. Can't stand her. Ever since Karen died."

"Good Lord!"

"Yeah. I tried to reason with her. I told her that Barbara couldn't leave. So *she* decided to leave. I can't stall her any longer. She's leaving. I'm going with her, to take care of her."

His father rubbed his temples, "I

guess there is no situation so bad but what it can get worse. Duke, even with you, she hasn't anywhere to go."

"Not quite, Dad."

"Eh?"

"I can swing it, with your help. Do you remember that cave up Collins Canyon, the one they tried to make a tourist attraction? It's still there. Or its twin, I mean. I was hunting up that way that first week. The canyon looked so familiar that I climbed up and looked for the cave. Found it. And Dad, it's habitable and defensible."

"The door? The mouth?"

"No problem. If you can spare that steel plate that blocked off the tunnel."

"Certainly."

"The cave has a vent, higher up. No smoke problem. It has a spring that hasn't failed all this dry weather. Dad, it's as comfortable as the shelter; all it needs is outfitting."

"I capitulate. You can take almost anything now. Beds, of course. Utensils. Your pick of the canned goods. Matches, ammunition, guns. Make a list, I'll help you move."

Duke colored under his tan. "Dad, a few things are up there already."

"So? Did you think I would be pinchpenny?"

"Uh . . . I don't mean the past few days. I moved some things up the first days we were here. You see . . . well, you and I had that row — and then you made me rationing officer. That gave me the idea, and for a week or more I always left here loaded, leaving when no one was watching."

"Stealing," said Hugh tightly.

"I didn't figure it so. I never took as much as one sixth of anything. . . and just stuff I would have to have in a pinch. Matches. Ammo. That rifle you couldn't find. One blanket. A knife. A little food. Some candles. You see . . . well, look at it from my side. There was always the chance that I would get you sore and either have to fight — one of us killed is the way you put it—or run and not be able to stop for *anything*. I decided not to fight. So I made preparations. But I didn't steal it; you *said* I could have it. Say the word and I'll fetch it all back."

Hugh Farnham peeled a callus, then looked up. "One man's stealing is another man's survival, I suppose. Just one thing — Duke, in that food you took: *Were there any cans of milk?*"

"Not one. Dad, don't you think, if there had been, I would have beaten all records getting up there and back when Karen died?"

"Yes. I'm sorry I asked."

"I was sorry I hadn't snitched a few cans; then they wouldn't have been used up."

"The baby didn't last out the milk we had, Duke. All right, it calls for quick surgery — but don't forget that you can come back, any time. Duke, women sometimes get unreasonable at about your mother's age . . . then get over it and are nice old ladies. Maybe we'll have the family together again. I hope we'll see you occasionally. You're welcome to all the vegetables you can eat, of course."

"I was going to mention that. I

can't farm up there. Suppose I still hunt for all of us . . . and when I bring in a load of meat I take away a load of green stuff."

His father smiled. "We have reinstated commerce. And we can supply you with pottery and there's no need to do your own tanning. Duke, I suggest you sort out what you want, and tomorrow you and I and Joe will start packing it to your cave. Be lavish. Just one thing —"

"What?"

"The books are mine! Anything you want to look up, you'll have to come here. This is not a circulating library."

"Fair enough."

"I mean it. You can have my razor, you can have my best knife. But snatch one book and I'll skin you alive and bind that book in human skin. There are limits. All right, I'll tell Joe, and get Barbara out of the house and we'll stay away until dark. Good luck, and tell Grace no hard feelings. There are, but tell her that. But I'm not too groused. It takes two to create a heaven . . . but hell can be accomplished by one. I can't say that I've been happy lately and Grace may be smarter than we think."

About nine the next morning, they all were outside where chattels for the new household were piled.

Hugh looked over his ex-wife's selections with wry amusement. Grace had taken literally the invitation to "take almost anything;" she had gutted the place — the best blankets, almost all utensils including the tea

kettle and the one skillet, three of four foam-rubber mattresses, nearly all the remaining canned goods, all the sugar, the lion's share of other irreplaceables, all the plastic dishes.

Hugh made only one objection: salt. When he noted that Grace had grabbed all the salt he insisted on a division. Duke agreed and asked if there was anything else Hugh objected to?

Hugh shook his head. Barbara would not mind making-do. "*Better is a dinner of herbs where love is —*"

Duke had shown restraint, taking one shovel, one axe, a hammer, less than half the nails, and no tool not stocked in duplicate. Instead Duke remarked that he might want to borrow tools someday. Hugh agreed and offered his services on any two-man job. Duke thanked him. Both men found the situation embarrassing, both were unusually polite.

A delay in starting was caused by the steel plate for the cave door. Its weight was not too great for a man as husky as Duke, but it was awkward. A pack had to be devised, rugged enough for the trek, comfortable in padding and straps, and so rigged that Duke could fire a rifle.

This resulted in sacrificing the one intact bear hide, the covering of the bed Karen had died in. Hugh minded only the loss of time. It would take six trips by three men to move the plunder Grace had picked; Duke thought that two trips a day would be maximum. If they did not start soon, only one trip could be made that day.

At last they got it on Duke's back with a fur pad protecting his spine. "Feels right," Duke decided. "Let's get packs on you two and get going."

"In a jiffy," Hugh agreed and bent over to pick up his load.

"My God!"

"Trouble, Duke?"

"Look!"

A shape had appeared over the eastern rise. It slanted through the air on a course that would have missed them, but, as it neared the point of closest approach, it stopped dead, turned and headed for them.

It passed majestically overhead. Hugh was unable to guess its size at first; there was nothing to which to relate it—a dark shape proportioned like a domino tile. But, as it passed about five hundred feet up, it seemed to him that it was around a hundred feet wide and three times that in length. He could make out no features. It moved swiftly but made no noise.

It swept past, turned, circled — stopped, turned again and came toward them at lower altitude.

Hugh found that he had an arm around Barbara. When the object had appeared, she had been some distance away, putting clothes to soak in the outside tub. Now she was circled by his left arm and he could feel her trembling.

"Hugh, what is it?"

"People."

The thing hovered above their flag. Now they could see people; heads showed above its sides.

A corner detached itself, splitting

off sharply. It dove, stopped by the peak of the flag pole. Hugh saw that it was a car about nine feet long and three wide, with one passenger. No details could he see, no clue to motive power; the car enclosed the man's lower body; his trunk projected above.

The man removed the flag, rejoined the main craft. His vehicle blended back in.

The rectangle disintegrated.

It broke into units like that which had filched their flag. Most cars remained in the air; some dozen landed, three in a triangle around the colonists. Duke yelled, "Watch it!" and dived for his gun.

He never made it. He leaned forward at an extreme angle, pawed the air with a look of amazement, and was slowly pulled back to vertical.

Barbara gasped in Hugh's ear. "Hugh, what is it?"

"I don't know." He did not need to ask what she meant; he had felt, the instant his son was stopped, that he seemed to be waist deep in quicksand. "Don't fight it."

"I wasn't going to."

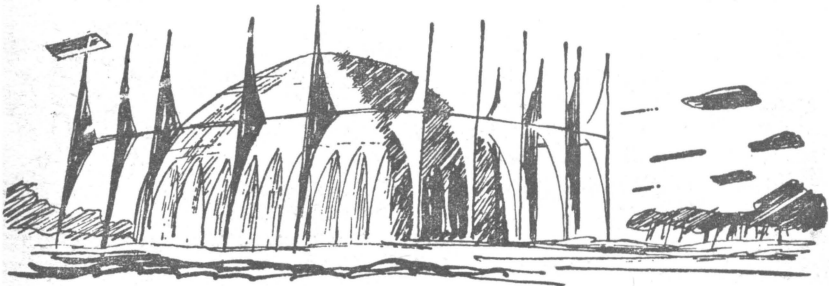
Grace shrielled, "Hubert! Hubert, do some —" Her cries cut off. She

seemed to faint but did not fall.

Four cars were about eight feet in the air, lined up abreast, and were cruising over Barbara's farm. Where they passed, everything underneath, corn stalks, tomato plants, beans, squash, lettuce, potato hills, everything including branching ditches was pressed flat into a macadam.

The raw end of the main ditch spilled water over this pavement. One car whipped around, ran a new ditch around the raped area in a wide sweep which allowed the water to circle the destroyed garden and reach the stream at a lower point.

Out of the pavilion strode a man. He seemed seven feet tall but some of this was a helmet, plumed and burnished. He wore a flowing skirt of red embroidered in gold and was bare to the waist save that an end of the skirt thrown across one shoulder covered part of his broad chest. He had an air of good-natured arrogance and his eyes were bright and merry. His forehead was high, his skull massive; he looked intelligent and alert. Hugh could not place his race. His skin was dark brown and shiny. But his mouth was only slightly Negroid;



his nose, though broad, was arched, and his black hair was wavy.

He carried a small crop.

He strode up to them, stopped abruptly when he reached Joseph. He gave a curt order to their nearest captor.

Joe stretched and bent his legs. "Thanks."

The man spoke to Joe. Joe answered, "Sorry, I don't understand."

The man spoke again. Joe shrugged helplessly. The man grinned and patted him on the shoulder, turned away, picked up Duke's rifle. He handled it clumsily, making Hugh flinch.

Nevertheless he seemed to understand guns. He worked the bolt, ejecting one cartridge, then put it to his shoulder, aimed and fired.

The blast was deafening, he had fired past Hugh's ear. He grinned

broadly, tossed the rifle to a subordinate, walked up to Hugh and Barbara, reached out to touch Barbara's child-swollen belly.

Hugh knocked his hand away.

With a gesture almost negligent, certainly without anger, the big man brushed Hugh's hand aside with the crop he carried. It was not a blow, it would not have swatted a fly.

Hugh gasped in agony. His hand burned like fire and his arm was numb to the armpit. "Oh, God!"

Barbara said urgently, "Don't, Hugh. He isn't hurting me."

Nor was he. With a manner of impersonal interest such as a veterinarian might take in feeling a pregnant mare or bitch, the big man felt out the shape of the child she carried — while Hugh writhed in that special humiliation of a man unable to protect his woman.

TO BE CONTINUED

Coming next month —

Part Two of **FARNHAM'S FREEHOLD**
by **Robert A. Heinlein**

A New Retief Story by Keith Laumer
— and many more

All in the August issue of the new monthly **IF!**



WEETL

BY JACK SHARKEY

His purposes were pure.

His method was correct.

His end was appalling!

Gregory Swenn's basic problem was the manner of his rearing. Brought up by doting parents who — as a business — spent most of their time upon soapboxes on street corners exhorting passersby to "Repent before it is too late!", young Gregory's view of life was apt to become a bit "slanted" as he grew up, a situation which his proud parents might have foretold had they realized the significance of his first spoken word, at the age of eight months. Some children began their communicative careers with "ma-ma", others with "dada", and a few

scions whose ancestry could be traced directly to certain prominent brokerage firms began their primal conversation by murmuring "money"; but young Gregory Swenn's first word was "Shame!"

By the age of three, his vocabulary had improved to the extent of including innumerable cautionary expressions of the "Beware!", "Look out!" and "Consider!" genre, so that an hour spent in his urgently lisping company could reduce a steel-nerved stevedore to a whimpering jelly.

By age five, Gregory had progressed far enough in intelligence to

learn what this vocabulary referred to. It was then that he made his historic decision to devote his life to the same goals toward which his parents aimed.

Gregory, however, decided upon a more direct route.

After a reasonably normal apprenticeship in elementary and high schools (during the course of which Gregory spent most of his free time patrolling the streets with his pockets full of blackboard erasers and soap, to undo the damages wrought by other young men his age who wandered about practicing their calligraphy with colored chalk upon fences, sidewalks, and the walls of public washrooms), it came time to enter a university, a luxury Gregory could well afford, since — when his parents and himself were engaged in passing the hat after a lecture — he employed a ten-gallon Stetson with a false bottom. His dotting parents asked him whether he would major in Basic Apologetics, or simply strive for a D. D. Gregory shocked these humble purveyors of righteousness by announcing, "I could learn, in either program, nothing which I already do not know. Therefore I intend to pursue a strict, concentrated major — without electives or minors, hence not terminating in a degree, but that is a small matter — in the relatively untapped field of Encephalic Phonology!"

His parents, though quite poor, were quite illiterate also. Assuming his statement to be a sophisticated utilization of foul language, they disowned him on the spot and

hacked his soapbox into kindling. Undaunted, Gregory entered the university and began to learn for all he was worth.

At the end of four years Gregory, now a pinch-faced, purse-lipped man of twenty-two years, had learnt all he needed to know on the subject. Quietly removing himself from the campus one night, he moved into a city apartment and began the construction of his famous Encephalophonolabialalternater, a sort of shortwave radio transmitter attuned to the frequencies of the human brain in the neuronc area controlling the use of lips, larynx, tongue, teeth and diaphragm.

In short, Gregory now could — by the simple adjustment of a dial — control the speech habits of all the people in the entire world.

However, his scheme had one flaw. Whereas he had hoped to entirely eliminate all profanity, vulgarity, swearing, cursing and associated coarsenesses from human speech, leaving in their place a restful silence, he found that nature — as usual abhorring a vacuum — compromised to the extent of a substitute sound. This was a breathy vocalization quite close to a burbly whistle (such as those used by traffic policemen and camp counselors), which emerged from the lips of the speaker in syllables that seemed to say "weetl".

"Well," sighed Gregory, "it is better than nothing, I guess. At least the words of the world will be cleansed of decadent degradations."

So saying, he plugged his ma-

chine into the wall outlet, set the dial and turned it on. Then, locking up the apartment, he set forth to stroll the streets of the city and see his tongue-tied utopia begin to bloom.

Rounding a corner, Gregory chanced to collide with a gorilla-like male who was three days unshaven, and wearing workman's clothing and a sour expression. "I beg your pardon," said Gregory, who was always extra-polite to people greater in size than himself.

"Wyncha watch where the weetl you're goin'!" the man demanded, before shuffling off down the street. To his shift in speech mannerism he apparently paid no heed. Gregory stared after the man, bemused.

"It may be," he said to himself, "that people have become so inured to the use of profanity that the words have quite lost meaning for them." This bothered him terribly.

"Little good it does," he pondered, "to eliminate the actual words, when the 'weetle' sound serves them as well!" He turned about and began hurrying back toward his apartment. There he discovered that he could not admit himself onto the premises, having unaccountably lost his wallet, his keys and one slightly used handkerchief. Then he recalled his encounter with the gorilla-like man, and the hasty manner in which the man had departed after the collision, not pausing to remonstrate nor resort to fisticuffs. "But," Gregory thought miserably, "I thought pickpockets were all small weasel-faced men who performed their art dur-

ing parade and subway crushes!" Disillusioned at this betrayal from a fellow man, Gregory began to thrust his inadequate shoulder against the door of his apartment, but it would not move. However, his efforts made sufficient commotion to incur the attentions of the building superintendent, who came upstairs on the run.

"Weetl-o, Mr. Swenn," said the man, seeing him there in the corridor. "Can I be of some weetlp?"

"Dear me!" gasped Gregory. "Even the innocent words are suffering. I thought my machine had more sense!" He clutched the superintendent by the suspenders. "You must unlock my door with your passkey," he pled, "lest it turn out that my efforts have done naught but supply the world with an all-purpose cuss-word!"

"Why is your brow so weetlp with sweat?" inquired the man, prying Gregory's fingers from their elastic supports. "I'd expect such hysteria in a woman, but not in a person of the opposite weetl."

"Open the door!" Gregory begged, weeping. "The machine is gaining on us! I had set the dial merely to block out the word 'weetl', but now it has advanced to the blockade of 'weetl' and 'weetl', besides!"

The superintendent stared blankly. "Maybe you'd better weetl down, Mr. Swenn," he suggested. "I mean it most weetlcerely," he added.

Gregory staggered back horrified at the progress his machine was making. Soon, he realized, it

could be beyond the efforts of a person to order a weetlnamon bun with his morning coffee! He staggered back even further as he realized that his very mind had been invaded by the onslaught of the machine. He could not so much as think of words like "weetl" any more, let alone terms like "weetl" or "weetl"! Maddened he raced downstairs and into the street.

He sprang into his car, stepped on the weetl (the machine was against mention of intimate alimentary disorders), and let out the weetl (against physical violations, also), then drove out toward the weetl, whose stored-up reservoir provided the hydroelectric power that was even now running his machine. Not waiting for the green, he drove right through a weetl

weetl at the intersection, and soon had a trail of angry motorcycle policemen following close weetl him. But he arrived at the weetl before they did, and raced for the entrance. But a spillage of water had weetlpened the weetl, and Gregory, weetlless to stop, fell weetlter-skelter off the front of the weetl into the turbines and was crushed to a pulp.

By the time the untended machine had burnt itself out, the word "weetl" remained in the language as a verbal monument to its inventor, Gregory Swenn, who had by his efforts supplied the speaking world with a term used to refer to things so debased and unspeakable they had hitherto been even beyond the frank discussion of determined degenerates. END

A lively, illustrated explanation of a useful and fascinating branch of mathematics

Experiments in Topology

by STEPHEN BARR

"Until Barr turned his thoughts toward topology it had never occurred to anyone that closed, one-sided surfaces such as Klein bottles and projective planes could be made simply by cutting and pasting sheets of paper . . . Yet it would be unfair to say that his book is no more than a collection of topological recreations. The play is mixed with important mathematics, and there are occasional asides that plunge into deep waters."

MARTIN GARDNER, Illustrated \$3.50.

THOMAS Y. CROWELL COMPANY,
New York 3, N. Y.



*"A mathematician
named Klein
Thought the Moebius
band was divine.
Said he: 'If you glue
The edges of two,
You'll get a weird
bottle like mine.'"*

The Mathenauts

BY NORMAN KAGAN

ILLUSTRATED BY NODEL

They sailed the star lanes in a mathematical abstraction—and reached an unbelievable goal!

I

It happened on my fifth trip in- to the spaces, and the first ever made under the private enterprise acts. It took a long time to get the P.E.A. through Congress for mathenautics, but the precedents went all the way back to the Telstar satellite a hundred years ago, and most of the concepts are in books anyone can buy, though not so readily understand. Besides, it didn't matter if BC-flight was made public or not.

All mathenauts are crazy. Everybody knows that.

Take our crew. Johnny Pearl took a pin along whenever he went baby-sitting for the grad students at Berkeley, and three months later the mothers invariably found out they were pregnant again. And Pearl was our physicist.

Then there was Goldwasser. Ed Goldwasser always sits in those pan-on-a-post cigarette holders when we're in New York, and if you ask him, he grumbles; "Well, its an ash-

tray, ain't it?" A punster and a pataphysicist. I would never have chosen him to go, except that he and I got the idea together, so I couldn't say no.

Ted Anderson was our metamathematician. He's about half a nanosecond behind Ephraim Cohen (the co-inventor of BC-flight) and has about six nervous breakdowns a month trying to pass him. But he's got the best practical knowledge of the BC-drive outside Princeton, if practical knowledge means anything with respect to a pure mathematical abstraction.

And me — topologist. A topologist is a man who can't tell a doughnut from a cup of coffee. (I'll explain that some other time.) Seriously, I specialize in some of the more abstruse properties of geometric structures. "Did Galois discover that theorem before or after he died?" is a sample of my conversation.

Sure, mathenauts are mathenuts. But as we found out, not quite mathenutty enough.

The ship, the *Abrecht Dold*, was a twelve googol scout that Ed Goldwasser and I'd picked up cheap from the N.Y.U. Courant Mathematical Sciences Institute. She wasn't the Princeton I.A.S. *Von-Neumann*, with googolplex coils and a chapter of the D.A.R., and she wasn't one of those new toys you've been seeing for a rich man and his grandmother. Her coils were DNA molecules, and the psychosomatics were straight from the Brill Institute at Harvard. A sweet ship. For psychic ecology we'd gotten a bunch of kids from the Bronx College of the

New York City University, commonsense types — business majors, engineers, pre-meds. But kids.

I was looking over Ephraim Cohen's latest paper, *Nymphomaniac Nested Complexes With Rossian Ir-revelancies* (old Ice Cream Cohen loves sexy titles), when the trouble started. We'd abstracted, and Goldwasser and Pearl had signalled me from the lab that they were ready for the first tests. I made the *Dold* invariant, and shoved off through one of the passages that linked the isomorphomechanism and the lab. (We kept the ship in free fall for convenience). I was about half way along the tube when the immy failed and the walls began to close in.

Someone (probably me) had scavenged the grablines to cut up for extra connectivity. I spread my legs and braked against the walls of the tube, believing with all my might. On second thought I let the walls sink in and braked with my palms. It would've been no trick to hold the walls for awhile. Without the immy my own imagination would hold them, this far from the B.C.N.Y. kids. But that might've brought more trouble — I'd probably made some silly mistake, and the kids, who might not notice a simple contraction or shear, would crack up under some weirdomorphism. And if we lost the kids . . .

So anyway I just dug my feet in against the mirage and tried to slow up, on a surface that no one'd bothered to think any friction into. Of course, if you've read some of the popular accounts of math-sailing,

you'd think I'd just duck back through a hole in the fiftieth dimension to the immy. But it doesn't work out that way. A ship in BC-flight is a very precarious structure in a philosophical sense. That's why we carry a psychic ecology, and that's why Brill conditioning takes six years, plus with a Ph.D. in pure math, to absorb. As it was, there weren't a hundred mathenauts yet, and we'd been lucky to get Pearl and Anderson, despite their personalities. Anyway, a mathenaut should never forget his postulates, or he'll find himself floating in 27-space, with nary a notion to be named.

Then the walls really did vanish — NO! — and I found myself at the junction of two passages. The other had a grabline. I caught it and rebounded, then swarmed back along the tube to the control room.

About then the walls really did begin to cave in, till after ten seconds I was climbing down into a funnel. I caught my breath, swallowed some Dramamine, and burst into the control room.

The heart of the ship was pulsing and throbbing. For a moment I thought I was back in Hawaii with my aqualung, an invader in a shifting, shimmering world of sea fronds and barracuda. But it was no immy, no immy — a rubber room without the notion of distance that we take for granted (technically, a room with topological properties but no metric ones). To my eyes, it was as if everything had been transmuted to the finest, most pliable rubber, and chose to shift or swell as my gaze met it. Instrument racks and

chairs and books shrank and ballooned and twisted, and floor and ceiling vibrated with my breath. It was as if I had to keep thinking about everything for it to remain still.

It was horrible.

Ted Anderson was hanging in front of the immy, the isomorpho-mechanism, but he was in no shape to do anything. In fact, he was in no shape at all. His body was pulsing and throbbing and shaking, so his hands were too big or too small to manipulate the controls, or his eyes shrank or blossomed. Poor Ted's nerves had gone again.

I shoved against the wall and bulleted toward him, a fish in a weaving, shifting undersea landscape, concentrating desperately on my body and the old structure of the room. (This is why physical training is so important). For an instant I was choking and screaming in a hairy blackness, a nightmare inside-out total inversion; then I was back in the control room, and had shoved Ted away from the instruments, cursing when nothing happened, then bracing against the wall panels and shoving again. He drifted away.

The immy was all right. The twiddles circuits between the B.C.N.Y kids and the rest of the Dold had been cut out. I set up an orthonormal system and punched the immy.

Across the shuddering, shifting room Ted tried to speak, but found it too difficult. Great Gauss, he was lucky his aorta hadn't contracted to a straw and given him a coronary! I clamped down on my own circu-

latory system viciously, while he struggled to speak. Finally he kicked off and came tumbling toward me, mouthing and flailing his notebook.

I hit the circuit. The room shifted about and for an instant Ted Anderson hung, ghostly, amid the isomorphomechanism's one - to - ones. He disappeared!

II

The invention of BC-flight was the culmination of a century of work in algebraic topology and experimental psychology. For thousands of years men had speculated as to the nature of the world. For the past five hundred, physics and the physical sciences had held sway. Then Thomas Brill and Ephraim Cohen peeled away another layer of the reality onion, and the spacesciences came into being.

If you insist on an analogy — well, a scientist touches and probes the real universe, and abstracts an idealization into his head. Mathenautics allows him to grab himself by the scruff of the neck and pull himself up into the idealization. See — I told you.

Okay, we'll try it slowly. Science assumes the universe to be ordered, and investigates the nature of the ordering. In the "hard" sciences, mathematics is the basis of the ordering the scientist puts on nature. By the twentieth century, a large portion of the physical processes and materials in the universe were found to submit to such an ordering (e.g.: analytic mechanics and the

motions of the planets). Some scientists were even applying mathematical structures to aggregates of living things, and to living processes.

Cohen and Brill asked (in ways far apart), "If order and organization seem to be a natural part of the universe, why can't we remove these qualities from coarse matter and space, and study them separately?" The answer was BC-flight.

Through certain purely mathematical "mechanisms" and special psychological training, selected scientists (the term "mathenaut" came later, slang from the faddy "astronautics" that was current at the time), could be shifted into the abstract.

The first mathenautical ships were crewed with young scientists and mathematicians who'd received Tom Brill's treatments and Ephraim Cohen's skullcracking sessions on the BC-field. The ships went into BC-flight and vanished.

By the theory, the ships didn't go anywhere. But the effect was somehow real. Just as a materialist might see organic machines instead of people, so, multiplied a millionfold, the mathenauts saw the raw mathematical structure of space — Riemann space, Hausdorff space, vector space — without matter. A crowd of people existed as an immensely complicated *something* in vector space. The study of these *somethings* was yielding immense amounts of knowledge. Pataphysics, patasociology, patapsychology were wild, baffling new fields of knowledge.

But the math universes were strange, alien. How could you learn

to live in Flatland? The wildcat minds of the first crews were too creative. They become disoriented. Hence the immies (short for isomorphomechanisms) and their power supplies — SayCows, DaughtAmSayCows, DaughtAmRevs, the B.C.N.Y. kids — fatheads, stuffed shirts, personality types that clung to commonsense where there was none, and preserved (locally) a ship's psychic ecology. Inside the BC-field, normalcy. Outside, raw imagination.

Johnny, Ted, Goldy and I had chosen vector spaces with certain topological properties to test Goldy's commercial concept. Outside the BC-field there was dimension but no distance, structure but no shape. Inside —

“By Riemann's tensors!” Pearl cried.

He was at the iris of one of the tubes. A moment later Ed Goldwasser joined him. “What happened to Ted?”

“I — I don't know. No — yes I do!”

I released the controls I had on my body, and stopped thinking about the room. The immy was working again. “He was doing something with the controls when the twiddles circuits failed. When I got them working again and the room snapped back into shape, he happened to be where the immy had been. The commonsense circuits rejected him.”

“So where did he go?” asked Pearl.

“I don't know.”

I was sweating. I was thinking of all the things that could've happened when we lost the isomorphomechanism. Some subconscious twitch and you're rotated half a dozen dimensions out of phase, so you're floating in the raw stuff of thought, with maybe a hair-thin line around you to tell you where the ship has been, or maybe two polar dots. Or the ship takes the notion to shrink pea-size, so you're squeezed through all the tubes and compartments and smashed to jelly when we orthonormalize. Galois! We'd been lucky.

The last thought gave me a notion “Could we have shrunk so we're inside his body? Or he grown so we're floating in his liver?”

“No,” said Goldy. “Topology is preserved. But I don't — or, hell — I really don't know. If he grew so big he was outside the psychic ecology, he might just have faded away . . .”

The big pataphysicist wrinkled up his face inside his beard. “Alice should be required reading for mathenauts,” he muttered reflectively. “The real trouble is no one has ever been outside the psychic ecology when a ship is in BC-flight, and been back to tell about it. The animal experiments and the *Norbert Wiener* just never returned. And there were people, like Wilbur on the *Paul R. Halmos*. He just disappeared.”

“But you work outside the field,” said Pearl, in a high, desperate voice. The psychist looked pale.

“No,” said Goldy. “I use, well — ‘instruments’, powered from the immy.”



THE MATHENAUTS

"Who knows what could've happened?" I said, growing nervous myself. "You know you can map the volume of a sphere into the whole universe using the ratio: IR: R equals R: OR where IR and OR are the inside and outside distances for the points. Maybe that's what happened to Ted. Maybe he's just outside the ship, filling all space with his metamath and his acne?"

"Down boy," said Goldwasser. "I've got a simpler suggestion. Let's check over the ship, compartment by compartment. Maybe he's in it somewhere, unconscious."

But he wasn't on the ship. We went over it twice, every tube, every compartment. (In reality, a mathenautic ship looks like a radio, ripped out of its case and flying through the air. We ended up in the ecology section, a big Broadway line subway car that roared and rattled in the middle of darkness in the middle of nothing. The B.C.N.Y. kids were all there—Freddi Urbont clucking happily away to her boy friend, chubby and smily and an education major; Byron and Burbitt, electronics engineers, ecstatic over the latest copy of *C-Quantum*; Stephen Seidmann, a number theory major, quietly proving that since Harvard is the best school in the world, and B.C.N.Y. is better than Harvard, that B.C.N.Y. is the best school in the world; two citizens with nose jobs and names I'd forgotten, engaged in a filthy discussion' of glands and organs and meat. The walls were firm, the straw seats scratchy

and uncomfortable. The projectors showed we were just entering the 72nd Street stop. How real, how comforting! I slid the door open to rejoin Johnny and Ed. The subway riders saw me slip into freefall, and glimpsed the emptiness of vector space.

Hell broke loose!

The far side of the car bulged inward, the glass smashing and the metal groaning. The poor CUNYs had no compensation training!

Freddi Urbont burst into tears. Byron and Burbitt sqawcked and yelled as the bubble in the floor swallowed them. The wall next to the nose jobs sprouted a dozen phallic symbols, while the seat bubbled with breasts. The walls began to melt. Seidmann began to yell about the special status of N. Y. City University Honors Program students. All was in confusion, and my chest froze as I realized the psychic ecology was about to collapse.

Pearl acted with a speed and a surety I'd never have imagined. He shoved me out of the way and launched himself furiously at the other end of the car, now in free fall. There he pivoted, smiled horribly and at the top of his lungs began singing *The Purple and the Black*.

Goldy and I had enough presence of mind to join him. Concentrating desperately on the shape and form of the car, we blasted the air with our devotion to Sheppard Hall, our love of Convent Avenue and our eternal devotion to Lewisohn Sta-

dium. Somehow it saved us. The room rumbled and twisted and reformed, and soon the eight of us were back in the tired old subway car that brought its daily catch of Beavers to 139th Street.

The equilibrium was still precarious. I heard Goldwasser telling the nosejobs his terrible monologue about the "Volvo I want to buy. I can be the first to break the door membranes, and when I get my hands on that big, fat steering wheel, ohh!, it'll be a week before I climb out of it!"

Pearl was cooing to Urbont how wonderful she was as the valedictorian at her Junior High, how great the teaching profession was, and how useful, and how interesting.

As for me; "Well, I guess you're right, Steve. I should have gone to B.C.N.Y. instead of Berkeley."

"That's right, Jimmy. After all, B.C.N.Y. has some of the best number theory people in the world. It's great to be a number theory major at B.C.N.Y. It's great to mumble and shout about infinite congruences and relative primes and know no one understands you, and wouldn't be interested if they did."

"I guess you're right, Steve."

"That's right, Jimmy. B.C.N.Y. has some of the greatest educators in the world. Like Dean Cashew, who started the Privileged Student Program. It sure is wonderful. At Berkeley you're just another student, but at B.C.N.Y. you can look down and laugh at all the people not in the Privileged Student Program."

"I guess you're right, Steve."

"That's right, Jimmy. At B.C.N.Y.

we have people that've turned down full scholarships to Chicago and M.I.T. Of course, I had to chop off — I mean they're quadruple amputees, but they love every minute down at the clinic."

— and so on.

When the scrap paper and the gum wrappers were up to our knees and there were four false pan handlers in the car, Johnny called a halt. The little psychist smiled and nodded as he walked the three of us carefully out the door.

"Standard technique," he murmured to no one in particular. "Doing *something* immediately rather than the best thing a while later. Their morale was shot, so I—" He trailed off.

"Are they really that sensitive?" Goldwasser asked. "I thought their training was better than that."

"You act like they were components in an electronics rig," said Pearl jerkily. "You know that remedial sensory perception, the ability to perceive the dull routine that normal people ignore, is a very delicate talent. Don't you realize we mustn't interrupt their concentration with orthodox things, and especially now with the extraordinary!"

Pearl was well launched. "In the dark ages such people were called dullards and subnormals. Only now, in our enlightened age, do we realize their true ability to know things outside the ordinary senses — a talent vital for BC-flight."

The tedium and meaninglessness of life which we rationalize away —

"A ship is more mind than matter, and if you upset that mind —

Amm. I could hypnotize them. I could, but it fogs the sense of reality. The sense of reality is very important to —”

He paled suddenly, and the corridor walls began to stutter. “I, I think I’d better stay with them,” he said quickly. “I know how to coach them, and it’s better —”

He flung open the door and went back into the coach. Goldwasser and I looked at each other. Pearl was a trained mathenaut, and he’d acted bravely when the CUNYs had panicked. But his specialty was people, not paramath. Well, let him stay where he was most effective.

“Let’s check the lab,” I muttered.

Neither of us spoke as we moved toward the lab — slap a wall, pull yourself forward, twist round some instrumentation — the “reaction swim” of a man in free fall. The walls began to quiver again, and I could see Goldy clamp down on his body and memories of this part of the ship. We were nearing the limits of the BC-field. The lab itself, and the experimental apparatus, stuck out into vector space.

“Let’s make our tests and go home,” I told Goldy. “This trip has too much of the stink of failure about it.”

Neither of us mentioned Ted as we entered the lab.

III

Remember this was a commercial project. We weren’t parasociologists studying abstract groups, or super-purists looking for the first point. We wanted money.

Goldy thought he had a quick moneymaking scheme for us, but Goldy hasn’t been normal since he took Polykarp Kusch’s “Kusch of Death” at Columbia, “Electrodimensions and Magnespace.” He was going to build four-dimensional molecules.

Go back to Flatland. Imagine a hollow paper pyramid on the surface of that two-dimensional world. To a Flatlander, it is a triangle. Flop down the sides — four triangles. Now put a molecule in each face — one molecule, four molecules. Neat! And recall that you have infinite dimensions available. Think of the storage possibilities alone. All the books of the world in a viewer, all the food in the world in your pack. A television the size of a piece of paper; circuits looped through dim-19. Loop an entire industrial plant through hyperspace, and get one the size and shape of a billboard. Shove raw materials in one side — pull finished products out the other!

But how do you make 4-dim molecules? Goldy thought he had a way, and Ted Anderson had checked over the math and pronounced it workable. The notion rested in the middle of the lab: a queer, half-understood machine of mind and matter called a Graham-Schmidt generator.

“Jeez, Ed! This lab looks like your old room back in Diego Borough.”

“Yeah,” said Goldwasser. “Johnny said it would be a good idea. Orientation against *that*.”

That was the outside of the lab,

raw topological space, without energy or matter or time. It was the shape and color of what you see in the back of your head.

I looked away.

Goldwasser's room was a duplicate of his old home—the metal desk, the electronics rigs, the immense bookshelves, half-filled with physics and half with religious works. I picked up a copy of Stacé's *Time and Eternity* and thumbed through it, then put it down, embarrassed.

"Good reading for a place like this." Goldwasser smiled.

He sat down at the desk and began to check out his "instruments" from the locked drawer where he'd kept them. Once he reached across the desk and turned on a tape of Gene Gerard's *Excelsior!* The flat midwestern voice murmured in the background.

"First, I need some hands," said Ed. "So —"

Out in the nothingness two pairs of lines met at right angles. For an instant, all space was filled with them, jammed together every which way. Then it just settled down to two.

"Oooppps,," said Goldwasser. "Have to remember that they are just representatives of their equivalence classes. I don't want to fill up all space with my fumbblings. Besides, that would twist everything one dimension, and then we'd be back where we started."

The lab was in darkness, so in the dimness Goldwasser's big form seemed to crouch menacing over the controls. He wore his engineer's

boots and his hair long, and a beard as well. He might have been some medieval monk, or primitive witchdoctor, mumbling spells and setting incantations. He touched a knob and set a widget, and checked in his copy of *Birkhoff and MacLane*.

"Now," he said, and played with his instruments. Two new vectors rose out of the intersections. "Cross-products. Now I've a right and a left-handed system."

All the while Gene Gerard was mumbling in the background:

"The Count and Igor his servant took the beautiful maiden down to the crypt. 'Ah, now, my pretty,' snarled the Count. 'Come to my bedchamber, or I'll leave you to Igor's mercies.' The misshapen dwarf cackled and rubbed his paws. 'Decide, decide!' cried the count. His voice was a scream. 'Decide, my dear. SEX — ELSE, IGOR!'"

"Augh," said Goldwasser, and shut it off. "Now," he said, "I've got some plasma in the next compartment. I'm going to release it, and shift the ions one dimension. His hands poised over the G. S. generator.

"Holy Halmos," I whispered.

Ted Anderson stood beside the generator. He looked thinner and paler than ever. The metamathematician's acne stood out plainly and I remembered Pearl's remark that he didn't know if he should call Ted a Whitehead or a Blackhead.

Ted smiled, and went into topological convulsions. I looked away, and presently he came back in to shape. "Hard getting used to real space again," he whispered.



"I haven't got long," he said, as that was how he'd planned to start, "so here it is. You know I was working on Ephraim's theories, looking for a flaw. You know the popular explanations of mathenautics. Brill's hypnotherapy and Ephraim's math allow the consciousness to become aware of the abstract structure it put on the universe."

I winced, and he smiled painfully at me. "That's for the kiddies," he said, and I saw that Pearl was standing in the iris of the tube. Johnny was stronger than I'd thought!

"There isn't any flaw," he said. As he did he seemed to grow thin. "Ted, you're rotating," I cautioned.

He steadied, and continued.

"There's no flaw. But the theory is wrong. It's backwards. *This is the real universe,*" he said, and gestured.

Beyond the lab topological space remained as always, a blank, the color of the back of your head through your own eyes.

"Now listen to me, Goldy and Johnny and Kidder. What is the nature of intelligence? I guess it's the power to abstract, to conceptualize. I don't know what to say beyond that — and I doubt if I ever will. I don't know what it is. But I know where it came from! Here! In the math spaces — they're alive with thought, flashing with mind!

"When the twiddles circuits failed I cracked. I fell apart, lost faith in it all. For I had just found what I thought was a basic error in theory. I died, I vanished . . .

"But I didn't. I'm a metamathematician. An operational philosopher, you might say. I may have gone

mad — but I think I passed a threshold of knowledge. I understand . . .

“People think that math and science people are cranks — fellows that can only get passionate about a differential equation, like that Seidmann fellow. But it isn’t like that at all. Math and science are beautiful and mysterious arts. The theory of infinity —

“They’re out there. The things we thought we’d invented ourselves. The concepts and the notions and the pure structures — if you could see them . . .”

He looked around the room, desperately. Pearl was rigid against the iris of the tube. Goldy looked at Ted for a moment, then his head darted from side to side. His hands whitened on the controls . . .

“Jimmy,” Ted said.

I didn’t know. I moved towards him, across the lab to the edge of topological space, and beyond the psychic ecology . . .

“**N**o time, no space, no matter. “But how can I say it? How many people can stay awake over a book of modern algebra, and how many of those can understand?”

— I saw a set bubbling and whirling, then take purpose and structure to itself and become a group, generate a second unity element, mount itself and become a group, generate a second unity element, mount itself and become a field, ringed by rings. Near it, a mature field, shot through with ideals, threw off a splitting field in a passion of growth, and became complex.

— I saw the life of the matrices;

the young ones sporting, adding and multiplying by a constant, the mature ones mating by composition: male and female make male, female and male make female — sex through anticommutivity! I saw them grow old, meeting false identities and losing rows and columns into nullity.

— I saw a race of vectors, losing their universe to a newer race of tensors that conquered and humbled them.

— I watched the tyranny of the Well Ordering Principle, as a free set was lashed and whipped into structure. I saw a partially ordered set, free and happy, broken before the Axioms of Zermelo.

— I saw the point sets, with their clicks and clubs, infinite numbers of sycophants clustering round a Bolzano — Weirstrass aristocrat — the great compact medieval coverings of infinity with denumerable shires — the conflicts as closed sets created open ones, and the other way round.

— I saw the rigid castes of a society of transformations, orthogonal royalty, inner product gentry, degenerates — where intercomposition set the caste of the lower on the product.

— I saw the proud old cyclic groups, father and son and grandson, generating the generations, rebel and blacksheep and hero, following each other endlessly. Close by were the permutation groups, frolicking in a way that seemed like the way you sometimes repeat a sentence endlessly, stressing a different word each time.

There was much I saw that I did not understand, for mathematics is a deep, and even a mathenaut must choose his wedge of specialty. But that world of abstractions flamed with a beauty and meaning that chilled the works and worlds of men, so I wept in futility.

Presently we found ourselves back in the lab. I sat beside Ted Anderson and leaned on him, and I did not speak for fear my voice would break . . .

Anderson talked to Johnny and Ed.

"There was a — a race, here, that grew prideful. It knew the Riemann space, and the vector space, the algebras and the topologies, and yet it was unfulfilled. In some way — oddly like this craft," he murmured, gesturing — "they wove the worlds together, creating the real universe you knew in your youth.

"Yet still it was unsatisfied. Somehow the race yearned so for newness that it surpassed itself, conceiving matter and energy and entropy and creating them.

"And there were laws and properties for these: inertia, speed, potential, quantumization. Perhaps life was an accident. It was not noticed for a long time, and proceeded apace. For the proud race had come to know itself, and saw that the new concepts were . . . flawed." Anderson smiled faintly, and turned to Ed.

"Goldy, remember when we had Berkowitz for algebra," he asked. "Remember what he said the first day?"

Goldwasser smiled. "Any math majors?"

"Hmm, that's good.

"Any physics majors?"

"Physics majors! You guys are just super engineers!"

"Any chemistry majors?"

"Chemistry major! You'd be better off as a cook!"

Ted finished, "And so on, down to the, ahem, baloney majors."

"He was number happy," said Ed, smiling.

"No. He was right, in a way," Ted continued. "The race had found its new notions were crudities, simple copies of algebras and geometries past. What it thought was vigor was really sloth and decay.

"It knew how to add and multiply, but it had forgotten what a field was, and what commutivity was. If entropy and time wreaked harm on matter, they did worse by this race. It wasn't interested in expeditions though the fiber bundles; rather it wanted to count apples.

"There was conflict and argument, but it was too late to turn back. The race had already degenerated too far to turn back. Then life was discovered.

"The majority of the race took matter for a bride. It's esthetic and creative powers ruined, it wallowed in passion and pain. Only remnants of reason remained.

"For the rest, return to abstraction was impossible. Time, entropy, had robbed them of their knowledge, their heritage. Yet they still hoped and expended themselves to leave, well, call it a 'seed' of sorts."

"Mathematics?" cried Pearl.

"It explains some things," mused Goldwasser softly. "Why abstract mathematics, developed in the mind, turns out fifty years or a century later to accurately describe the physical universe. Tensor calculus and relativity, for example. If you look at it this way, the math was there first."

"Yes, yes, yes. Mathematicians talked about their subject as an art form. One system is more 'elegant' than another if its logical structure is more austere. But Occam's Razor, the law of simplest hypothesis, isn't logical.

"Many of the great mathematicians did their greatest work as children and youths before they were dissipated by the sensual world. In a trivial sense, scientist and mathematicians most of all are described as 'unworldly'..."

Anderson bobbed his head in the old familiar way. "You have almost returned," he said quietly. "This ship is really a heuristic device, an aid to perception. You are on the threshold. You have come all the way back."

The metamathematician took his notebook, and seemed to set all his will upon it. "See Ephriam gets this," he murmured. "He, you, I... the oneness —"

Abruptly he disappeared. The notebook fell to the floor.

I took it up. Neither Ed nor Johnny Pearl met my eyes. We may have sat and stood there for several hours, numbed, silent. Presently the two began setting up the isomorpho-mechanism for realization. I joined them.

The National Mathenautics and Hyperspace Administration had jurisdiction over civilian flights then, even as it does today. Ted was pretty important it seemed. Our preliminary debriefing won us a maximum security session with their research chief.

Perhaps, as I'd thought passionately for an instant, I'd have done better to smash the immy, rupture the psychic ecology, let the eggshell be shattered at last. But that's not the way of it. For all of our progress, some rules of scientific investigation don't change. Our first duty was to report back. Better heads than ours would decide what to do next.

They did. Ephraim Cohen didn't say anything after he heard us out and looked at Ted's notebook. Old Ice Cream sat there, a big teddy-bear-shaped genius with thick black hair and a dumb smile, and grinned at us. It was in Institute code.

The B.C.N.Y. kids hadn't seen anything, of course. So nobody talked.

Johnny Pearl married a girl named Judy Shatz and they had fifteen kids. I guess that showed Johnny's views on the matter of matter.

Ed Goldwasser got religion. Zen-Judaism is pretty orthodox these days, yet somehow he found it suited him. But he didn't forget what had happened back out in space. His book, *The Cosmic Mind*, came out last month, and it's a good summation of Ted's ideas, with a minimum

of spiritual overtones.

Myself. Well, a mathematician, especially a topologist, is useless after thirty, the way progress is going along these days. But *Dim-Dustries* is a commercial enterprise, and I guess I'm good for twenty years more as a business man.

Goldwasser's Grahm - Schmidt generator worked, but that was just the beginning. Dimensional extension's made Earth a paradise, with housing hidden in the probabilities and automated industries tucked away in the dimensions.

The biggest boon was something no one anticipated. A space of infinite dimensions solves all the basic problems of modern computer circuit design. Now all components can be linked with short electron paths, no matter how big and complex the device.

There have been any number of other benefits. The space hospitals, for example, where topological sur-

gery can cure the most terrible wounds — and topological psychiatry the most baffling syndromes. (Four years of math is required for pre-meds these days.) Pata-psychology and pata-sociology finally made some progress, so that political and economic woes have declined — thanks too to the spaces, which have drained off a good deal of poor Earth's over-population. There are even spaces resorts, or so I'm told — I don't get away much.

I've struck it lucky. Fantastically so.

The Private Enterprise Acts had just been passed, you'll recall, and I had decided I didn't want to go spacing again. With the training required for the subject, I guess I was the only qualified man who had a peddler's pack too. Jaffee, one of my friends down at Securities and Exchange, went so far as to say that *Dim-Dustries* was a hyperspherical trust (math is required for pre-laws too.) But I placated him and I got some of my mathemateers to realign the Street on a moebius strip, so he had to side with me.

Me, I'll stick to the Earth. The "real" planet is a garden spot now, and the girls are very lovely.

Ted Anderson was recorded lost in topological space. He wasn't the first, and he was far from the last. Twiddles circuits have burned out, Naught-Am-Revs have gone mad, and no doubt there have been some believers who have sought out the Great Race.

Ted, I did what I thought was best . . .

END

CONTROL OTHERS WITH YOUR MIND!

Master ANYONE with the POWER that is hidden in your MIND! Your PSYCHIC THOUGHTS can influence the mind and actions of others . . . can persuade them to DO and THINK as you wish! Complete Course on Psycho Dominance shows you in easy-to-understand language how to WIN PHYSICAL and MENTAL MASTERY over others through Dynamic Telepathy and Thought Control. Make others obey you and the world is wide open to you! Send for complete Course NOW - rushed to you by return mail in plain package. For ADULTS only. You must be thrilled - or money back. Send only \$3.00 to

THE RIGHT OF WAY CO.
1107 Kouba Drive
Yukon, Okla. 73099

OLD TESTAMENT

BY JEROME BIXBY

Spacemen don't interfere with primitive worlds. Of course, one little act can't matter —

It was about the size of a grapefruit, and about the color of one. From its top sprouted a cluster of thin, ribbonish tentacles—translucent, filled with shifting shades of violet and chartreuse, far tougher than they looked. Four ped-
al extremities, oddly like thumbs with long claws, stuck out from the bottom. It had two flat, pink eyes, set very close together.

It squealed as Ray Caradac carried it at arm's length into the control room of the *Manta*.

"Look what we have here," he said grimly.

Mary Caradac—small, brunette, snapping-eyed, the other half of Extraterrestrial Exploration Team 2-861—looked up from the bitchboard, where she had been dialing their course away from Sirius IV.

"What on *Earth*—" she gasped.

"On *Sirius*," Ray corrected. "On good old Sirius IV, which we seem not to have escaped quite as completely as we thought we had."

"A baby Sirian!"

"That's my guess, from the glimpses we got of the natives."

Mary stood up, spilling *Benton's Astrocharts* from her lap, and reach-

ed for the creature. Ray relinquished it, looking disgusted. While Mary cradled it in both hands, he moved three steps across the narrow, instrument-cluttered control room to snap on the rear screen. He focused the screen with one hand, rubbed his home-made crew-cut with the other.

Behind him, the Sirian infant squealed, a sound like a viola harmonic. "Where'd you find it?" Mary asked.

"Under my bed, of all places. I went to shove my suit-boots under it and change into sneakers, and the critter let out a squeal and damned near scared me out through the side of the ship."

"What was it doing *there*?"

"Ask *it*." Ray stared glumly out at the dull green globe of Sirius IV, already thirty thousand miles away and retreating at ninety m.p.s. "Maybe it wanted to see the Universe, or just get the hell off its planet. I can understand that, after two *hours* on the godforsaken ice ball."

"It probably likes minus thirty just fine. It's probably roasting right now, poor thing."

Ray turned from the gazer. Mary was cuddling the Sirian infant to her breast and fanning it with one hand.

"Look out," he said dryly. "It might bite."

"So do human babies. Besides, it hasn't got any teeth."

Ray looked at the tiny pink mouth, opening and closing horizontantly under the eyes like sliding doors. He'd

seen enough cockeyed life-forms not to shudder.

"Why, look, it *couldn't* have wandered in," Mary said, twiddling one of the stubby legs. She set it on the chart file, where it immediately went *plop* on its rounded bottom, legs sticking out like a newborn kitten's. "It can't even stand up." She flashed a hand in front of the pink eyes, and filmy eyelids blinked. The tentacles waved. "I'm no judge of Sirian age, but I'll bet it's darned young."

She looked wise and extended a finger and two tentacles curled around it, tugging it gently toward the mouth.

"Uh, uh," she said. "Not a nipple, son. There, Ray—you see?" She picked it up again. Another squeal.

"I wasn't arguing," he said absently. Then, plaintively: "Just what the devil are we supposed to do with a Sirian infant? And how did it get here, if it can't walk under its own steam?"

"Under someone else's, obviously," Mary said practically. Then she paused and cocked her head. Her eyes widened. "Good *God!* I wonder . . . come on Ray, let's go look where you found it. I have a perfectly wonderfully preposterous hunch!"

They went single-file down the narrow corridor that led to sleeping quarters, Mary carrying the infant. There she waited for Ray to open the door—as she would have done even if she hadn't had her hands full. The Caradacs had decided long ago that such little niceties should be

carefully and lovingly observed aboard the *Manta*, ten billion miles from nowhere. Things like love and sex can get awfully pedestrian in a sixty-foot spacer, if you don't care for them right.

Inside, Mary put the Sirian on Joe's bed and said, "Hold it there."

Ray sat down beside the creature and put one hand on its back—the surface 180° from eyes and mouth—and pressed gingerly. *Squeal*.

"I wonder what it eats," he said sourly.

Mary was head and shoulders under the bed. She said, "Ah, hah!" and emerged with a handful of dried, crinkly-looking leaves. They smelled faintly like cinnamon. The Sirian's tentacles went *zing!* and it squealed an octave above any previous effort.

"Feed it," Mary said, going under the bed again.

Ray put a pinch of the leaves on the blanket, and released the creature, keeping one hand poised to see that it didn't roll off the bed. It dug the claws of its front feet into the blanket, hiked itself toward the leaves, opened its mouth and crunch-ed away. Ray watched, eyes a little glazed. "What—?"

Mary's head appeared again. In one hand she held more dried leaves; in the other a crude basket about a foot square, high sided, woven of some broad, reddish fiber.

She squatted there, holding the basket, and looked at Ray.

It took Ray about six seconds to get it. He looked down at the creature, happily chewing leaves, up again at Mary's face. His jaw dropped. She was beginning to grin.

Ray clapped a hand unbelievably to the side of his head, so hard his ears rang. "God in Heaven," he said. "A *foundling!*"

"Basket and all," Mary said. "Only the pathetic note from the mother is lacking."

"Oh, no, it's crazy!"
"Crazy or not, it's here." Mary touched a hand to the tentacles, and there was a squeal—a happy-sounding squeal.

"But why?" Ray gasped. "Why should a Sirian mother—dressed in a threadbare Sirian shawl, no doubt—abandon her baby in our ship?"

"Why do mothers in threadbare shawls usually abandon babies?"

"M'm. Because they can't support them. Or because they're illegitimate, or something."

"In this case it's probably just something. I don't think it could be a matter of supporting it. A B-4 culture's too darned primitive for that. They live right off the soil. This stuff—" Mary pinched a handful of leaves she'd put on the blanket—"was everywhere we walked. As for legitimacy, that's never an issue in the pre-M series—"

"Tut," said Ray, academically aroused. "You're assuming, honey. You need ten decimals after B-4, or anything else to really classify. Forbidden fruits all over the place. Besides, maybe our little friend here isn't a waif at all. Maybe we were taken for gods, and it's a sacrifice."

"In a basket? Brought right into this big old terrifying ship?"

"Oh, hell, I don't know. Motive X, for alien. That B-4 status drove

us off the planet so fast . . . Scram! hands off! clear out! don't influence! and all the rest of Article 12, Section 9, paragraphs 3, 4, 7 and 16 of the Extraterrestrial Explor—"

"Not a nipple," Mary said, disengaging her finger again. "You know, Ray, I think it's thirsty."

Ray glowered at the creature. "I wonder what it drinks?"

"Try water—but be careful."

Ray filled a glass of water from the tiny basin in the corner and held it close to the verticle pink mouth. The mouth wrinkled. The little Sirian scabbled backward and pressed into the pillow.

"So water's out," Ray grunted. He put the glass on the low table between the beds knocking over two pawns and the black queen. "So now what? My God, didn't whoever or whatever left the critter here have sense enough to realize that handful of leaves wouldn't last forever? That we might not have whatever they drink for water?"

"Of course not," Mary said placidly. "Now who's assuming? What can you expect of a B-4 . . . a cosmoiology? Food and water, or their equivalent, have always been around: therefore food and water are everywhere. A B-4 couldn't have the slightest idea of what this ship is, or what we are, or where we're from or going and how and why—"

"Then why was the food left?"

"Maybe to keep our friend happy until we found it. Oh, I don't know either! I'm just as puzzled as you are. But I do know what we've got to do now."

"What?"

"Take it back. It'll die if we don't."

Ray sat down on the other bed and glared at the two who sat on his Mary and the Sirian infant, which had ceased eating and was now cleaning the waxy skin around its mouth with a tentacle.

"Sure," he said. "Take it back. Violate every damned rule in the book. Take a chance on Influencing, by letting them see us again. One time is bad enough—but the B series have short memories. Most of it gets corrupted by legend, and after a couple of centuries the legends are obliterated by more recent events and interpretations. But a *second* time? That's the time that clicks."

"We have to, anyway. Maybe you're wrong. Maybe it isn't a B—"

"Honey, I studied forty years not to be wrong. I can look at three artifacts, two flora, the dials on my spy-eye, and write a history."

Mary looked stubborn. "We take it back. This isn't in the books."

"Maybe they'll tear it to pieces if we do," Ray argued. "Maybe it's a freak—a sport. Maybe that's why it landed up with us. We might be killing it."

"Well we'll *certainly* be killing it if we don't, so you get right on up to the board and get us back to that planet. Look how thirsty it is . . . hey, *not* a nipple, damn it!"

The infant squealed, eyeing the finger.

"Nobody'll ever know, Ray. We can't let the poor thing die."

Ray sighed and raised his brows.

Then he lowered one and winked at her. "What do I get?"

"A lot of nothing if you don't."
Mary grinned at his back.

My mate dead. She die having little one. I sorry. She best mate. But I sorrier for little one. Soon they kill him. Why kill little ones when mother die having them? Priest say because they kill mother and now no mother to drink from. So they die anyway. But they *not* kill mother. That what I think. Not their fault. And *other* mothers with dead *little ones*. No little ones to drink *them*. Why not . . . why not . . . do for each other? But priest say no. He say they bad. Must die because kill mother. He say *he* must drink from mothers with dead little ones to keep magic power. He get fat. This go on for long long time. Many thousand suns. But I wonder if he *really* have magic power or just want to stay fat. Soon priest come to take little one away and kill him. I sorry. Then I think of shiny thing that come down by village out of sky. Everybody afraid. Priest tell us to stay away. Tell us gods angry. Tell us to stay in huts. Things come out of shiny thing. Tall and different. They walk through village. Everybody afraid. I afraid too. But they don't hurt. Don't kill. Don't break huts and eat like animals. I more sorry for little one than afraid. I *no* let priest kill him. While tall different things walk in village I go out with little one. Nobody see. Everybody afraid to look out. I take little one to shiny thing. Cave in side. I afraid but nothing

happen. I take little one into cave and hide him. Leave food so he not cry and priest hear. I think maybe tall different things kill him when find him. But they no hurt when walk in village. And priest take long long time to kill little one if find him. So I hope tall different things treat little one good. I go back to village. Tall different things coming. I hide. They pass. I go into village. Everybody coming out. We see shiny thing go into sky. Everybody afraid. Priest most afraid. He say tall different things bad gods. They angry. Must sacrifice. He want little one to sacrifice. I afraid. I make up story. I say tall different things *good* gods. I say they take little one away to village in sky because killing little ones *wrong*. They come to *save* him. Priest say I lie. I say he lie. I say good gods kill *him* if he kill *more* little ones when mothers die. Everybody listen. They say tall different ones didn't hurt. Didn't kill. Maybe I *right*. Maybe tall different ones *really* good gods. Priest say *not* true. *He* make up story. He say bad gods come because he call them to come take little one away and eat him. He say he *call* gods to take little one! But I know he *lie* because they *no* take. I *put* little one in shiny thing. *But I don't say or they kill kill me for lying*. I stick to *story*. I tell everybody tall different *ones* good gods. Come to save little one. Priest say they bad gods. Come to take little one and eat him. Come to take *us* and eat *us* if we not believe priest. Everybody say *wait for sign*. Priest say kill me but everybody say *wait*. Lots of fathers like me.

They don't like priest killing little ones for long time. But they're afraid. Priest says it's right. He says gods tell him so. We wonder. Maybe priest just wants to be priest. Everybody's afraid of priest. Give him the best food and the best mates. We wait. I cry that night.

The airlock hissed. Ray Caradac came in, wearing his spacesuit against Sirius IV's icy cold, but not the helmet—the planet was breathable.

Mary was waiting. "I saw you coming through the gazer. How'd it go?"

Ray grinned sourly as he zipped down the chest of his suit. Frost

chipped off the metallic cloth. "I didn't leave it out in the brush as I'd planned. Afraid an animal would get it. I waited until dark and then went to the village. They pull in their sidewalks early—not a soul stirring. I snuck in quiet as I could, and right in the middle of it the damned critter started squealing its fool head off. Familiar smells or something, I suppose. So I just set it down and walked dignifiedly out of the place. Don't know whether anybody saw me, but I suspect they did. Damn—after all the trouble we went to landing way out here. I looked back at the edge of the brush, and there was a crowd around the kid." He stepped out of the suit and turned to rack it by the airlock, wearing only the standard padded diaper affair. "Funny thing . . . I thought I saw a light flashing. A white light. But, hell, that's impossible—unless they have wood that burns white on this clod. Maybe I was seeing things."

"Well, I certainly hope it's all right," Mary said. "Shame if they did kill it, poor little thing."

Ray stood a moment at the gazer, looking out at the moons-lit brush. "I hope so too, honey. Well—" he turned to the board—"let's get out of here, and fast! Before Article 12, Section 9 fights its way right out of the book and jumps down our throats." He paused as the A. G. unit caught, hummed loudly, then softly and steadily as they rose from Sirius IV. "I wonder if it will affect them?"

It wasn't until next planetfall, eight months later, that Ray noticed

TO BUILD A WORLD

*They strove to make a
new Eden of the Moon!*

Complete Short Novel
by Paul Anderson

AN ANCIENT MADNESS

by Damon Knight

THE MANY DOOMS

by Harry Harrison

THE KING OF THE BEASTS

by Philip Jose Farmer

All in the June GALAXY —
on sale now!

that his pencil-flash was missing from his spacesuit breast-pocket.

He asked Mary about it and Mary thought startledly; "Not a nipple!" and said not believing it, "Oh, it'll turn up, one place or another."

Next darkness we hear noise. We see tall different one go away. The good gods bring my little one back! Priest come out. Everybody say you *wrong*. You *lie*. Gods *not* eat little one!

Priest afraid. He say they *bad* gods. Bring little one back for sacrifice. They *good* gods. Little one has cold fire in hand. He throw cold fire at priest. This a new strange thing. *God* thing. It is a sign! We kill priest. Take him out for the animals to eat. I happy. Everybody like little one. He friend of good gods. Other mothers take care of him. Let him drink. Let other little ones drink. Do for each other, I happy because good gods bring him back

to His people, and the First Night did ring with rejoicing; for He had returned from the Land Beyond the Sky and He said unto those who waited They are Good Gods, and I am Their Messenger, and lo! They have given to me a fragment of the Sun that I may shed light over darkness and open your eyes to good and gentle ways. And the false Priests said unto Him, Prove that you speak Truth; and in wrath He smote the Priests with the great light He carried, and lo! the false Priests were unmasked, and fled into the wilder-

ness where they were devoured by wild beasts. Then the people cried, Welcome, and bade Him lead them; and He said, Care for me, my Children, until I am able. So He was anointed, and fed, and in two suns had grown to manhood; and then He led His People from the valley and taught them to love . . .

"Always," mused the young Galac Federation student. "Always they come to fill a need. But where do they come from? What really are their acts? Where do they go?" He closed the Sirian Bible and put it aside, and picked up another.

END

ON MESSENGER MOUNTAIN

One of his companions was human but dead. The other was living—but was it a man?

Complete Short Novel
by Gordon R. Dickson

THE TWERLIK

by Jack Sharkey

WHAT THE DEAD MEN SAY

by Philip K. Dick

THE GREAT DOOMED SHIP

by J. T. McIntosh

All in the June WORLDS
OF TOMORROW — on sale now!

THE SILKIE

BY A. E. VAN VOGT

ILLUSTRATED BY MORROW

***He was no longer human, yet he must
battle on humanity's side against
the deadly creature from the stars!***

I

Nat Cemp, a class C Silkie, awakened in his selective fashion, and perceived with the receptors that had been asleep that he was now quite close to the ship which he had first sensed approaching an hour before.

Momentarily, he softened the otherwise steel-hard chitinous structure of his outer skin, so that the area became sensitive to light waves in the visual spectrum. These he now recorded through a lens arrange-

ment that utilized a portion of the chitin for distance viewing.

There was a sudden pressure in his body as it adjusted to the weakening of the barrier between it and the vacuum of space. He experienced the peculiar sensation of the stored oxygen in the chitin being used up at an excessive rate—vision was always extremely demanding of oxygen. And then, having taken a series of visual measurements, he hardened the chitin again. Instantly, oxygen consumption returned to normal.

What he had seen with his telescopic vision system upset him. It was a V ship.

Now the V's, as Cemp knew, did not normally attack a full-grown Silkie. But there had been reports recently of unusual V activity. Several Silkies had been psychologically harassed. This group might conceivably discover where he was heading and use all their energy to prevent him.

Even as he pondered whether to avoid them or to board them — as Silkies often did — he sensed that the ship was shifting its course ever so slightly in his direction. The decision was made for him. The V's wanted contact.

In terms of space orientation, the ship was neither up nor down in relation to him. But he sensed the ship's own artificial gravity and adopted it as a frame of reference. By that standard its approach was somewhat below him.

As Cemp watched it with upper range perception that registered in his brain like very sharp radar blips, the ship slowed, made a wide turn and presently was moving in the same direction as he but at a slightly slower speed. If he kept going as he was, he would catch up with it in a few minutes.

Cemp did not veer away. In the blackness of space ahead and below, the V ship grew large. He had measured it as being about a mile wide, half a mile thick and three miles in length.

Having no breathing apparatus, obtaining his oxygen as he did en-

tirely by electrolytic interchange, Cemp could not sigh. But he felt an equivalent resignation, a sadness at the bad luck that had brought him into contact with such a large group of V's at so inopportune a time.

As he came level with it, the ship lifted gently until it was only yards away. In the darkness on the deck below, Cemp saw that several dozen V's were waiting for him. Like himself, they wore no spacesuits, for they were for the time being completely adjusted to the vacuum of space. In the near background, Cemp could see a lock that led into the interior of the ship. The outer chamber was open. Through its transparent wall he sensed the water that was inside.

A basic longing in Cemp twinged with anticipatory pleasure. He reacted with a startled shudder, then thought in dismay: "Am I that close to the change?"

Cemp, in the Silkie stage entirely a creature of space, settled awkwardly on the deck. The special bone structures that had once been legs were sensitive to molecular activity within solid masses; and so it was through energy interchanges within the bone itself that he felt himself touch the metal.

In a sense, then, he stood there. But he balanced himself with energy flows, and not by any muscular contractions and expansions. There were no muscles. And it was with magnetic force that he attached himself to the deck, and with internal control that he moved, one after the other, the virtually solid blocks of highly differentiated bone.

He walked forward like a two-legged being, feeling the stretch of the elasticized bone of his legs. Walking was an intricate procedure for him. It meant softening the tough bone each time, then rehardening. Although he had learned long ago how to walk, still he was slow. He who could streak through space at 50 G's acceleration walked on the deck of the V liner at a mile an hour, and was happy that he could show a semblance of movement in such an environment.

He walked to where the V's stood, pausing a few feet from the nearest chunky figure.

At first look, a V seemed to be a slightly smaller Silkie, but Cemp knew that these bitter creatures were Variants. V for Variant. It was always difficult to determine which type of V one was looking at. The differences were internal and not readily detectable.

And so he had his first purpose: to establish the identity of the V's on this ship.

He utilized that function in his brain which, before it was understood had been labeled telepathy, to communicate his message. There was a pause, and then a V—who stood well back in the group—replied with the same communication method:

"We have a reason, sir, for not identifying ourselves. And so we ask you to please bear with us until you understand our problems."

"Secrecy is illegal," Cemp replied curtly.

The answer was surprisingly free

of the usual V hostility. "We are not trying to be difficult," the V said. "My name is Ralden, and we want you to see something."

"What?"

"A boy, now nine years old. He's the V child of a Silkie and a breather, and he recently showed extreme variant qualities. We want permission to destroy him."

"Oh!" said Cemp.

He was instantly disturbed. He had a fleeting awareness that his son, from his own first mating period, would now be nine.

Relationship, of course, didn't matter. Silkies never saw their children. His training required him to put all Silkie offspring on the same footing. But it was one of the nightmares of the uneasy peace that reigned among the ordinary humans, the Special People, and the two surviving classes of Silkies, that a high-ability V would show up some day in the unstable world of Variants.

The fear had proved unfounded. From time to time, Silkies who boarded the V ships learned that some promising boy had been executed by the V's themselves. Far from welcoming a superior child, the V's seemed to fear that if allowed to become full-grown he would be a natural leader, and would threaten their freedom.

The extermination of promising boys now required the permission of a Silkie, which explained the secrecy. If they didn't obtain permission, they might still kill the youngster, trusting that the murder shin would never be identified.



BRIAN KOPPELMAN

"Is that the reason?" Cemp demanded.

It was.

Cemp hesitated. He sensed within himself all that remarkable complex of sensations that meant that he was about to change. This was no time for him to spend a day or so aboard a V ship.

Yet if he didn't stay, it would be tantamount to granting permission for the execution, sight unseen. And that, he realized, could not be permitted.

"You have done well," he communicated gravely. "I shall come aboard."

The entire group of V's moved along with him to the lock, huddling together as the great steel door rolled shut behind them, closing them away from the vacuum of space. The water came in silently. Cemp could see it exploding into gas as it poured into the utter emptiness in the lock, but presently, as the narrow space filled up, it began to hold its liquor form, and it roiled and rushed around everybody's lower extremities.

The feel of it was exquisitely pleasurable. Cemp's bones kept softening automatically, and he had to fight to hold them hard. But when the water closed over the upper part of his body, Cemp let the living barrier that made up his outer skin grow soft. Because the feel of the water excited him, now that the change was so near, he had to exercise a conscious restraint. He wanted to suck the warm delightful liquid with visible enjoyment through

the gills that were now being exposed. But it seemed to him that such a display of exuberance might give away his condition to the more experienced V's.

Around him, the V's were going through the transformation from their space forms to their normal gill state. The inner lock opened, and the entire group swam through with a casual ease. Behind them, the inner lock door slid shut — and they were inside the ship itself, or rather in the first of the many big tanks that made up the interior.

Cemp, using his vision now, looked around for identifying objects. But it was the usual dim watery world with transplanted sea life. Sea weeds swayed in the strong currents that — Cemp knew — were kept in motion by a powerful pumping system. He could feel the surge of the water at each impulse from the pumps. As always, he began to brace himself for that surge, accepting it, letting it become one of the rhythms of his life.

II

Cemp had no problems in this environment. Water was a natural element for him, and in the transformation from Silkie to human fish he had lost only a few of his Silkie abilities. All that Silkie inner world of innumerable sensations remained. There were nerve centers which, both separately and in combination, tuned in on different energy flows. In early days, they would have been called senses. But instead of the five to which, for so

many centuries, human beings had limited their awareness, the Silkie could record 184 different kinds of sense-impressions over a wide range of intensity.

The amount was on immense amount of internal "noise". Incessantly stimulation poured in upon him. From his earliest days, control of what his sense receptors recorded had been the principal objective of his training and education.

The water flowed rhythmically through his gills. Cemp swam with the others through a watery fairyland. It was a warm, tropical sea. As he looked ahead, he saw that the water universe was changing because of their approach. The coral was a new, creamier color. Ten thousand sea worms had withdrawn their bright heads into their tiny holes. Presently, as the group passed, they began to come out again. The coral turned orange, then purple and orange, then other shades of colors and combinations. It was one tiny segment of the submarine landscape.

A dozen fishes in blues and greens and purples darted up the canyon. Their wild beauty was appealing. They were an old life form, Nature-evolved, untouched by the magic of scientific knowledge that had finally solved so many of the mysteries of life. Cemp reached with webbed fingers for a fish that darted close to him. It whirled away in a flurry of momentarily whitened waters. Cemp grinned happily, and the warm water washed into his open mouth — so far had he softened.

He was already smaller. There had been a natural shrinkage from the tense, bony Silkie body. The new-forming muscles were contracted. The now-internalized bone structure was down to a length of seven feet from a space-maximum of ten.

Of the thirty-nine V's who had come out to help persuade Cemp to board the ship, thirty-one — he learned by inquiry — were among the common variant types. The easiest state for them to be in was the fish condition in which they lived. They could be humans for brief periods, and they could be Silkies for periods that varied with these particular persons from a few hours to a week or so. All thirty-one had some control of energy in limited amounts.

Of the remaining eight, three were capable of controlling very considerable energy, one could put up barriers to energy, and four could be breathers for extended periods of time.

They were all intelligent beings, as such things were judged. But Cemp, who could detect on one or the other of his numerous receptor systems subtle body odors and temperatures in water and out, and read meaning into the set of bone and muscle, sensed from each of them a strong emotional mixture of discontent, anger, petulance and something even more intense: hatred. As he nearly always did with V's, Cemp swam close to the nearest. Then, using a particularly resistant magnetic force line as a carrier — it held its message undistorted for a

few feet only — he superimposed the question:

“What’s your secret?”

The V was momentarily startled. The reflex that was triggered into picking up the message was so on the ready that it put the answer onto a similar force line which, at that instant of time, was passing through its head in Cemp’s direction.

And Cemp had the secret.

Cemp grinned at the effectiveness that he could now force a conversation. He communicated: “No one threatens V’s individually or collectively. So why do you hate?”

“I feel threatened!” was the sullen reply.

“Since I know you have a wife — from your secret — do you also have children?”

“Yes.”

“Work?”

“Yes.”

“News, drama. TV? . . .”

“Yes.”

“Sport?”

“I watch it. I don’t participate.”

They were passing through an underwater jungle. Huge, waving fronds, coral piled high, an octopus peering at them from the shadows of a cave, an eel hissing and then darting away and fish by the dozen — it was still the wild part of the ship, where the tropical conditions of an earth ocean were duplicated. To Cemp, who had been nearly a month in space without a break, merely swimming here seemed like great sport indeed.

But all he said was, “Well, friend,

that’s all there is for anyone. A quiet enjoyable existence is the most that life has to offer. If you’re envying me my police duties, don’t! I’m inured to it, but I only have a mating period every nine and a half years. Would you care for that?”

The implication in his statement, that Silkies could only have sex at intervals of nine years or so, was not true. But it was a myth that Silkies and their closest human allies, the Special People, had found it worthwhile to foster. Normal human beings particularly seemed to find great satisfaction in what they conceived to be a major defect in the otherwise enviable Silkie.

After Cemp completed his reassuring communication, the dark emotion that had been radiating from the V took on added hostility. “You’re treating me like a child,” he said in a grim manner. “I know something of the logic of levels. So don’t give me any of these sophistries.”

“It’s still mostly speculation,” Cemp answered gently. He added, “Don’t worry, I won’t tell your wife that you’re unfaithful to her.”

“Damn you!” said the V, and swam off.

Cemp turned to another of his companions and had a very similar discussion with him. This one’s secret was that he had twice in the past year fallen asleep while on duty at one of the locks connecting the big ship with outer space.

The third person to whom Cemp addressed himself was a female. Her secret, surprisingly,

was that she thought herself insane. As soon as she realized that her thought had come through to him, the substance of her communication became hysterical.

She was a graceful being, one of the breathers — but completely unnerfed now. "Don't tell them!" she telepathed in terror. "They'll kill me."

Before Cemp could more than consider what an unexpected ally he had found for himself, let alone decide what made her feel she was insane, the female communicated frantically: "They're going to lure you into one of the shark tanks —" Her almost human face contorted, as she realized what she had revealed.

Cemp asked quickly, "What is their overall purpose?"

"I don't know. But it's not what they said... oh, please?" She was thrashing in the water now, physically disorganized. In a moment it would look odd.

Cemp said hastily, "Don't worry — I'll help you. You have my word."

Her name, he discovered, was Mensa. She said she was very beautiful in her breather form.

Cemp had already decided that since she might be useful, he would have to let himself be drawn into the shark tank.

It was not obvious when it happened. One of the V's who was capable of energy output swam up beside him. Simultaneously but casually the others fell back.

"This way," said his guide.

Cemp followed. But it was several

moments before he realized that he and his guide were on one side of a transparent wall, and the rest of the group were on the other.

He looked around for his companion. The V had dived down, and was sliding into a cavern between two rock formations.

Abruptly the water around Cemp was plunged into pitch darkness.

He grew aware that the V's were hovering beyond the transparent walls. Cemp saw movement in the swaying weeds: shadows, shapes, the glint of an eye, and the play of light on a grayish body... Cemp switched to another level of perception, based on shadow pictures... and grew alert for battle.

In his fish stage, Cemp could normally fight like a super-electric eel — except that the discharge was a beam. No contact was required for what he could send forth. The beam had the bright flash of chain lightning, and was strong enough to kill a dozen sea monsters. It was formed outside his body, a confluence of two streams of oppositely charged particles.

But this was not a normal time. The change in him was too imminent. Any fight with a denizen of this sea in space would have to be with levels of logic, not with energy. That he dared not waste.

Even as he made the decision, a shark swam lazily out of the jungle of waving fronds and as lazily, or so it seemed came toward him, turned on its side and, mouth open, teeth showing, slashed at him with its enormous jaws.

Cemp impressed a pattern on an energy wave that was passing through his brain going toward the beast. It was a pattern that stimulated an extremely primitive mechanism in the shark: the mechanism by which pictures were created in the brain.

The shark had no defense against controlled over-stimulation of its picture making ability. In a flash it visualized its teeth closing on its victim, imagined a bloody struggle, followed by a feast. And then, sated, stomach full, it imagined itself swimming back into the shadows, into the underwater forest in this tiny segment of a huge spaceship cruising near Jupiter.

As the overstimulation continued, its pictures ceased to connect with body movements at all. It drifted forward and finally bumped, unnoticed, into a coral embankment. There it hung, dreaming that it was in motion. It was being attacked through a logic related to its structure, a level that by-passed its own gigantic attack equipment.

...Levels of logic. Long ago, now, men had titillated themselves by opening up the older parts of the human brain, where suggested pictures and sounds were as real as actual ones. It was the beast level of logic... not human at all. For an animal like a shark, reality was an on-off phenomenon, a series of mechanical conditionings. Now stimulation. Now not. Movement always, restless motion always—the endless need for more oxygen than was available in any one location

Caught as it was in a suggested world of fantasy, the motionless shark body grew numb from insufficient oxygen, and started to become unconscious. Before it could really do so, Cemp communicated to the watchers: "Do you want me to kill this game fish?"

Silently, the beings beyond the transparent wall indicated where he could escape from the shark tank.

Cemp gave the monster control of itself again. But he knew it would be twenty or more minutes before the shock would wear off.

As he emerged from the shark tank a few minutes later and rejoined the V's, he realized at once that their mood had changed. They were derisive of him. It was a puzzling attitude on their part, for so far as they knew they were completely at his mercy.

Someone in this group must know why. So—

He saw that they were now in a tank of very deep water—the bottom was not visible. Small schools of brightly colored fish skittered by in the green depths, and the water seemed slightly colder, more bracing: still delightful but no longer tropical. Cemp swam over to one of the V's who was capable of putting out energy. As before, he asked: "What's your secret?"

The male V's name was Gell, and his secret was that he had several times used his energy to kill rivals for the favors of certain females. He was instantly terrified that his murders would be found out. But he had no information, except that the administrative officer of the ship, Ri-

ber, had sent them to meet Cemp. The name was important information.

But even more vital was Cemp's disturbing intuition that this task of duty on which he was embarked was much more important than the evidence had so far established. He divined that the shark attack was a test. But for what?

III

A head, suddenly, Cemp could see the city.

The water at this point was crystal clear. Here were none of those millions of impurities that rendered the oceans of earth so often murky. Through that liquid, almost as transparent as glass, the city spread before him.

Domed buildings. Duplicates of the domed undersea cities on earth, where real water pressure made the shape necessary. Here, with artificial gravity only, water was held in by the metal walls and had only what weight the ship's officers elected to give it. Buildings could be any reasonable size, delicately molded and even misshaped. They could be beautiful for their own sake and need not merely have the sometimes severe beauty of utility.

The building to which Cemp was taken was a soaring dome with minarets. He was guided to a lock, where only two of the breathers, Mensa and a male named Grig, stayed with him.

The water level began to drop. Air hissed in. Cemp transformed quickly to his human shape

and stepped out of the airlock into the corridor of a modern, air-conditioned building. They were all three in the nude. The man said to the woman, "Take him to your apartment. Give him the clothes. As soon as I call, bring him to Apartment One upstairs."

Grig was walking off, when Cemp stopped him. "Where did you get that information?" he demanded.

The V hesitated, visibly frightened at being challenged by a Silkie. The expression on his face changed. He seemed to be listening.

Instantly, Cemp activated the waking centers of a portion of the sensory equipment that he had let sleep and waited for a response on one or more. Much as a man who smells a strong odor of sulphur wrinkles his nose, or as someone who touched a red-hot object jerks involuntarily away, he expected a sensation from one of the numerous senses that were now on the ready. He got nothing.

It was true that, in his human state, he was not so sensitive as when he was in the Silkie state. But such a totally negative result was outside his experience.

Grig said, "He says . . . as soon as you're dressed . . . come."

"Who says?"

Grig was surprised. "The boy," he replied. His manner indicated: who else?

As he dried himself, and put on the clothes Mensa handed him, Cemp found himself wondering why she believed herself insane. He asked cautiously, "Why do V's

have a poor opinion of themselves?"

"Because there's something better — Silkies." Her tone was angry, but there were tears of frustration in her eyes. She went on wearily, "I can't explain it, but I've felt shattered since I was a child. Right now, I have an irrational hope that you will want to take me over and possess me. I wish to be your slave."

Half-dressed though she was, her jet black hair still caked and wet, she had told the truth about her appearance. Her olive white skin was formed, her body slim and with graceful curve. As a breather, she was beautiful.

Cemp had no alternative. Within the next hour, he might need what help she could give. He said quietly, "I accept you as my slave."

Her response was violent. In a single convulsion of movement, she ran over to him, writhing out of her upper garments until they draped low on her hips. "Take me!" she him. "Take me as a woman!"

Cemp, who was married to a young woman of the Special People, released himself. "Slaves don't demand," he said in a firm tone. "Slaves are used at the will of their master. And my first demand as your master is: open your mind to me."

The woman drew away from him, trembling. "I can't," she whispered. "The boy forbids it."

Cemp asked: "What in you makes you feel insane?"

She shook her head. "Something ... connected with the boy," she said. "I don't know what."

"Then you're his slave, not mine," said Cemp coldly.

Her eyes begged him. "Free me!" she whispered. "I can't do it myself."

"Where's Apartment One?" Cemp said.

She told him. "You can take the stairway or the elevator," she said.

Cemp went by the stairway. He needed a few minutes, just a few, to determine his course of action. He decided —

See the boy! Determine his fate. Talk to Riber, the administrative officer of the ship. Punish Riber! Order this ship to a check-in point!

These decisions were hardened in his mind as he reached the upper-level and pressed the button beside the door of apartment one.

The door swung open noiselessly. Cemp walked in — and there was the boy.

He was slightly under five feet tall, as fine looking a human child as Cemp had ever seen. The youngster was watching a TV screen set into one wall of the big room. When Cemp entered, the boy turned lazily and said, "I was interested to see what you would do with that shark, in view of your condition."

He knew!

The realization hit Cemp hard. He braced himself and agreed within himself to die; make no bargains to avoid exposure; come to his final decision with even greater care.

The boy said, "You couldn't possibly do anything else."

Cemp was recovering, but curious. He had set up a complete no-signal condition within himself. Yet the boy was reading detailed signals. How was it done?"

Smiling faintly, the boy shook his head.

Cemp said, "If you dare not tell, then it isn't much of a method. I deduce that if I find it out, I can defeat it."

The boy laughed, made a dismissal gesture, changed the subject. "Do you believe I should be killed?"

Cemp looked into those bright, gray eyes that regarded him with a boyish mischievousness, and felt a qualm. He was being played with by someone who regarded himself as untouchable. Question was, was the boy fooling himself, or was it real?

"It's real," said the youngster.

And if it was real—Cemp's analysis continued—were there built in restraining factors such as kept Silkies under control?

The boy said curtly, "That I will not answer."

"Very well." Cemp turned away. "If you persist in that decision, then my judgment is that you are outside the law. No person who cannot be controlled will ever be permitted to live in the solar system. But I'm going to give you a little while to change your mind. My advice: decide to be a law-abiding citizen."

He turned, and left the apartment. And at least one important reality was that he was allowed to do so.

IV

Grig was waiting on the hallway outside. He seemed eager to please. Cemp, who wanted to meet Riber, asked if Riber was a breather. Riber was not; so Cemp and Grig took to the water.

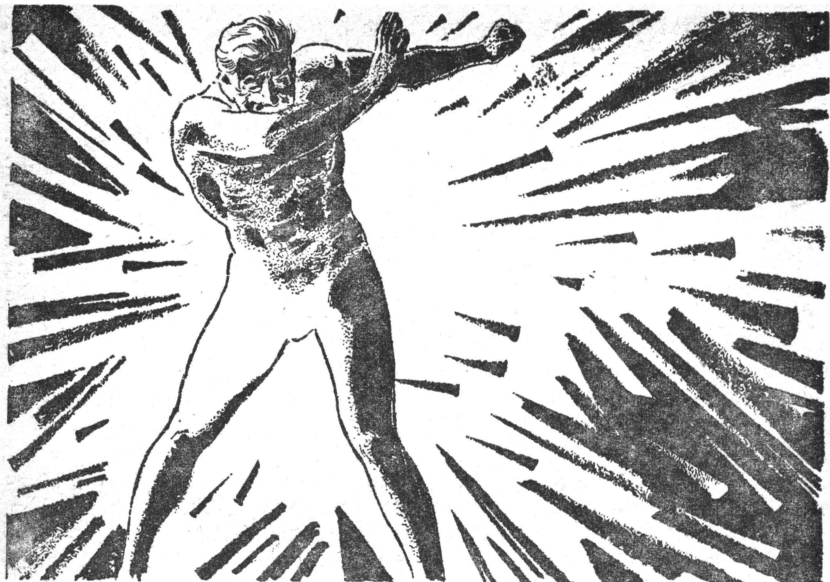
Cemp was guided to an enormous depth, to where several domes were fixed to the inner hull of the ship. There, in a water-filled labyrinth of metal and plastic, he found Riber. The administrative leader of the ship turned out to be a long, strong fish being, with the peculiar, protruding eyes of the fish state. He was floating beside a message receiving machine. In one hand he held the transmitter for the machine. He looked at Cemp and turned the machine on.

He said aloud in the underwater language: "I think our conversation should be recorded. I don't think I can trust a Silkie to make a fair report on this special situation."

Cemp acquiesced without an argument. The interchange began with Riber making what seemed to be a completely frank statement. He said, "This ship and all aboard are controlled by that remarkable boy. He is not always here, and so for the most part we do as we always have. But those people who went out to meet you had no way of resisting his commands. If you can deal with him, then obviously we shall be free again. But if you can't, then we are his servants like it or not."

Cemp said, "There has to be some vulnerable level. Why, for example, do you do as he wants?"

Riber said, "I laughed when he first told me what he wanted. But when I came to, hours later, I realized that I had done everything he desired while I was unconscious. As a result, I now do it consciously. This has been going on for about a year, earth time."



Cemp questioned Riber closely. That he had continued physical functioning when he was under the boy's control indicated that a shut-off of normal outside perception was the principal method of inducing unconsciousness.

Considering that, Cemp remembered the V whose secret was that he had fallen asleep while tending one of the outer locks. At Cemp's request, lock attendants were assembled. He interviewed each one privately with the question: "What's your secret?"

Seven of the twenty revealed, in this unwitting fashion, that they had slept while on duty. It turned out to be that simple. The boy had arrived at the lock entrance, blanked out the mind of the attendant, and entered the ship.

It seemed to Cemp he need examine no further.

There was a frame, logic. The problem, which for a time had seemed to involve some new and intricate kind of telekinetic control, was beginning to look much more mundane.

He returned to the woman's apartment and put on clothes again. Mensa went with him to the door. She whispered, "Don't you dare leave this ship without making love to me. I need to feel that I belong to you."

Basically, that was not so, Cemp knew. She lived by reversals. She would always want what she did not have, despise or reject what she had. But he reassured her that he meant well by her—and went up again to Apartment One.



It seemed to Cemp as he walked in that the boy's face was flushed and that the eyes that had been so bright were duller. Cemp said softly, "If I can figure it out, so can any Silkie. You went to a lot of trouble. Which tells me you do have limitations."

Silkies could approach a vessel, undetected, if they were prepared to manipulate energy waves. But the method was involved, requiring training.

Cemp said, "Well, you know my thoughts. Which one is correct?"

Silence.

"Your problem," said Cemp emphatically, "is that the Special People take no chances with dangerous deviates."

He hoped the boy understood how ultimately determined the Spe-

cial People were.

Abruptly, the boy sighed. "I might as well admit it. I am Tem, your son. When I realized it was you approaching the ship, I thought I'd have a look at my father. The truth is I became frightened that those abilities which you found so unusual would be detected. So I've been out here in space setting up an operating base to which I could retreat for my own protection. But I realize I need help. I think some changes should be made in our relationship with human beings. Other than that, I'm willing to conform and be re-educated."

For Cemp, it was the decisive clarification. Then and there he made up his mind. There would be no execution.

Hastily — for Cemp was a man

in a hurry — they discussed the situation. Cemp would have to tell of this meeting when he got back to Earth. There was no way by which a Silkie could conceal the facts from the perceptive Special People. And for many months, while he was in his mating stage, he would have no control of energy. During that period the boy would be at the mercy of a highly prejudiced law.

Tem was disdainful. "Don't worry about me. I'm ready for them."

It was rebel talk, dangerous and unfortunate. But this was not the moment to point that out. Such matters could be left until they got home.

"You'd better start now," said the boy, "but as you'll see I'll get to Earth before you do."

Cemp did not pause to find out how he would achieve such a miracle of speed. That also would have to wait.

As Cemp removed his clothes in Mensa's apartment, he said to her with considerable pride, "The boy is my son."

Her eyes widened. "Your son!" she said. "But —" She stopped.

"What's the matter?" Cemp asked.

"Nothing." She spoke mechanically. "I was surprised, that's all."

Cemp finished dressing, then went over to her, and kissed her lightly on the forehead. He said, "I sense that you are involved in a love relationship."

She shook her head. "Not now. Not since —" She paused. She seemed bewildered.

It was no time to check on a

woman's love life. If ever a man was in a hurry it was he.

When Cemp had gone, the boy came in. "You almost gave m' away," he said in a tone that was wholly unchildlike.

She cringed. "I'm only a V," she pleaded.

He began to change, to grow. Presently, a fully adult human male stood before her. He directed toward her energy wave that must have exerted an enormous attraction to her, for in spite of the deepening expression of distaste on her face she swayed toward him. When she was within a foot of him, he cut off the wave. She drew back immediately. The man laughed.

But he turned away from her, and for a few moments then he opened a communication line to someone on the planet of a distant star. He said in a silent interchange:

"I have finally risked confrontation with a Silkie, one of the powerful inhabitants of this system. He is guided by an idea called Levels of Logic. I discovered that his had to do with his only offspring, a boy he has never seen. I distorted his interest in this child in a subtle way. I think I can now land safely on the principal planet, which is called Earth."

"To distort it, you must have had to use him as a channel."

"Yes. It was the one risk I took with him."

"What about the other channels you have used, Di-isarill?"

The man glanced at Mensa. "With one possible exception, they would resist any attempt of a Silkie to ex-

plore their minds. They're a rebel group called V's, and are suspicious of and hostile to the other peoples in this system. The exception is a V woman who is completely under my control."

"Why not annihilate her?"

"These people have some kind of a sensitive telepathic connection, which they seem to be able to manipulate but which I have not wholly solved. If she died I think the others would know instantly. Therefore I cannot do what I normally would."

"What about the Silkie?"

"He is heading to Earth in a state of delusion. Equally important, he is due to suffer a physiological change which will strip him of all his present offensive and defensive powers. I intend to let this physical process run its course — and then kill him."

V

Cemp had relayed the story through Satellite-Five-R to his contact, Charley Baxter, at the Silkie Authority. When he reached the satellite, and transformed to human, he found a radiogram from Charley waiting for him. It said:

HAVE PICKED UP BOY. AUTHORITY FORBIDS YOU TO LAND UNTIL THIS IS ALL SETTLED.

"Till you've done away with him, you mean!" Cemp thought angrily. The official action surprised him: an unexpected obstacle.

The commander of the satellite, a normal intelligent human being, who had handed him the message, said, "Mr. Cemp, I have received instructions not to let you on any ferry to Earth until further notice. This is very unusual."

"Unusual" was an understatement. Silkies ordinarily moved freely to and from Earth.

Cemp made up his mind. "I'm going out into space again," he said in a matter-of-fact tone.

"Aren't you due for the change?" The officer seemed doubtful about letting him go.

Cemp smiled wryly and told the Silkie joke about such things, about how Silkies were like some mothers-to-be who kept having false labor pains. Off to the hospital they went. Lay there in bed. At last returned home. And so, after several false alarms, baby finally was born in a taxicab.

"Well, sir," said the man unhappily. "You do as you please. But there aren't any taxicabs in space."

"It's not that instantaneous; you can fight it off for hours," said Cemp, who had been fighting it off for hours.

Before he left, Cemp sent a radiogram to his wife:

DEAR JOANNE: DELAYED BY DISPUTE. WILL ADVISE WHEN TO MEET, BUT SOON. CALL CHARLEY. HE'LL FILL YOU IN. ALL MY LOVE. N.A.T.

The coded message would upset her, he knew. But he did not doubt that she would meet him at their pre-arranged rendezvous, as he wanted. She would come if only to

find out on behalf of the Special People what he was up to

Once out in space, Cemp headed for a point over the South Pole, and then he began his entry

He came in fast. According to theory, that was the only way an unprotected approach should be made. The poles were relatively free of radiation. There, where the magnetic field of the planetary body was bent inward right down to the ground, the potent Van Allen radiation belt was a minimum threat.

Nonetheless, there were two periods of severe bombardment, one of high energy stripped nuclei, the other of X-rays. The X-rays did him no harm, and, for the most part, the stripped nuclei passed right through his body as if it were a hard vacuum. Those nuclei that hit, however, left a small wake of radioactivity. Hastily, Cemp expelled the more seriously damaged cells, with that special ability Silkies had of eliminating damaged parts of their bodies.

As he entered the atmosphere, Cemp gradually activated the planet's magnetic force lines behind him. Even as they began to glow brightly, he felt the radar beams from below bouncing from him. But they were not a problem now. Radar would register the movement of his body and the pyrotechnic display to his rear as one phenomenon. The outward appearance was of a meteorite shooting toward the ground.

His entrance being slantwise in the direction of Earth's rotation, his speed of entry was within

his capacity to absorb, or radiate from him, the heat of his passage through the air. At ten miles up, he slowed even more and came down in the sea north of Antarctica about a thousand miles from the lower tip of South America. The cold waters quickly washed from his Silkie body the radioactive debris that still clung to the outer bone. He darted along about five hundred feet up, using the water as a coolant by slowing and diving into it whenever he got too hot. It was a fine balancing of extremely rapid acceleration and deceleration. But he made it to near where he lived at the lower tip of Florida in slightly more than forty minutes, the last five of which were wholly underwater.

As he surfaced within sight of the beach, he transformed to his fish stage, and then — two hundred feet from shore — to human. He had already seen Joanne's car parked on the road behind a sand dune. He did the overhand crawl to get to shallow water, and ran against the surging waves up the embankment to where she lay on a blanket, watching him.

She stood up, a slender, very pretty woman, blonde and blue-eyed. Her classically even features were white and set now; but she handed him a towel. Cemp dried himself, and climbed into the clothes she had brought. A few minutes later they were in the car; and at this point she accepted his kiss. But she still withheld her thoughts, and her body was rigid with disapproval.

When she finally communicated, it was verbally and not by direct en-

ergy. She said, "Do you realize that if you persist in this you will be the first Silkie in a hundred years to get himself punished or executed?"

That she spoke out loud confirmed Cemp's suspicion. He was now certain that she had reported his illegal entry to the Silkie Authority, and that people were listening in to this conversation. He felt no blame of Joanne. He even surmised that all the Special People were prepared to help him through this trying period. They were probably also speeding up the investigation of Tem, so that the execution would be quickly over with.

"What are you going to do, Nat?" She sounded anxious now, rather than angry. There was color in her face for the first time.

At some depth within, Cemp felt vaguely surprised at how determined he was. But the awareness did not trigger any question in him. He said coolly: "If they kill that boy, I'll know the reason why."

She said softly, "I never realized that a Silkie could have so much feeling for his child, whom he has not seen since birth."

Cemp was irritated. "It's not personal," he said curtly.

She said with sudden emotion: "Then you know the reason very well. This boy evidently has a method of concealing his thoughts, and of reading minds — according to your own account — that even you could not penetrate. With such a person, the Special People will not have their historic protection. It becomes a matter of policy."

"In making my report," said

Cemp, "I advised a five year study and re-education program for the boy. That's the way it's going to be."

She seemed not to hear. She said as if thinking out loud: "Silkies were mutated by humans, on the basis of the great biological discoveries of the last half of the twentieth century. When the basic life chemical unit, DNP, was isolated, major advances in life forms, other than those naturally spawned in Nature, became possible. Because the first transformations were to the fish stage, the new beings were called Silkies—after an old song.

"But it had to be done carefully. The Silkie could not be permitted to breed as he pleased. So his genes, which endow him with so many marvellous senses and abilities, also contain certain limitations. He can be a man, a fish, a Silkie at will. So long as he does it by body control, he has nearly all his Silkie abilities in any of these forms. But every nine and a half years he has to become a human being again, in order to mate. It's built into him, where he can't interfere with it. Silkies who long ago tried to eliminate this phase of the cycle were executed. At the time of such a compulsive change to human form, he loses all his Silkie abilities, and becomes fallibly human. That's the great hold we have over him. Then we can punish him for anything illegal he did as a Silkie. Another hold is that there are no female Silkies. If the issue of a Silkie mating with a woman of the Special People is a girl, she is not a Silkie

That, too, is built into his genes —”

She broke off: “The Special People are a tiny, tiny portion of the main human stream who — it was discovered — had a spontaneous ability to read the minds of Silkies. They used this to establish administrative ascendancy while there were still only a few Silkies, and thus they protected themselves and the human race from beings who would otherwise have overwhelmed them.”

She finished in a puzzled tone: “You’ve always agreed that such protection was necessary, for human beings to survive. Have you changed your mind?” When Cemp did not reply, she urged: “Why don’t you go to the Silkie Authority and talk to Charley Baxter? A single conversation with him will get you further than any rebellion.” She added quickly. “Tem is there. So you’ll have to go there anyway. Please, Nat.”

It wasn’t so much, then, that Cemp agreed with what she said. He thought of her suggestion very distinctly as offering a way of getting inside the building — But he was not too surprised as his helijet came down on the roof to see Charley Baxter waiting for him, tall, rather goodlooking, thin, unusually pale.

As they rode down in an elevator, Cemp felt himself pass through in energy screen — which instantly sealed off the pulsations from the outside world. And that was normal enough except for the force that was driving the screen. He sensed that the power backing it

was enormous enough to protect a city, or even a part of the planet.

Cemp glanced questioningly at Baxter, and met a pair of sober, serious eyes. The man said seriously, “At this point, you may read me.”

What he read in Baxter’s mind was that his own radiogram about Tem had caused a hasty examination of Tem’s record. Result: they decided the boy was normal, and that something very serious had happened to Cemp.

“At no time,” said Baxter, “has your son been in danger. Now, take a look at that TV picture. Which one is Tem? One is.”

They had walked from the elevator into a large room. On the TV screen on one wall was a street scene. Several boys were approaching what must have been a hidden camera, for they showed no awareness of its presence.

Cemp’s gaze flicked across the strange faces. “Never saw them before,” he said.

“The boy to your right is your son,” said Baxter.

Cemp looked, then turned and stared at Baxter. And because his brain had energy relationships that by-passed mere neuron connections, he got the whole picture in a single-flash of understanding. That instantaneous comprehension included analytical awareness of how his duty to protect all Silkie children had been skillfully twisted by his pseudo son. It leaped on to a lightning examination of the energy level that had signaled to him. Almost immediately, he realized that the signal was the only direct contact that had been

made by the boy on the V ship. In every other way, the fraudulent Tem had merely been a recipient of signals.

He grew conscious of Baxter's bright eyes watching him. The man asked breathlessly: "Think we can do anything?"

It was too soon to answer that. Cemp was gratefully realizing how skillfully he had been protected by the Special People. It seemed to him that if he had suspected the truth at any moment before being taken behind the energy screen that now guarded him — the false Tem would probably have tried to annihilate him.

Baxter was speaking again. "You sit down here, and let's see what the computer makes of the one signal you received."

The computer extrapolated three structural frames that might fit the false Tem. Cemp and Baxter studied the coded messages with amazement, for they had not actually considered anything beyond an unusual V frame.

All three formulated structures were alien.

A quick analysis established that two of the three did not require secrecy on the part of so powerful a being as the invader undoubtedly was. Therefore the third frame, involving a gruesome form of esoteric sex climaxed by the ritual murder of one partner by the other, spider-like, was the most likely.

Baxter's voice had in it a desire not to believe. "That picture of their needing a lot of love objects — could that be real?" He finished in



a subdued tone: "I'll alert all Silkies, mobilize our other forces — but can you do anything at once?"

Cemp who had already adjusted his sensory system to include all three alien frame was tense and afraid. He said aloud, "I ask myself where he would go and of course it would be to my home. Do you think Joanne would have gotten there yet? Was she supposed to head somewhere else?"

He saw that Baxter was shaking his head . . .

Cemp hurried through a door that led to a wide balcony, transformed to Silkie, did a partial cut-off of gravity combined with control of magnetic force lines . . . a man in a far greater hurry than he had ever been in before.

He entered the large house by the sea in his human form, the better to run the last few yards and maneuver in corridors. And because he had adjusted to the alien sensory structure his arrival was only partly signaled.

He found Joanne in the master bedroom, half-undressed.

She had never seemed so attractive. Her smile, warm, inviting, friendly, drew him. Some state of excitement she was in communicated to him, stirring an impulse so basic that it was as if a fine translucent sheath dropped over his senses, blurring his view of reality. The woman, almost luminescent in a fleshly radiance, lay on the pink bed and his whole being focused on her. For a long moment, nothing else existed. They were two people

intensely in love.

Breathless, astounded by that instant, hideous power, Cemp put his thought on the possible fate of the real Joanne, put his attention on fear for her — and broke the spell.

The rage, hate and violence that had been building up in him broke through.

But the magnetically controlled radiation that Cemp launched at the creature crackled harmlessly against a magnetically controlled energy screen . . . Frothing, he plunged at the being, grabbed at him with his bare hands.

For seconds they grappled, the almost nude woman and the wholly naked Cemp. Then Cemp was flung back by muscles that were ten times as strong as his own.

He bounded to his feet, but he was sobered, thinking again.

He began to consider the entire problem of Earth in relation to this creature and the threat it represented.

The duplicate of Joanne was changing. The body in front of Cemp became that of a man with the frilly clothes of a woman's underdress still draped on the lower part of his body. But there was nothing feminine in his manner. Eyes blazing with the infinite violence potential of the male, the entity locked gazes with Cemp.

Cemp was feeling a desperate anxiety for the real Joanne. But it did not even occur to him to ask this creature about her. He said, instead, "I want you to leave. We'll communicate when you're a million miles out in space."

The handsome human face of the other broke into a disdainful smile. "I'll go. But I sense in you a plan to learn from me where I come from. That will never happen."

Cemp replied in a level tone: "We'll see what two thousand Silkies can get out of you."

The being's skin glistened with health, shone with confidence and power. He said: "Perhaps I should remind you that we Kibmadine have achieved a total control of all the forces that Silkies control only partially."

Cemp said, "Many rigidities can envelop one flexibility."

The other said in an uncompromising voice, "Don't attack me. The price is too high."

He started to turn away. And there was a moment, then, when Cemp had another thought, another feeling: a reluctance to let this being go without some attempt to reach across the abyss that separated them. Because this was man's first contact with an alien intelligence. For a few fleeting seconds Cemp remembered the thousand dreams that human beings had had for such a meeting. His hesitation came to its inevitable end. The infinitely hostile reality moved in to fill the endless void between them.

Instants later the alien was out on the patio, dissolving, changing—and was gone.

Cemp contacted Baxter and said, "Line me up with another Silkie so that he can take over. I'm really awfully close to my change."

He was lined up through the Silkie communications hub with a

Silkie named Jedd. Meanwhile, Baxter said, "I'm on my way over. I have been given a lot of governmental power."

Cemp found Joanne in one of the spare bedrooms. She lay on the bed, fully dressed, breathing slowly and deeply. He sent a quick flow of energy through her brain. The reflexes that were stirred reassured him that she was merely sleeping. He also picked up some of the alien energy that was still in her cells. They told a story that made it instantly obvious why she was still alive: The Kibmadine had used her living body as a model for his duplication of her.

On this occasion at least the creature had been after bigger game: a Silkie.

Cemp did not try to rouse the sleeping woman. But he was greatly relieved as he went out onto the patio, which overlooked a white, sandy beach and the timeless blue ocean beyond. He sat there until Baxter presently joined him.

They had already communicated mentally, and now Baxter said, "I sense a doubt in you."

Cemp nodded.

Baxter asked gently, "What do you fear?"

"Death!"

It was a feeling deep inside him.

Sitting there, he made up his mind—for the second time since he had become involved with the alien — to die if necessary. And with that decision, he began to turn on his receptors, all of them except that to start, he tuned out local Earth noise. TV, radio, innumerable energies from machines—these

had to be shut away from him. Swiftly, then, he began to "hear" the signals from the plenum.

Long before Silkies it had been known that space was alive with messages; the entire sidereal universe pulsed with an incredible number of vibrations. Hour on hour and year by year, Silkies, lived with that ceaseless "noise", and most of their early training was entirely and exclusively directed to the development of selective sleep and rest and wakefulness mechanisms for each receptor.

Now — those that were asleep awakened. Those that were at rest alerted.

His brain came to peak awareness.

He began to sense the near stars, the distant stars the clusters the galaxies. Every star had its only complex signal. Nowhere was there a duplication or even a close similarity.

The universe that he tuned in upon was composed entirely of individuals. Cemp appraised the distance of each star, the uniqueness of each signal. Friendly space world! Every star being exactly and precisely what it was and where it was gave meaning to the immense stellar universe. There was no chaos. He experienced his own location in space and time, and it gave him a certainty of the basic rightness of things.

VII

He came back from his far-flung ranging to about a million miles from Earth. There he

paused to let the signals come in from all of the space between.

Without opening his eyes, he said to Baxter, "I don't read him. He must have gone around the planet and put the mass of Earth between him and me. Are the reflectors ready?"

Baxter talked on a phone line that had been kept open for him. Previously alerted Telstar and astronomical satellites were placed at Cemp's disposition. Through one of the reflectors, he focused on the invading entity.

Cemp said to the alien, "Above everything else we want information."

The other said, "Perhaps I should tell you our history."

And so Cemp was given the story of the eternal lovers, more than a million beings who moved from one planetary system to another, and each time altered themselves to the form of the inhabitants and established a love relationship with them — a love relationship that meant death and pain for their love-objects. Only twice had the lovers met beings of sufficient power to make them draw back. In each instance, they had destroyed the entire system.

Di-isarill finished: "No additional information is available no matter what you do."

Cemp broke contact. A shaken Baxter said, "Do you think that was true information?"

Cemp answered that the thought it was.

He finished with finality: "Our job is to find out one thing: Where does

he come from? And then destroy him."

"But how do you propose to do this?"

It was a good question. His single clash with the creature had brought him up hard against a wall of power.

Cemp sank lower into his settee and with closed eyes considered the problem of a race of beings who had complete control of body change. Many times in those long duty watches out in space, he had pondered such possibilities; for the cell could grow and ungrow, divide, split off, fall away and re-form, all within a few seconds. In the twilight virus, the bacteria and the cell had their complex being, the enormous speed of change had made possible the almost instantaneous orderly altering of human to Silkie and back again.

The invader apparently could change to an infinite number of forms with equal rapidity, assuming any body shape at will.

But the logic of levels applied to the Kibmadine's every action.

From somewhere behind Cemp, Baxter said, "Are you sure?" His voice sounded incredulous.

Cemp had two reactions to the question: Extreme joy at the hope that his analysis brought... and the stronger conviction. He said aloud, "Yes, logic applies. But for him we'll need the closest contact of the energies involved. Inches would be better than feet, feet better than yards. So I'll have to get out there in person."

"Out where?" Baxter asked, almost incredulous.

"To his ship."

"Do you think he has a ship?"

"Of course he has one. Anything else would be impractical for his operations.

Cemp was patient as he made his explanation. He had observed that even the Special People had exaggerated ideas on such matters. They tended to accept that Silkies were more capable than they were. But the logic of it was simple: coming in toward a sun, one could utilize its full gravitational pull to get up speed. Right now the Kibmadine would be "climbing the ladder" of the planets, cutting off the sun's gravity from behind, opening up to the pull of Jupiter and the outer planets.

No sensible being would try to bridge the distances between stars by such a method. So there was a ship. There had to be.

Cemp said, "Order a spaceship for me, complete with a tank of water that can be moved."

"You expect to change before you get there?"

"It'll happen any minute."

Baxter said, amazed, "You intend to confront the most powerful being that we can imagine without a single bit of energy of your own available?"

"Yes," said Cemp. "It's the only way we'll get him within inches of the energy source I want installed in the tank. For heaven's sake, man, get started."

Reluctantly, Baxter reached for the phone.

As Cemp expected, he began his change en route. By the time he was put aboard the Kibmadine ship, he was already in a tank of water in his first compulsive change, which was to the fish state.

He would be a class B Silkie for slightly more than two months.

As Di-isarill came finally to the tiny ship in its remote orbit beyond Pluto, he noticed at once that the entrance mechanism had been tampered with, and he sensed the presence of Cemp aboard.

In the course of countless millennia his fear reflexes had fallen into disuse. So he had no anxiety. But he recognized that here was all the appearance of a trap.

In a flash, he checked to insure that there was no source of energy aboard that could destroy him. There was none; no relay; nothing.

A faint energy emanated from the tank. But it had no purpose that Di-isarill could detect.

He wondered scathingly if these human beings expected somehow to work a bluff whereby he would be impelled by uncertainty to stay away from his own ship.

With that thought, he activated the entrance mechanism, entered, transformed to human, walked over to the tank that stood in the center of the tiny cabin — and looked down at Cemp, who lay at the bottom.

Di-isarill said, "If it's a bluff, I couldn't possibly yield to it because I have nowhere else that I can go."

In his fish state, Cemp could hear

and understand human words but could not speak them.

Di-isarill persisted: "It's interesting that the one Silkie whom I cannot read has taken the enormous risk of coming aboard. Perhaps you were more affected by the desire I attempted to rouse in your home than appeared at the time. Perhaps you long for the ecstasy and the anguish that I offered."

Cemp was thinking tensely: "It's working. He doesn't notice how he got onto that subject."

The logic of levels was beginning to take effect.

It was a strange world, the world of logic. For nearly all of his long history, man had been moved by unsuspected mechanisms in his brain and nervous system. A sleep center put him to sleep. A waking center woke him up. A rage mechanism mobilized him for attack. A fear complex propelled him to flight. There were a hundred or more other mechanisms, each with its special task for him, each in itself a marvel of perfect functioning but degraded by his uncomprehending obedience to a chance triggering of one or another.

During this period, all civilization consisted of codes of honor and conduct and of attempts noble and ignoble to rationalize the unknown simplicities underneath. Finally, came a developing comprehension and control of the neural mechanisms, one, then another, then many.

The real age of reason began.

On the basis of that reason Cemp asked himself: Was the Kibmadine

level lower, or higher, than for example the shark?

It was lower, he decided. The comparison would be, if man had brought cannibalism into civilization with him. A lower level of logic applied to that.

The shark was relatively pure within his frame. He lived by the feedback system, in a pretty good balance. He did not age, as humans did. He grew older — and longer.

It was a savagely simple system. Keep in motion: that was the law of it. What poetry that motion was, in the wide, deep sea that had spawned him! But it was — feel need of oxygen, get excited, swim faster; enough oxygen, slow, cruise, even stop. But not for long. Movement continuous — life.

Eating, of itself, was lower, more basic, went farther back into the antiquity of the cell.

And so, the mighty Kibmadine had brought into their innumerable forms one pattern that was vulnerable, one they wouldn't give up, no matter how much they controlled the other basic mechanisms of their bodies . . .

Di-isarill was calm as he sped through space. He sensed that he had subtly managed to influence Cemp to the fear of intolerable retaliation. . . Unfortunate that the Silkie had analyzed the Kibmadine structure so accurately. It made direct reading of Cemp's feelings and thoughts difficult.

Not that it mattered. Under other circumstances, Earth might well have been a planet to be destroyed.

But there was no chance at all of enough Silkies being produced in time to save the system from being conquered.

And so another race would, one at a time, experience the ecstasy of being eaten as the culmination of the act of love.

... What a joy it was to receive from tens of millions of cells! First resistance, terror, shrinking; and then the inversion: every part of the being craving to be eaten, longing, begging, demanding —

Di-isarill's calmness yielded to excitement, as the pictures and the feelings re-formed in his mind, from ten thousand remembered feasts of love-objects.

"I really loved them all," he thought sadly.

Too bad they were not brought up to appreciate in advance the ultimate delight of the all-consuming end of the sex orgy.

It had always bothered Di-isarill that the preliminaries had to be secret, particularly with beings who had the ability to transmit thoughts to others of their kind and thus warn them. The greatest pleasure always came when the ending was known, when part of the love play consisted of reassuring the troubled, trembling being, quieting the pounding heart.

"Some day," he told thousands of love partners, "I shall meet someone who will eat me. And when that happens —"

Always he had tried to persuade them that he would rejoice as he was being devoured.

The inversion involved was a

phenomenon of the life condition: first, resistance, terror, shrinking; then every part of the being craving to be eaten, longing, begging, demanding. The urge to succumb could be as powerful as the urge to survive.

Standing there in front of the tank, looking down at Cemp, Di-sarill felt a quickening of emotion as the conjuration of himself being eaten flitted like a fantasy through his brain. He had had such pictures before but never before so strong.

He did not notice that he had passed the point of no return.

Without thinking, he turned away from the tank. Cemp forgotten, he transformed quickly into a remembered form, long-necked, with smooth dappled skin and powerful teeth. He remembered the form well and lovingly. The members of the race had been love objects for the Kibmadine not too long ago. Their bodies had a particularly excruciating pleasure nerve system.

Di-sarill could scarcely wait.

Even as he became the form, his long neck twisted. A moment later the teeth, impelled by the merciless Kibmadine biting drive, cut off an entire thigh.

The pain was so hideous he screamed. But in his enchanted brain the scream was only an echo of the countless screams that his bite had evoked in the past. Now, as then, the sound excited him almost beyond endurance. He bit deeper,

champed harder, at faster.

He devoured nearly one half of his own body before the imminence of death brought a baby fear from his own true past. Whimpering, blindly longing for home, he opened a line to his contact on the planet of the far sun where his kind now dwelt.

At that instant an outside force surged past him and overwhelmed his personal communication. As one, a dozen Silkies loaded an electric charge on that line, all they believed it could carry.

The charge that struck the distant Kibmadine totalled more than 80,000 volts and over 140,000 amperes of electricity. It was so powerful it smashed all his reflex defenses and burnt him in a single puff of flame and smoke.

As quickly as it had opened, the line ceased to exist. The Sol system was now only an anonymous, distant star.

The tank with Cemp in it was carried to the ocean. He crawled out into the sea, breasted the incoming tide.

The bubbling fresh liquid poured through his gills. As he reached the deeper water, he submerged. Soon the thunder of the surf was behind him. Ahead was a blue sea and the great underwater shelf where a colony of class B Silkies lived their fish-like existence.

He would dwell in their domed cities with them . . . for a time.

END

SPECIAL SUBSCRIPTION OFFER for

**WORLDS OF
TOMORROW**

Fastest-Growing New Science-Fiction Magazine!

Don't mail the coupon—if you want to keep the magazine intact—just order on a plain sheet of paper—but, however you do it, rush in your subscription order to **WORLDS OF TOMORROW** now! This is the magazine that readers call "the best thing that's happened to science fiction in a dozen years"—the magazine that has already brought you great novels by Arthur C. Clarke and Philip K. Dick—novelettes and complete short novels by Murray Leinster, Keith Laumer, J. T. McIntosh and a dozen other favorite writers, etc. Every issue is new . . . exciting . . . enjoyable! Don't wait—subscribe today!

IF YOU'VE MISSED BACK ISSUES—

You can order them separately at 50¢ each postpaid—OR—list issues desired below and we will ship them at once and deduct that number from your subscription.

WORLDS OF TOMORROW, Subscription Department
421 Hudson Street, New York, N. Y. 10014

Send me the next THIRTEEN ISSUES of Worlds of Tomorrow at your special price of only \$4.50. I enclose payment herewith. My subscription is new, renewal.

Send me back issues
as follows:

Name

#1, #2, #3,

Address

City..... Zone..... State.....

#4, #5, #6.

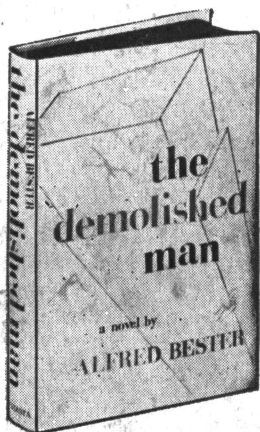
If you want back issues, check attached box. One subscription issue will be subtracted for each back issue you order.

BESTER'S BEST!

Have you read his famed **THE DEMOLISHED MAN**? Lived in its vividly real telepathic society, detailed so ingeniously and dramatically that, finishing the book, you'll find it hard to believe that society doesn't exist — yet!

By special arrangement with the publisher of **THE DEMOLISHED MAN**, we can offer you this magnificent book for \$1.00, 2/3 off the regular price, plus 25¢ for postage and handling.

**1/3 OF
LIST
PRICE**



**CASE
BOUND
\$100**

Supplies are limited! Send your order in immediately!
(Use Coupon or Separate Sheet)

GALAXY PUBLISHING CORP.

**Please
rush me**

copies of

THE DEMOLISHED MAN

421 Hudson St.

New York

14,

N. Y.

THE DEMOLISHED MAN
The Original
Edition — Complete!
Not A Low Cost Reprint —
Yet Yours For
Only \$1.00!
Plus Postage 25¢

Name _____

Address _____

City _____ **State** _____

I Enclose _____