## FEBRUARY 25¢ CAN EARTH REPEL AN ALIEN INVADER?

STORIES

## THE IRON MEN OF VENUS By DON WILCOX

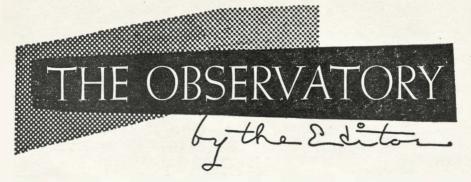
WAS THIS METAL MONSTER MASTER-OR SL

FEBRUARY 1952

VOLUME

26





W E would like, this month, to clarify and perhaps broaden upon our policy relative to an argument of long standing in the stf field. The perennial debate we refer to is the one between those who advocate more science in stories and those who clamor for a heavier accent upon the fiction. We are definitely in the camp of the latter and here, forthwith, are our reasons:

 $T^{0}$  begin with, let's take the term science. In its simplest form the word is synonymous with *fact*. All right, what are the true facts concerning the family of planets to which we belong?

MERCURY: Taking the word of competent and coldly unbiased astronomers—and what more reliable authorities could we find?—Mercury is a planet entirely without atmosphere. It does not revolve on an axis but presents always the same side to the Sun. The portion of the planet bathed in sunlight has a temperature of 400 degrees C., hot enough to melt lead. The opposite is intensely cold. No life could possibly exist on this planet.

VENUS: Astronomers have every reason to believe that Venus is an arid, waterless planet of extremely high temperatures. Continuous storms of appalling ferocity plague its surface and hurl dust into the skies until that dust forms an everlasting envelope around the planet. Life on Venus is impossible.

THE OUTER PLANETS. These giants, far out from the sun, give conclusive evidence of being cores of rock covered first with coats of ice thousands of miles thick, and second with vaporous envelopes consisting in the main of gases poisonous to all forms of life. They are dead worlds.

A ND what about life beyond our sun and planets? The fact boys don't believe it. They base their judgment upon projected conditions, not wishful thinking. They look at the hundreds of small adjustments which make life possible on Earth. In order to support life, a planet must not be too big or too small. Too small and it loses its atmosphere; too large and its atmosphere consists of poisonous gases. The sun around which it revolves must not be too hot or too cold, but just right. The planet's distance from said sun must be taken into consideration. Too far away and the time cycles are cockeyed; too close and they are unacceptable in the other direction.

THESE are only a few of the niceties which must be achieved and the chances of their being repeated *in toto* regardless of how big the Universe of galaxy upon galaxy, are very slim.

Fact also knocks other fond fallacies into a cocked hat. Homo sapiens will never get into a space ship and roam the void. First, there is no place to go; second, "no place" is so far away man couldn't live to get there and no conceivable combination of metal and power would stand up under the punishment of getting him there.

the punishment of getting him there. Cities built by Man upon the Moon? Absurd. A rocket fired from Earth to be exploded against Luna is highly possible but a man setting foot on the Moon would be far more difficult than climbing Mount Everest according to H. Spencer Jones, a man who should know. Jones is one of the foremost astronomers of all time. Astronomers deal in Tacts. And it's a fact that set down on the sun-side of the Moon a man would fry to a crisp. On the dark side he'd need so much equipment to keep from freezing to death, he couldn't move.

A ND another thing—if you stood out in the open, zeroed in by a dozen machine guns, you would simulate perfectly the conditions on the Moon. With no atmosphere to frictionize bombardment from space, the entire surface of Luna is under eternal bombardment from the cosmos. Missiles large and small would knock out a squad of Sherman tanks before they had traveled a mile.

So that's that. Cold fact says no to all our dreams. So this must seem the last sort of an editorial a science-fiction editor should write. We think not, however, so let's go a little further with our facts. Here are a few others: It's tough to make a living these days. The world is fraught with worry and uncertainty. We keep muddling along under these conditions' day after day.

And we get sick of fact.

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FEBRUARY, 1952

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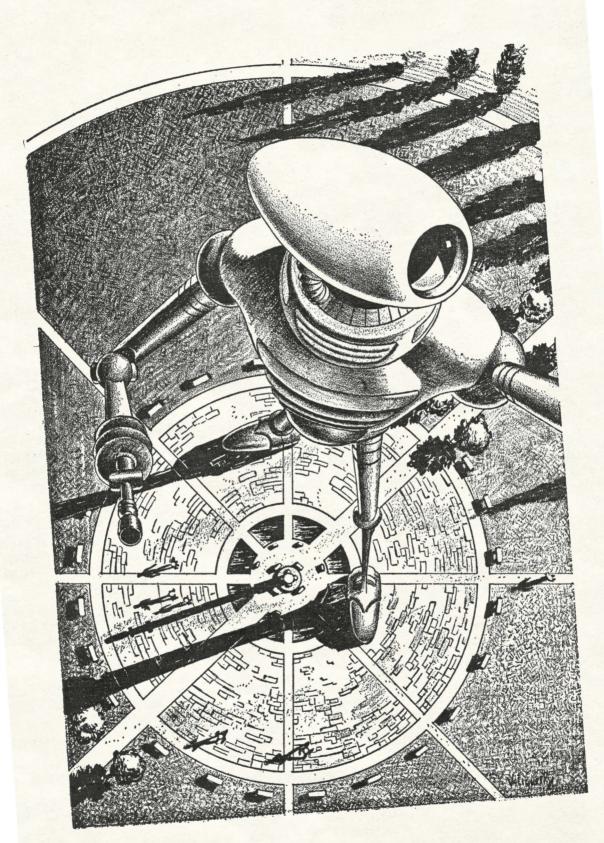
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All STORIES Complete\_

scene from the story "The Iron Men of Venus"

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# THE IRON MEN OF VENUS

### BY DON WILCOX

At that height the woman's screams echood thinly and the child's cry went unheard

To be sent a red knife meant you were on the Venusian murder list — with a giant robot to kill you off in style!

THEY HAD placed the red knife on the table and Joe Kane saw it there when he took the witness chair. It stood pointing straight up like a candlestick, resting on the squared-off end of the white handle. The blade glistened red, not blood red but the deep metallic red of Venus steel. Joe's lips went dry as the men fired questions at him. "Your name?... Address?... Age?... Occupation?..."

Joe was twenty-seven. He lived in one of the low-priced underground apartment houses. He was a trouble shooter on an interplanetary freight line.

"Now, Mr. Kane, do you recognize this knife?"

"That particular knife? No."

"You've never seen such a knife before?"

"I've seen *such* knives—yes. Everyone has. Pictures of them, anyway. Anyone that reads the newspapers—"

"What does the knife mean to you, Mr. Kane?"

"It's a Venus knife. It's made of Venus steel." Joe wondered what all this had to do with him. He wished they would get on with it. Staying away from work was costing him eight dollars an hour.

"Go on, Mr. Kane. Tell us what this particular Venus knife means."

Joe's grey eyes narrowed. He knew the face of this important man barking the questions. This was Paul Maddergall, the big-shot investigator who often made the headlines. His face reminded Joe of an arrowhead, blunt of features and hard as flint. He wore a fresh red bow tie, and Joe thought the red of the Venus knife reflected in his glittering dark eyes.

"You're stalling, Mr. Kane. What is the meaning of this knife? Isn't it a symbol of some kind?"

"It's a sign of danger. They say it's a threat of death." Joe's brain was in a whirl. How did these questions concern him?

"A threat from whom, Mr. Kane? From whom?"

"From the Killers that live on the Storm Continent of Venus. It's the special trade mark of the criminal colony."

"Did you call them Killers, Mr. Kane?"

"That's what they call them in the newspapers."

Maddergall gave a sly smile. The other men around the table shuffled restlessly, but Maddergall would not be hurried. "Killers is a very strong term, Mr. Kane. We do carry on commerce with them, don't we?"

"Yes, sir."

"We recognize them as an inter-

planetary colony, don't we?"

"Yes, sir. I understand they were originally a criminal colony."

"Originally—yes. A few generations ago—but let that pass. The point is, you have called them Killers. That makes them sound like savages or wild animals. Isn't it true, Mr. Kane, that they are human beings—like you and me?"

"They're not like me," Joe said sharply. He saw that some of the men around the table were suppressing smiles. The chairman called for order. Anger showed in Paul Maddergall's stony face.

"Meaning what?" Maddergall barked.

"They're bloodthirsty and dangerous, and they'd like to take revenge on the earth by sticking knives in our backs—that's what I read in the papers." Joe did his best to hold his voice calm. "They've been bumping off our ships right and left."

MADDERGALL rose from his chair heavily and began to pace. For a man in his mid-thirties, he was old —old and brittle and cutting in his manner. The reporters at the side of the room watched him closely. Now he began firing questions like a machine gun. Joe's face grew warm, his answers confused. Suddenly, to his relief, the door opened and a uniformed porter called in.

"Pardon me, gentlemen, but is Mr. Joe Kane in here? I have a message for Joe Kane."

The chairman started to order the porter out. "No interruptions, please. Mr. Kane is busy. Sergeant-at-arms, please remove—"

But Joe had risen instantly. The porter was ushered out, the door was closed, and again the room came to order.

"We were speaking of the red knife," Maddergall resumed, gesturing toward Exhibit A in the center of the table. "Mr. Kane, if you discovered such a knife on your desk, point up as the late Senator Droondair did what would you conclude?"

"That someone from the Venus Storm Continent had put it there—" "And—"

"And that he intended to murder me."

"Now we're getting somewhere. By the way, what *did* happen to Senator Droondair?"

"He was murdered."

"Why, Mr. Kane? What was back of that cruel assassination?"

Joe touched his perspiring temples. "Well, I read an article about the case—"

"Speak up, Joe Kane. Why do you think Senator Droondair was murdered?"

"I suppose it was on account of the Droondair Bill. He wanted a law to abolish trade with the colony."

THE CHAIRMAN, John Helva, a large, black-haired man with frosted eyebrows, rose and tapped the table with the gavel. Time was short, he said. The questioners must bear in mind that Joe Kane was not being tried for the murder of Senator Droondair or anyone else. "There are no charges against Joe Kane, gentlemen. We're looking for his older brother, Ruppert Kane. Joe may be able to help us locate him. Please confine your questions—"

So it was Ruppert they wanted! Joe's worries shifted gears. Whatever these men were trying to get at, Joe's instant determination to protect his brother was full of complications. Ruppert, a playboy planet-trotter, had hobnobbed with the Venus Killers as though they were fraternity brothers.

"You have two brothers? Correct?" "Correct."

"The youngest is a pilot on a Mars

line?"

"Yes, sir. That's Lanny. He's a good pilot."

"And Ruppert, the oldest—" Here Maddergall began sniping in earnest. He asked a dozen questions about Ruppert's space travels, never waiting for an answer. When he paused, Joe admitted in bewilderment, "That's Ruppert, all right. He does get around."

"He is known to have visited the penal colony on Venus?"

"Yes."

"Several times?"

"Yes."

"He must have friends in that colony."

"That's possible. He's interested in all kinds of people, good and bad." "Even the so-called Killers?"

Joe hesitated. "I guess he figures they're human beings, like you and me."

Again the smiles around the table broke in upon Maddergall's severity. His flinty eyes went ablaze with a dangerous fury. "Mr. Kane, your impertinence impresses no one. You will confine your answers to yes or no. Did your brother Ruppert ever possess a knife like this?"

"Not to my knowledge."

"Did he ever lend it to you?"

Joe's teeth tightened. "I said that he never, to my knowledge—"

"Answer yes or no! Did he ever lend his knife to you?"

"No!"

"Then you admit he possessed such a knife?"

"No, I did not admit-"

"And he refused to lend it to you." Joe leaned forward his fists. clenched. "He did *not* refuse to lend it. I said—"

"Oh, then he did lend it to you? That's what we wanted to know."

"He did not. How could he, when he didn't even—" "Mr. Kane, you're confusing your story like a school boy who has ditched. Now think, and answer me yes or no. Did your brother Ruppert ever lend you his Venus knife?"

"No."

Maddergall turned to the others with a concluding gesture. "There, the investigating committee will please note that Joe Kane has admitted, under oath, that his brother Ruppert, a friend of the Venus Killers, did possess a Venus knife of the sort used for death threats—perhaps the same knife used to threaten the late Senator Droondair."

Joe's brain spun. He saw the news reporters jump for the telephones, and he could imagine the black headlines. Guilt flooded through him. Somehow, in his confusion, he had let Ruppert down. But it was all a mistake. He hadn't said those things. He hadn't—

He blurted, "It's a lie! I didn't say it. You can't print those things." He sprang from his chair and tried to make a path for Maddergall. "I won't stand for all this. My brother is innocent. If they print what you said, I'll—I'll—"

He came at Maddergall, not sure what he was doing or saying. The men seized him, caught his arms, and held him back. At the same time Paul Maddergall grabbed the knife. At the sight of Maddergall's action, Joe stopped cold. He yelled out, and his tone was a hiss of accusation.

"Look at that! The guy grabs a Venus knife. Look at him! He's threatening me! Giving me the death threat!"

The sergeant-at-arms slapped a hand over Joe's mouth and flung him back to his seat. Joe bounced up, holding out his open hands to show he hadn't intended to fight—he only wanted them to see Maddergall and the knife. But he didn't get a chance to say what was in his mind. The sergeant-at-arms

plunged at him again with a świnging fist that might have been a baseball bat as far as Joe was concerned. The blow caught him on the jaw and knocked him sprawling across the floor.

#### CHAPTER II

HE LIMPED down the steps, paused to take a deep breath, and turned to look back at the building from which he had emerged. It was adorned with some slogans about justice, but he wasn't in the mood to read. He looked down at the line of taxis and spotted one with a round, harmless-looking young fellow in the back seat. It was good to know that Dynamo Dink, his buddy, was waiting for him.

Dynamo, grinning like a well-fed pet hippo, opened the door for him and ordered the taxi driver to cruise down the avenue. "Just as well take the morning off, Joe. It's half shot already, and you look like you are too. Whassa matter? Kinda rugged?"

Joe mopped his face and rubbed his jaw. "We'll take the whole day off." He loosened his collar. He was perspiring like a Turkish bath. How his pal Dynamo Dink could wear a topcoat on a summer day was more than he could fathom-but that was Dynamo. He wouldn't be Dynamo without that battered old gabardine with its many inside pockets, stuffed with everything imaginable; it made him look like an overstuffed tent on feet. Just now he drew a bottle of grape pop, mysteriously chilled, from one of his inner compartments. He opened it and handed it to Joe.

"You look like you could use a sip of your favorite brew . . . Don't mention it . . . So it was rough, huh?"

"Like a washboard. They drubbed me on both sides."

"What's their angle?"

Joe let the purple juice gurgle down his throat, and the taxi driver glanced back enviously. Joe said, "They're trying to get something on Ruppert."

Dynamo's grin gave way to a dillpickle look and he groaned.

"I know you've got no use for Ruppert," Joe said. "Lots of folks don't understand Ruppert. But he's my brother, and I'm not going to see them hang a murder on him when some Venus Killer is the guilty party. Ruppert never had anything against Senator Droondair."

"Oh, that!" Dynamo pretended to flick a bit of dust from his coat. "They should know they'd never get you to say anything against Ruppert. Though what he's ever done for you or Lanny is more than I can figure."

"We've had our differences," Joe admitted, "but after all, he is my brother. I can't understand all his fool notions, travelling out to rub elbows with those Venus devils. But Lanny and I have learned to take him as he is." Joe changed the subject abruptly. "Where are we driving, and why?"

"Just giving you a chance to cool off. You're sweating like a bowl of cannibal soup."

"Might as well drive back to our apartment. There might be some mail —which reminds me—" Joe started to reach for something he remembered putting in his inside coat pocket.

"It reminds me, too," said Dynamo. "Who's pulling the gags with the Venus knives?"

"Huh?" Joe saw that Dynamo was fishing into the depths of that big mystery-packed coat again.

"I just came from our apartment before I picked you up. I figured to bring you your mail, if any—which there wasn't. But I saw this." He brought forth a shining ten-inch knife with a red steel blade and **a** white handle.

Joe glared. "Not another one of

those!"

Dynamo's grin faded. "So it ain't just a gag you're pulling on Lanny?"

"Gag, he says!" Joe felt himself grow pale. "Where did you find it?"

"On Lanny's desk there in the living room. Sticking up like a lightning rod. It didn't blend in right with the furniture, so I picked it up."

"Well, I'll be!" Joe placed the fingertips of both hands on his forehead and brushed them slowly down over his cheeks. Then he locked his hands together behind his head and fairly passed out into the realm of his own thoughts.

The taxi driver glanced back. Dynamo said, "Keep driving."

**P**RESENTLY Joe growled, "Dynamo, I'm in the mood for a fight."

"You don't have to tell me. I know the symptoms."

"I'm not talking about a schoolboy fight with the lads on the freight crew. I mean a real fight."

"Okay, okay. Shall we mop up on the Venus Killers, you and me?" Dynamo lifted a sarcastic eyebrow.

"It's about time, when they start sneaking in your homes, leaving a knife one day and slitting your throat the next." Joe took the knife, weighed it in his hand, and passed it back to Dynamo. "I'd sure hate to think anyone is gunning for Lanny. Ruppert and I raised him."

"Least of all would you suspect Ruppert, of course." Dynamo buried the knife somewhere within his coat. His last remark could have been left unsaid as far as Joe was concerned. They rode along in strained silence until Dynamo changed the key. "I agree with you, Joe, those Killers are seeping in, one way and another. I'm getting darned suspicious of the trade we carry on with them."

"How do you mean?"

"The steel they're shipping to my

boss, Old Man Zuber, has got the *creeps*. I've been meaning to tell you. Why don't we drive out that way as long as we're killing the day?" Dynamo called an order to the taxi driver and they spun off the avenue and out along the wide highway toward the Zuber Oceanside Industries.

The driver took advantage of a red light and bought a noon paper, promptly losing himself in the headlines. The light changed, and Dynamo said, "Push 'er along, friend. You'll have plenty of time to do your reading later."

THEY DROVE as far around the grounds as a side road would take them. They told the driver to wait there; they would be back in half an hour. They struck out and walked along the fence toward the cliff above the deep Atlantic. The sun blazed down. Joe removed his coat, but not Dynamo.

Hiking along past the no-trespassing signs, Joe got a close-up view of the great beams of metal which the Zuber plant was shipping in from Venus. Slices of green and red metals, two and three hundred feet long, lay in rows, gleaming in the noon sun.

"The irony of it," Joe said. "What a trick of fate." He was thinking of the penal colony which the earth governments had once established on the Storm Continent of Venus. In that waste land the convicts had discovered unlimited quantities of the finest metals known to man.

"They've got all they want up there," Dynamo said, "and the devil of it is, they know how to use it. Even the scrap that they toss off to Old Man Zuber has got a lot of tricks in it."

"I'm still in the dark."

"That's what I brought you out to see," Dynamo said, leading the way along the fence. "Keep an eye open. Some of these big pieces we've shipped in recently don't stay put. I've been on guard nights and I swear I've seen them move along like big iron snails. Watch close down this way, and you'll—" Then in a quick warning whisper, "Drop! Here comes someone. We shouldn't be seen here."

The fence around the Zuber acres extended down a slope where a quarter of a mile of cliff had worn away. Two men were approaching along a path within the fence, slowing their pace as they plodded up the grade. Back of the rocks and bushes on the seaward side of the fence Joe and Dynamo hid themselves and waited. Dynamo whispered, "Of all the devils! If it ain't the big boss himself!"

"Zuber?"

"Yeah, the fat one in the white suit. The scrawny one they call Mouse. He's a big executive in the boss's office. Quiet little guy, but nobody crosses him. They say he's a brain."

"Listen!" Joe whispered.

The talking became audible. Zuberwas puffing and perspiring, but it was plain from his big, gleaming blue eyes that he was as happy as any miser over his store of metal wealth.

"Yes, I quite agree with what you say," Mouse spoke in a tin-like voice. "But let me ask you, Zuber, have you noticed anything peculiar about these bars we've been getting lately?"

"Peculiar?"

"Very peculiar," the thin voice said.

"It's all scrap, Moberly. We're buying it all at scrap prices—with the aid of government subsidies, thanks to Maddergall. Rich deal, Moberly. What more could we ask?"

"Some of this metal is *alive*, Zuber. Believe me."

"Alive? What are you saying?"

"It's got live stuff in it. Anyway it moves."

"Concealed motors, perhaps? Those Venus boys are much farther along than anyone would guess. All right, we'll bust the stuff apart when the time comes, and pull out any internal power units they've left in. The main thing is to get more of it—more and more and more!"

"That's one of your three major plans, I understand," said Mouse Moberly, helping the big man up over a difficult step. They paused within ten feet of Joe and Dynamo's hiding place.

"And the other two are, keep the Venus Killers eating out of our hands, and promise them a chance to come back under *our* arrangement."

"Of course. Our—that is, your for you'll be the one great man when that day comes."

"Not necessarily," Zuber said, giving his little companion a modest smile. "There'll be greatness enough for all of us. You'll be near the top. Maddergall, too. He's moving things in the right direction as fast as possible. Right in the groove, Maddergall is, the same as you and me. The main thing is, the plan has got to be so attractive for the Killers that they'll fall in, in good order."

"You mean, after-"

"After they've had their revenge. We can't deny them that. That's what they live for."

The smaller man gazed out at the ocean as if seeing visions. "Yes, Zuber, the bigness of it almost bowls me over. And yet—"

"It's not impossible. We're getting the substance of the whole revolution right here—here in this vast store of Venus metals, and that's why I say to you—"

Zuber broke off sharply. He gave such a quick movement of his arms that Joe wondered if he had suddenly discovered he was being spied upon. But no, he was looking the other way. With a trembling hand he pointed.

"Yes, I saw it," Mouse Moberly said in a low, excited voice. "It moved,

didn't it? That's what I was telling you. Look!"

JOE STRETCHED his neck to see a twenty-five foot jointed beam of greenish-silver metal slipping gradually down the long embankment. A small cloud of dust rose around it, and a low dragging noise sounded. It moved down toward a square-shaped piece of similar metal to which other long beams were joined.

Clunk! The end of the sliding beam struck the wider piece with a concussion that made the ground tremble. The piece appeared to lock together, like a giant finger joining onto a hand. Dynamo must have thought of such a similarity, for he whispered to Joe, "Looks to me like a big hand with three fingers and a thumb."

"It fastened on, didn't it?"

"Just like train cars coupling together. It sure as heck belongs there." Then they ducked back and held their silence, for they could hear Zuber and Mouse Moberly talking it over.

"Just a coincidence, you think?" Mouse asked in a thin voice that expressed disbelief.

"Looks to me like the earth slipped a little with the weight," Zuber muttered. "Strange, though, the way it happened to fit up to that big hunk of a hand. A hand, that's what it looks like. Do you see it, Moberly? Those pieces must have belonged together. A part of a big statue, I'd say." He gave a dry laugh and slapped the little man on the back. "Don't lose any sleep over it, boy. Just a coincidence. However, you might get a crew out here sometime in the next week or two and see if there are any power units inside those pieces."

They moved on along the ridge out of hearing of Joe and Dynamo.

"Now you've seen," Dynamo whispered.

"Seen and heard," said Joe.

"You heard what he said about Maddergall and the plot?"

"Did I? Dynamo, they're scheming to bust the whole interplanetary system wide open." Joe was staring with such intensity that he could hardly move until Dynamo tugged at his arm. He was fairly frozen. "Dynamo, we've heard it, both of us, and that means we've got it right on our shoulders."

"We better report to someone."

"To the right persons, nobody else. As quick as we can. What we know is as big as a million atom bombs. If we tell it to the wrong party, it's just plain good-night, world."

"Who'll we tell it to?"

"Only someone we can trust, for sure."

"Someone like your brother? Lanny, I mean. Not Ruppert."

They hurried along and got into the waiting taxi. "We'll tell Lanny, and the three of us can talk it over. Lanny's due in at noon today from his Mars run. He should be at the space port now."

The taxi spun off toward the highway. Joe, in his excitement, might have been talking louder than necessary, for Dynamo's big elbow gave him a meaningful nudge. The driver glanced around and said, "You got a brother named Lanny?"

"Just keep driving," Joe said. In a lower voice he went on to Dynamo, "Maybe we can get an appointment with Commander Doyle. He's more alert to sky dangers than any-other official. He'll listen to us."

The driver glanced around again. "You say you want to go to the space port?"

"That's what we said."

"Your brother happen to be named Lanny Kane?"

"Yes. What about it?"

"You ain't gonna find him at the space port," the driver said.

"How do you know?"

"They got his picture here in the

noon paper. He got killed this morning. He was bringin' in a ship. It was two hours out when it blew up. Someone named Lanny Kane was the pilot. I reckon they never knew what hit 'em. So that was your brother?" The driver passed the paper back to them.

Joe stared at it and answered numbly, "That was Lanny, my favorite brother."

#### CHAPTER III

YOU LIKED to see Commander Doyle's face on the television screen. He was a tall, raw-boned man with a high forehead and very direct eyes, very honest, looking right at you as he talked.

"The earth must be better prepared....Enemies from another planet have increased their sniping attacks....We must be ready for trouble...."

All around the earth people were listening, on every continent and on the high seas. Out beyond the surface of the earth, too, there were television audiences. Sky stations for interplanetary travelers caught such messages and relayed them. Nearer the earth, fashionable entertainment clubs, hung in space, held up their own programs while the patrons gathered around huge television screens. Little Penny Maddergall, age six, drew closer to her mother as they watched and listened.

"Will we get shot on the way back to the earth, Mamma?" she asked plaintively.

"No, dear, no. You mustn't worry. Listen to what he's saying," her mother whispered. The commander continued:

"... Every citizen must be ready to do his part. Women and children who live in surface homes should arrange to move in with relatives or friends in underground homes. This is urgent. Do not put it off...." "Mamma, does that mean they won't kill us if we move underground?"

Claire Maddergall slipped an arm around her child. "You mustn't worry, dear. Daddy and Mamma will look out for you."

"But what about all the other little children?"

"S-s-sh! I'll talk with you later, Penny. Listen to what he's saying."

Little Penny looked around to see her father, Paul Maddergall, coming through the crowd. There were more than three hundred people gathered around the screen at one end of the enclosed deck. This was the "Lazy Meteor," a well known "sky-hung" recreation club, where many government and military personages spent their free time. It was located within two and a half hours of the earth's surface.

Paul Maddergall's face showed a worry as he rejoined his little family. The day's events had weighed heavily. Worst of all, every television listener around him was scared stiff over another space-ship disaster. The fools looked to him to be able to stop such catastrophes. Little did they know!

Glancing at Claire, her dark eyes shining and her face radiant under the colored lights, he told himself that she was a very glamorous woman. The thought struck him afresh because of something that had occurred earlier in the day—that round he had had with Joe Kane. Only it wasn't Joe he was thinking of; it was Ruppert. Only a few years ago Ruppert Kane had been in love with Claire—maybe still was, who knew? Maddergall smiled to himself. He had been clever enough to win her away from Ruppert Kane, and that was all that mattered.

A sudden dread filled Maddergall as the television programs switched and the day's news came on.

"Look, Daddy, that's you," Penny whispered proudly.

It was a scene from the morning's investigations, and Paul Maddergall stood stiffly as he watched himself and heard his own crisp voice firing the questions.

"Nice going, Paul," someone in the crowd said to him. Other friends glanced about and nodded, as if pleased to find themselves in the presence of so important a man.

But Maddergall's wife only watched in silence.

"Don't take it too seriously, dear," Maddergall whispered to her. "I had to prod him a bit."

"Paul, you're accusing his brother Ruppert of being one of the Venus Killers."

"Nothing of the kind, dear."

"That's going too far, Paul. You know Ruppert Kane wouldn't—" Claire Maddergall broke off, biting her lip.

"Hmm. So you're still carrying the torch for that no-good bum! I had often wondered. Now I know." Maddergall froze into stony silence, watching her out of the corner of his eye. She pretended not to hear him, keeping her eyes glued on the television screen. The scene moved abruptly, to Maddergall's relief, without showing him grab the knife from the table. But the commentator spoke of a bit of roughhouse, in which the fresh young witness learned a thing or two.

"Look, they're fighting," Penny cried. "Daddy, did he try to hurt you?"

On the screen Joe Kane could be seen rising from his chair, holding out his open hands, trying to say something, and the sergeant-at-arms was shown slugging him. Next he was shown picking himself up off the floor.

"But Daddy, why did the man hit him?"

Penny's questions were abruptly hushed by both her parents. A few jovial spirits from the crowd turned to joke with Paul Maddergall over the brisk skirmish. "You meet all kinds of characters in your business, eh, Maddergall? Better carry a gun. Or do you?" But Claire Maddergall only asked to be excused, and she and little Penny wandered away to another part of the deck....

JOE KANE and Dynamo Dink sat in their underground apartment in deep gloom. Dynamo watched the television news through the scene of Joe's being mauled, and muttered, "So that's how you got your swollen face." Joe said nothing. The news went on, giving flashes from the memorial service he and Dynamo had attended late in the afternoon for Lanny Kane and the others who had been lost in the spaceship explosion.

"They're getting it down to routine," Dynamo said. "Disaster in the morning, service in the afternoon, newscast at night; maybe the same thing again tomorrow."

"He was a swell kid," Joe said quietly. "We're going to miss him around here.... Who do you suppose planted that knife? They must have known what was coming."

"Sure. Sure they knew." Dynamo glanced at his watch. "Time for me to get over to the plant. I've got a night of work to do."

"Thanks for sticking with me all day, Dynamo." Joe drew a deep breath. "Maybe I'll ride over with you."

"Come along. The air will do you" good."

"Yeah. Besides, I remember something I left over that way this morning. I put my coat down when we were eavesdropping on Zuber."

"You'll have a heck of a time finding it out there in the dark. Better steer clear of the guards."

"I'm in the mood to prowl," Joe

said in an aggressive voice.

"Well, don't take any chances. After all, what's a coat?"

"It had a letter in it."

"Something important?"

"I never got to open it. Things have been happening so fast." Joe led the way out the door.

"Did you ever get in touch with Commander Doyle?"

"They tried three times and he was always busy. They think I can see him tomorrow, but maybe I'll try again later tonight. This business of losing Lanny has sort of knocked the props out from under me. Before that happened I was ready to go find Paul Maddergall and whip him. If I thought he had anything to do with Lanny's raw deal—"

"Sure he has. It's all one big net." Dynamo hailed a taxi and they rode off down the lighted streets toward the darkness beyond the city. Dynamo shuffled among his overloaded pockets. "Anything you need for your prowl? Flashlight? Rope? I've got a boy scout compass if you think you'll get lost. Care for a pair of water wings? The ocean's deep off that cliff."

"Thanks anyway," and Joe managed to chuckie a good night as he dropped off.

THE NIGHT air was exhilarating. Troubles were heavy, but Joe was beginning to see his own clear purpose through it all. He talked to himself with quiet determination as he trudged along the fence where he and Dynamo had walked earlier in the day. It was one thing to be hounded by mysterious enemies that left death knives on tables and blasted space ships without warning. It was quite another to see these treacheries coming into focus in the motives of Paul Maddergall and Old Man Zuber. There was some comfort in knowing your own deadliest hates were aimed in the right direction.

Lights played along the fence that surrounded the Zuber yards. Joe gave them a wide berth until the nearness of the coast drew him in closer.

A guard bobbed up from somewhere and shouted, "Hey, who's there? That you, Tom?"

Joe stopped in the shadows and waited. The guard called again, and someone answered from a point farther up the line. The guard was apparently satisfied. Joe could hear the two of them shuffling along through the metal-strewn paths until they met. They fell into a discussion about the moving metals, and Joe slipped along unnoticed.

He was nearing the point where he had left his coat when he heard the low grind of creeping beams.

Lights. played across eastern extremity of the yard and down toward the waters of the Atlantic. The guards were watching from various points, obviously baffled.

"There goes another one," a voice shouted from off across the seaward slope.

"Darned if I know what we can do to stop them," someone yelled back. "We've tried everything."

"If this keeps up the Old Man's goin' to notice."

"They've got a lively gravity pull, that's all. They won't float off too far. Let the Old Man dredge the sea. What the hell."

"He'll be blazin' mad when he sees how his fence is tore out, and that's when we'll get it in the neck. He's losing hundreds of dollars on every darn beam that crawls off. We'd better report."

Joe moved on more boldly. The guards were too busy watching the action of the big pieces of metal to be aware of trespassers. He reached the spot where he and Dynamo had hidden to eavesdrop. Over the bank, out of the level of the lights, he rummaged around among the warm rocks. Here was the coat, all right, lying right where he had left it.

A shower of dust and sand fell over him as he straightened up, coat in hand. A huge cylindrical beam was slipping out over the bank right above his head.

He jumped back and stumbled. The black mass was riding out like a huge oil tank over an embankment. For a moment he thought it was falling on him. Impulsively he reached up to protect himself, at the same time doing his best to regain his feet.

"There goes another big one," he heard someone shout. "That's one of those two-hundred-footers. Look at 'er crawl."

WITH A GRIND of earth and rocks, the big cylindrical piece moved out like a streamline train shooting off the end of the track. Joe's hand felt the round underbelly of the beam as it skimmed over him. His fingers rubbed against a square metal button that made him think of an electric buzzer. It must have been a key or a lever. He heard something fly open.

Whoosh!

The suction pulled at him. He came off his feet. His shoulder struck the curved edge of what must have been a trap door. The reflected light barely outlined the opening, and that bit of light was all that saved him. The suction pulled at his hair and clothing, but he kicked against the visible edge of the trap door and fell away.

He fell twelve or fifteen feet onto the rocky bank, for by this time the outward movement of the huge metal beam had carried him away from his original footing. As it kept moving it would soon teeter-totter over the bank's edge and then angle down toward the ocean. He rolled to his feet, struck for a stretch of lighted surface, and raced for safety out across the sand.

"Hey, look down there!" one of the guards shouted. "Someone fell out of that big pipe. I saw someone running."

"You're seeing things," someone retorted. "The rocks are rollin'."

"Yeah? Do rocks have legs? Don't tell me. Those darn things are inhabited. That's why they crawl. Someone's inside, runnin' the powerhouse."

Another voice in the darkness declared that the Old Man had better come around and get a load of what was happening.

"He's already seen," a guard replied. "He came around this afternoon, him and Mouse Moberly. Now he's got a bad headache and don't want to hear no more about it."

Joe knew he was lucky to get out of range without being pursued, for someone had certainly glimpsed him chasing off into the blackness. He was luckier still to have escaped the draughty pull of the hollow steel beam. It had almost pulled his clothing off of him before he kicked away. It had got his coat.

"Good-bye, letter," he muttered. "I'll never know what it was."

Now with a rip and an earth-shuddering thump, the big beam tilted over the bank like an overweighted teetertotter, and crushed down over rocks and sand and the remains of the fence. As rigid as a rocket, it slid forward into the sea. The lights of the guard towers followed it, and Joe saw the long splash and heard the roar as it was swallowed up.

High on another bank he lay, applying salve and bandages to his bleeding legs distractedly. All night long the strange movements of metals continued seaward—pieces of all conceivable shapes. He could only lie and wonder what it was all about. He waited and watched, as if in a nightmare. His sore legs rebelled against the trudge back to the bus line; and as long as the big shadowy movements continued from across the slope he was too fascinated to move.

At the first gray of dawn he looked out over the black Atlantic and saw a sight which no man on earth had ever seen before.

#### CHAPTER IV

**I**<sup>T</sup> CAME up out of the sea from somewhere about two miles east of the shore. At first it was only a dot of light away out there on the black waters. Joe watched it, wondering what ship it could be, carrying such a powerful searchlight.

The point of light was restless. It turned this way and that, not with the regularity of a beacon, but with a nervous movement. It moved like the eyes of a lost child trying to get his bearings.

Then it began to rise. Out of the dark waters against the gray of the eastern sky it moved upward like a gigantic searchlight on a tower, being pushed up from its submerged base. The tower which supported it widened into a gigantic head. The light of early dawn gleamed on its silvery surface.

In every way it was like a head, Joe thought. A head surmounted by a massive light that shot straight, hard beams out across the black Atlantic. It was like a head in the way it moved. It moved not as a boat glides but as a man walks. As it rose higher, the great dark bulk of its wide shoulders came into view—shoulders with arms that hung down in the water. It was walking shoreward. If it had feet they must be treading the ocean floor; for with its shoreward approach it grew taller and taller. Out of the depths came its vast body, a gigantic chest that tapered down into narrower hips; chest and pelvis and legs of gleaming steel. The long arms swung with the easy gait of its walking, graceful steel fingers silhouetted cleanly against the morning sky.

The sun was rising, and Joe thought the iron monster's headlight must have dimmed a little—until the beam chanced to turn directly on that part of the shore where he lay watching. The brilliance with which every detail of the shoreline was suddenly lighted made Joe feel naked.

The light turned away slowly and Joe's eyes swam. For minutes he had been watching as if hypnotized. Perhaps more than an hour had passed yes, more than that, he knew, for the morning had turned from darkness to full daylight. And during it all he had lain helpless, as if he had been struck down by a physical blow.

The urgency to get up and run pried at him in vain. He seemed to be experiencing a nightmare that he couldn't break out of. Were other people seeing what he saw? All along the shore for miles in both directions the towering iron monster must be visible.

Where was the great creature going? What did it mean to do? How close to the shore would it come, trudging step by step into the shallower waters? Across the low waves Joe could see the stalking movements of its shadow. The shadow advanced to the piers down the shore and slowly edged over a row of industries around the point of land. People in those faroff apartment buildings, Joe thought, must be awakening with cries of terror. Nearer at hand were a few fishermen's shanties, from which the fishermen had already pushed out to sea. Were their families still sleeping peacefully? What a shock they would have when they looked out at the morning sky!

"It must be hundreds of feet tall,"

Joe guessed, trying to gauge by a distant lighthouse.

**S**UDDENLY he was running. He ran, hardly knowing why. It was a dizzy impulse to tell everybody, to shout to the houses up and down the coast, to cry an alarm. But how far would he get on his lame limping legs? He scrambled over the rocks along the sea wall and jogged into an open lane. From some of the huts he could hear the radios blaring. Of course, the coastguardsmen were already shouting it to the world. How silly of him to think that he had anything to tell.

Yet he knew something about it that they didn't know. Again he stood, peering into the distant east. "Born under the sea," he said aloud. Tall and black and terrible against the white sky, it walked like a man. "Born under the sea," he repeated.

"Born under the sea," the voice of a girl spoke quietly.

That was the first he had realized anyone was near him. But people were coming out of their houses now, pointing and shouting. And so Joe was hardly surprised to discover that someone was standing nearby.

"I watched the metal parts move down into the ocean," Joe said, hardly looking at her. He pointed. "See those long arms? Those were big beams of steel lying on the ground up at Zuber's."

"Who put them together?" the girl asked.

"They put themselves together."

"But what is it? What's it for?"

"Look at it move. It's a giant of power. It's hundreds of feet tall. See how small that lighthouse is?"

"What's it for? I don't understand." The girl repeated her plaintive question several times. Joe was so intent upon watching that he hardly heard her. Then he felt her tugging at his sleeve, and knew she was asking the question in fright. "What's it going to do? I'm afraid."

He turned to look at her. She was a girl of eighteen or nineteen. Fear shone in her dark liquid eyes. She had evidently hurried out of the house in her dressing gown. Her dark hair hung loosely over her shoulders. With one hand she held the collars of her gown at her throat. She was barefoot.

"Look, the boats are going out to it," she said. "It must be something the government has built—though why would they build such a monster?"

Joe watched the coast guard cutters ploughing out from shore. He could imagine the men on board looking up at the big tower of steel hovering over them.

"Say, they're plenty nervy," he muttered. "They're taking an awful chance. Suppose that thing would stumble and fall."

"Is it alive?"

"I wish I could answer all your questions. It's just a great big mechanism, I can tell you that. And it was born at sea, because I watched it go in, piece by piece, and I saw it come' out walking upright. And I can guess a couple of other guesses. It's just the first one. There'll be more."

"Oh!"

"I'm not trying to scare you. I just happen to know that more metal has crept into the ocean than we see in. that one monster. There could be another, any hour of any day."

"It looks so—so hideous. Do you think it could possibly be harmless?"

The girl was standing so close beside him he was tempted to slip his arm around her. She gave a glad little cry. "Oh, look. It's giving them a signal."

THE GREAT dark hand of the steel monster was slowly rising as the nearest boat moved across its path. Joe held his breath hopefully. The giant arm raised—yes, it was surely a

signal of friendship. The open hand was being lifted—

Then suddenly the great steel fist clenched and the arm came down like a hammer. The fist struck the boat squarely.

"What happened?" the girl cried. "Something went wrong. It hit the boat. Where is it? Where's the boat?"

"The boat's gone," Joe said coldly. "What a dreadful accident. Oh, that's terrible. It just struck down, like a club—"

"It was no accident," Joe said quietly. The breath went out of him. "Look! Look!"

The massive main of steel bent toward two other boats that had followed the first. The huge searchlight on its head turned down upon one of them. Now both boats were turning about, powering for a quick getaway. But the big iron hand came down on the end of one of them.

It sliced down sidewise like an ax. The glancing blow made the boat leap out of the water. Quick as a lightning flash the other big mechanical hand swung and caught it in midair. It might have been a celluloid toy. The big steel fingers lifted it to a leyel with the massive head, and the blaze of the searchlight turned full on it. Then the steel fingers squeezed with a death grip. In a moment the faint echoes of wood and metal crunching came across the waters to Joe's ears.

The hand opened. The wreckage fell from it, struck the water, and sank. The big searchlight turned to look for the third boat, and the wide waves went out from the Iron Man's towering form as it continued to plod along through the ocean.

The girl was crying. Her head was against Joe's shoulder. What would happen, she was asking through her sobs. If more of these monsters were on their way, what would happen? Would everything be **de**stroyed? "Listen, friend," Joe said quietly, holding her tight in his arms. "I can't tell you what's going to happen. Nobody can. Nobody knows. But I can give you some good advice."

She looked up at him and drew away a little. "I'm sorry, acting like this."

"You don't need to apologize. After what we've just seen, we're both scared out of our senses and we'd just as well admit it. As soon as the radios get this out to the people, the whole country's going to be in a panic.... I hope you didn't have a father or a brother out on one of those boats."

She shook her head. "I only have a father. He used to be a fisherman." She pointed to the nearest house. "He's in there—bedfast."

"That's bad." He regarded her with interest. "That must be a big job for you."

"We're getting along so far. I work. It's time I was at the restaurant now. I work over on the highway. But I can't go this morning, and leave him—"

"Don't you worry about any restaurant job. The way that thing's moving, they'll never open the doors this morning. Look, people are already getting out."

**D**OWN THE shore line people, screeching like crazed birds, were loading into their cars and tearing out. A vision of mad traffic jams and stampeding mobs came to Joe's mind.

"You were going to advise-"

"You'd better not lose any time," Joe said crisply. "Can you get your father onto a bus? You don't have a car, do you?"

"A pick-up that Dad used to run. I drive it a little. But where would I go?"

"Inland, anywhere. Anywhere away from the coast and the city. That monster was born in water, and he might stick to the ocean or the streams. Any-

way you'll be in less danger inland. Come on, I'll help you get started."

He thought she was going to faint, she looked so pale, passing her hand over her forehead. Then she gave him a smile. "I'm sorry to be such a weakling. But I feel so—so helpless. I don't know where we can go. And we haven't any money. Less than a dollar. Today would be pay day. If I could go to the restaurant—"

"No time for that." Joe jerked out his billfold. "Here, I can spare part of this. Here's twenty-three dollars." He forced it into her hands. "Now, no time to waste. Let's get that car of yours into action."

"I've never taken money from a stranger," she said between breaths as they ran toward the house. "But I seem to know you.... I knew your voice when I heard you say...born under the sea.... I guess I've heard you on television.... Was it yesterday morning?"

Joe took the car keys and ran around to the dilapidated little truck in the back yard. It sputtered twice, then roared into life. He swung around to the front step. A flurry of talk, groans from the old man, a scurrying of steps, a bouncing of two battered old suitcases, and within minutes they were locking the door and helping the weak, sick old man down to the car.

"I'll drive you to the other side of the city," Joe said.

"Father," the girl said, as they settled together in the single seat, "this is Joe Kane, the boy you liked so well on the television program yesterday morning...and my name is Mary."

"We have relatives in the mountains," the old man spoke painfully. "We'll go there."

A wide shadow moved over them like a fast-moving cloud approaching somewhere from the east. Joe steered the car through the gate and down the lane. As soon as he got onto the highway his foot went down to the floorboard.

#### CHAPTER V

**C**<sup>OMING</sup> back into the city after escorting Mary and her father safely to the highway beyond, Joe wondered if he was behaving like a man returning to a burning building. All the way back, on foot, by bus, and by taxi, he headed into swarms of outbound traffic. It was like a wartime evacuation. Perhaps it was the beginning of war.

He was now many miles west of the coast where the Iron Man was marching. Radios blared the latest news from all directions. From overhead scouting planes with loudspeakers called down at the stampeding crowds to take their time.

"Don't rush.... Don't rush.... The danger is many miles away.... Keep in order....Obey all traffic signals....The danger is not near this area...."

Well out of the so-called danger area Joe entered one of the city's great public buildings and took an elevator down to the underground offices.

"I've got to see Commander Doyle."

"I'm afraid not, sir." The secretary was polite but firm. "The commander is not receiving unofficial visitors."

"I had an appointment. I called yesterday. They said I might see him today."

"I'm sorry, sir. All appointments are off."

"But this is urgent. This is-"

"Talk with the man in the blue uniform," the secretary said, and gave Joe a wave of dismissal.

The man in the blue uniform had been placed to handle just such eager callers as Joe.

"Sorry, buddy, it can't be done."

"I've got to see him. It's about the emergency."

"Yeah? Did you come in off the

streets? Did you hear those sirens out there? That's all about the emergency. Planes going over? Tanks moving down to the shore? That's what they're all about, buddy—the emergency. Now I know the commander would be tickled pink to have a nice chummy visit with you, but you're just one little squeak in a great big roar. So—"

"Listen, sir," Joe tried hard to be polite while he was burning up, "I happen to have information—*inside* information. If I can see Commander Doyle for just five minutes—"

For a moment Joe thought the big man in blue was weakening as he turned to another official. "Still keep ing count, George? Here's another may that swears he's got inside information."

"Thirty-seven," said the other officiał with a wink. "By noon we'll have a hundred. Why didn't these insideinformation crackbrains come in yesterday? Why wait till the world's getting smashed to hell?"

Joe's voice went savage. "Listen, I did try yesterday. They told me today. You'll find it on the books. The name is Joe Kane."

The officer sneered. "Joe Kane, Joe Doakes, Joe Blowhard—"

"It's Joe Kane!" Joe was fairly on the desk that blocked his way. The officer gave him a push back on his heels.

"It's all the same to me, buddy. If I let you inside that door, you'd come right out on your ear. I'm protecting you. I'm telling you nice like a mother."

Then the man in blue stopped talking and fastened his eyes on something across the room. Joe looked. Everyone in the room looked. The fifteen-foot television screen brought in the outside world like a picture window. The room grew quiet as the crowd watched. Joe saw at a glance what was happening. The big iron monster was moving slowly up into the bay.

"He's got a mania for boats," someone muttered,

"He put the kayo on a big ocean liner just outside the harbor," another commented. "Pounded it like a trip hammer till it sank."

"I'm getting out of here. He could uproot this whole city if he once got started."

**S**OME OF the spectators made for the door; others preferred the underground offices to the peril of 'going up on the surface. Every minute or so the voices of the newscasters would call out the Iron Man's position. Persons who were not in the area of immediate danger were urged to stay where they were. As yet the streets of the city were safe. But it was feared that a panic flight might attract the monster's attention. "Stay out of the traffic.... Stay where you are.... Do not leave your building unless your area is ordered to evacuate...."

Under the heavy voice of the announcer were the low excited hisses of those watching the screen. Another boat!

"He's after that tugboat. There it goes. He's got it."

The luckless tugboat failed to make the shore. The Iron Man reached for it. The great steel fingers of death closed over it. Out of the cacophony you heard the sound of the crush. The splintered mass splashed into the water. The telescopic lens brought a close-up of the water. There might be survivors swimming for shore. The television camera spotted one. He was dragging an arm, bloody, twisted. A white patch across his head showed were his skull had been sliced. He was crying with pain, yet swimming like mad. Then the big steel fingertip smashed down across his body.

"Where'd he go?" "Down." "He looked like someone I knew once."

"It could have been any of us."

The television camera played over the empty waters for a moment and then began to move upward. The closeup rose slowly, taking in the full height of the towering steel form. The plates of metal which formed the head were fitted with the same monotonous regularity as those of the expansive chest. The face gave no expression.

"It's a machine. That's all you can make of it."

"That face has the look of the very devil, if you ask me."

"It hasn't any look at all. It's just a machine."

"The ferry boat!" someone gasped. "That's the boat my girl friend always comes over on."

"It's turning back.... It's trying to, anyway. Or is it drifting?"

"Why did they ever let it leave the shore? They should have known bet-ter."

"Look, he's going after it. Just two long steps and he's right over it. He's going to get it, all right."

"There's no one on it—it's empty. It must be a trick."

The screen brought the scene up close. The steel giant's hands came down upon the boat and lifted it out of the water. They started to tear it like a pack of cards. There was a great flash of fire.

"I told you it was a trick!" someone cried. "They had the darn thing loaded with explosives. It's blown up."

THE CLOUD of smoke cleared, and the big metal hand could be seen brushing off the splinters of exploded wreckage. Burning debris hissed into the water. The big creature of Venus metal stalked on slowly, apparently unscathed.

"Here comes a batch of planes!" was the next hopeful cry from the

crowd around the screen.

Bomb-laden flying ships whipped into the picture at high speed. Bombs dropped, and the explosions rocked the earth and the sea. And when the smoke cleared, the Iron Man stood where he had stood before, unshaken.

"Here come four fast ones!"

"Yes, and he's got a weapon ready for them."

The planes cut across the picture like bullets. The Iron Man reached to his side. A weapon hung there. It fairly leaped into his hand. Its colored barrels gleamed in the sun. The hand rose to take aim.

"Smoke! That's the stuff. Blind him with smoke!"

The watchers around the screen went wild with sudden hope. Great clouds of black smoke boiled around the towering monster. The four planes had fired smoke bombs. Out of the mass the Iron Man's pistol flashed.

"He's shooting at himself. He can't see! He's aiming at himself!"

..."He's aiming at the smoke around him."

The pistol fanned out a spray of blue light. The smoke rolled into it. It might have been a vacuum, the way the cloud rushed in. A moment later the air was crystal clear.

The four planes came screaming back. The pistol turned on them. Instead of a blue spray, it shot a pencilthin ray of yellow. Zip. Zip. Two lines of yellow jumped from one of the pistol barrels. Two planes were struck with mathematical precision. They burst into flames. Zip. Plane number three caught the deadly ray and exploded. Zip. The ray went its length but fell short. Plane number four rode away on the wings of luck.

"What next?"

"More planes. I hear them. My heavens, this is suicide!"

While the whole room was engrossed, Joe quietly slipped through the unguarded door that led to Commander Doyle's office.

In the midst of a whirl of orders to his battery of secretaries, the tall steely-eyed uniformed commander turned to face Joe.

"Who are you and what do you want?" the commander snapped.

#### CHAPTER VI

**J**OE HANDED Commander Doyle a card. "I'm Joe Kane, sir. I have some important information. You need my help, sir."

The Commander stared at him dubiously. Joe's voice had quavered. He was afraid—not afraid of facing the commander, but afraid that some trifling error would cause him to fall down, now that the moment had come to tell his story. This chance would surely never come again. The commander waited.

"I know something about the plot, sir. Two of our own men are scheming to use Venus' help to overthrow..."

"Stop right where you are, young man. I've heard that tale every day for weeks. Everyone is accusing everyone else. Any man with an enemy wants to tell me privately that his enemy is linked with the Venus Killers."

"Yes, sir, but what I've overheard makes me very sure—"

"Two men, you say? Who are they?"

"Paul Maddergall and-"

"Maddergall, the investigator? Hold on, young man. Aren't you the same Joe Kane who had a round with Maddergall yesterday morning?"

"Yes sir, but-"

"I can see right through your grievance and it sounds just like dozens of others. Who's your other man?"

"Zuber. He and Maddergall are plotting together—"

"Who let you in here anyway?"

Joe swallowed hard. "I—just came in. That is—"

"I'm sorry to be curt with you, young man, but I'm not the world court, you know. If you gather any evidence against your fellow citizens that will hold water, take it to the proper authorities—"

"But I knew I could trust you. Commander Doyle, listen to me. I know where that Iron Man came from. And Zuber knows. It's come from pieces of Venus steel he's shipped in. They've slipped into the sea and they've pulled together automatically, and somehow—"

Now all at once Doyle's fine face was alight with interest. He regarded Joe from head to foot as if taking his measure. He said, "Go on, Kane, I'm listening."

"We watched the pieces slide into the sea—my friend Dink and I. We heard Zuber and his assistant talking about it. They didn't know we were listening. That's when they talked about Maddergall being in with them—"

"No, get back to the Iron Man. What you've just said fits with stories I've had from several other sources. There's no doubt about the metals creeping away and locking together in a pre-planned fashion. But tell me this, Kane, do you have any evidence that Zuber knows how this Iron Man works?"

"No."

"Do you think he does know?"

Joe frowned. "No, he doesn't know. He was as surprised as anyone else to know the stuff contained some kind of internal power units."

"That's what I thought. In other words he doesn't know a thing that would help us defeat this monster with one quick stroke?"

"No."

"Then I would say he doesn't deserve to be linked with the Venus Killers. He may fall victim to this senseless destruction any hour the same as the rest of us."

Joe wanted to say that Zuber and Maddergall had simply let their own plan get out of hand—which didn't make them any less guilty of treason against the earth. But before he could say it, Commander Doyle carried him off in the other direction.

"The one desperate need of the moment, Joe Kane, is an understanding of the operation of that steel giant. It defies our bombs, and obviously it's paving the way for an attack from the Killers."

"Yes, sir."

"Have you any information regarding the secret of its operation?"

"No, sir."

"If you know of anyone bold enough to get that secret, I'll be glad to supply a ship and fuel or anything else needed."

"I'd be glad to try, sir," Joe said. "My friend Dink will probably help me."

"You realize, don't you, that any ship that flies within range of that steel brute gets sudden death?"

Joe nodded. "My brother Lanny got sudden death yesterday. That gives me plenty of reason to put all I've got into this fight."

The commander asked a secretary to make out a blank order for whatever Joe Kane might need. He offered Joe a handshake and good wishes. Then he touched a button and a moment later the man in the blue uniform appeared.

"This is Joe Kane," Commander Doyle said. "Any time he comes in asking to see me—"

"I bounce him out on his ear—yessir!" the eager officer said.

"You conduct him back to this office to see me," the commander said, "with due respect.... Good luck, Kane."

#### CHAPTER VII

**"T**HAT'S EIGHT times we've circled him," Dynamo Dink said as they banked their plane in a direction out of range of danger. "And I'll swear we don't know a thing we didn't know two hours ago. We know he kills if we get in range. We know he's standing in the middle of the bay threatening the cities all around. We know he's got eyes in the back of his head. We know he can take all the



smoke screens we brew up, and melt them away with one blue puff from his pistol. What else do we know?"

"We're trying. We're working on it," Joe said gloomily. "We're not running away, are we? We're not quitting."

"In some ways he's like a man," Dynamo said. "He works awhile, then he gets fed up with it all and he rests awhile. He gets fed up with resting and he works awhile. His work happens to be killing."

Joe looked back through the summer clouds. The monster had advanced leisurely up the river a short distance, smashing any boats that caught his attention. He towered high above the lower clouds, well above the tops of the tallest buildings.

"If he's enough like a man, we ought to find a way of outwitting him."

"But then again he's not like a man," Dynamo said. "He doesn't eat and he doesn't drink. So far as you can tell, he doesn't have any heart or soul. His heart is all steel and his soul has gone to the devil."

"I've been thinking along those lines," Joe said. "There's more of downright cruelty in him than you ever saw in any man. You take a seasoned killer—he may put a blow torch to his enemy, but he wouldn't necessarily harm a child—not unless he was mad. But this monster never pulls a punch for anyone. You saw it yourself on television—that party of young kids along the shore. He reached over and caught them on the sidewalk and hammered them till there wasn't anything left but stains."

"Why?"

"That's what I'm asking. Why?" Joe groaned. "Heaven knows there's no human motive back of a thing like that. It doesn't make sense—not unless the Venus killers have wound him up,



somehow, and turned him loose to go on a terrorizing spree—"

"Just to soften us up for what's coming," Dynamo said. "I reckon that's it."

THEY CIRCLED back, watching him through the telescope. He was beginning to act up again, and this time he directed his blows at the buildings above the shore line. Standing knee deep in the water, he clung to his pistol with one hand. With the other he hammered at the tops of a row of buildings. He tore away a section of a huge steel bridge and used it as a club. Right down the line be went, striking one big building after another. Fires broke out in his wake.

"I don't see many people," Dynamo said. "Looks like they've left it all to him."

"They've had plenty of warning to go underground. But you know how warnings are. Some folks always think they can outsmart the authorities. He's probably mangling a few bodies every time he lowers that fist."

"Look out, Joe, we're getting pretty close."

The Iron Man heard them coming, that was plain. He straightened suddenly and fired his pistol. The line of yellow came straight toward them, widening into a blot that was blinding. Joe throttled for a swift climb. "We're gone," Dynamo groaned.

"Not if we're still here to tell about it," Joe said. They pulled away, knowing it had been a close call. They couldn't have been fast enough to dodge the ray, they knew that; it had just fallen short, that was all. Dynamo dug into his coat and brought out two bottles of grape pop, ready chilled.

"Have a cool drink," Dynamo said, "and then tell me this. How are you going to outwit a thing—man or machine—that's twice as quick as you are and a hellova lot more deadly?"

"It's like Commander Doyle said. There's got to be a key somewhere."

"You mean the key they wound the darn thing up with?"

Joe glanced to catch the ironic light in Dynamo's eye. They both saw the absurdity of trying to compare the Iron Man with some complex mechanical toy. There couldn't be anything "set" in such complicated fashion that it would invariably come through with all those quick human reactions.

"It's responding to a human being's will," Joe said. "And the folks that are running it are either inside it or close about. For all we know, the whole military staff of the Venus Killers may be camped right up there in its big iron head, looking out in all directions for a chance to make trouble."

Again they made a wide circle around, studying the Iron Man's head through the telescope. Joe believed that a fine photograph would show apertures on all sides for alert human eyes to look through.

That was the one theory he and Dynamo brought back with them when they descended to the landing field. They taxied to a stop and sat in the plane discussing it. Dynamo wasn't very well satisfied with the reasoning.

"Somehow, Joe, I just can't see them acting together that quick and that precise. Here. I'll show you why." Dynamo dug into his coat and came up with a little square box with a screen across the top. Inside were his three pet mice. "Look, what have I got here, Joe?"

"Three mice."

"I've got the Iron Man's head, like you describe it, with the whole darn military staff inside. They're all peeking out separate windows on the lookout for trouble. Right on their toes, you betcha. All of a sudden I blow off a firecracker, let's say. The blast is so close they all jump at once. So what happens? Do they stop and take a vote on what they're gonna do about it? Do they say: let Bill decide this time what we do? There's no time for that. There's no time to think, much less talk. There's just time to act, that quick. And you tell me how these three mice, surrounded by fifty thousand levers and push buttons, all happen to jump for pushbutton number twentytwo thousand five hundred and ninetynine-or whatever the case may be? Tell me, Joe, how is that?"

Joe nodded slowly. "Those mice look hungry, Dynamo. We'd better stop at a store and get them some cheese."

Dynamo reached into his coat. "Just by merest chance, I happen to have some cheese."

Joe looked across to the fiery horizon where the tall dark iron figure stood towering above the burning buildings. The figure stood motionless with arms dropped casually at his sides.

"Now what's he up to?" Dynamo asked.

"It could be lunch time up there too, you know. Something tells me the whole Venus Killer staff is up there in that fellow's hollow 'dome, munching on cheese sandwiches."

"Cut it out, Joe. You're making fun of me. Just because these mice are gobbling cheese doesn't prove—" "The only way to prove what's inside that monster is to get inside and see for ourselves. Dynamo, have you got the nerve?"

"Lead the way," Dynamo said.

#### CHAPTER VIII

**T**HE MAN in the blue uniform in Commander Doyle's reception room gave them a skeptical eye, but his tone was one of respect.

"Yes, gentlemen. Right this way, please," and he conducted them back to the commander's office.

The commander was having coffee, dictating to two stenographers, and keeping a nervous eye on the television screen all at the same time. He greeted Joe and Dynamo briskly and asked them to sit down.

"You almost got shot down up there, Kane. The yellow ray came within yards of you. The folks around the television were screaming for you to get out of range. We don't want any careless casualties. Did you accomplish anything at all?... Have you any new ideas?... We're stumped, are we? Even the big guns have failed to stagger that monster.

"Sir, we'd like to try to climb up inside him. A little well-placed destruction—"

"My theory exactly. A small handfull of explosives at some key spot perhaps the base of the electric brain, or whatever the devil it is that makes him function. The fact is, Kane, we already have two suicide squads at work on the plans. They'll go to work if they can get an angle."

"Maybe we could join 'em," Dynamo suggested. "Or beat 'em to the punch."

"Didn't you work all night last night, Dink?" the commander asked sharply.

"Yes, sir, come to think of it." "And you, Kane?" "I spent the night watching."

"I strongly advise that you both get some rest. You look a bit exhausted. Go home and sleep. Call back at four in the morning. If the squads haven't found their way to kayo the monster by that time, you boys have the green light."

"Thank you, sir." They started off.

"Oh, Kane," the commander called, beckoning. "May I have a private word with you before you go?"

Dynamo gave a puzzled grin and bowed out. Joe came back to Doyle's desk. He took a chair and waited. The commander shuffled through some of the papers on his desk as if looking for a memo. He was a bit embarrassed over something he wanted to say, Joe thought.

"I hate to give anyone the job of climbing inside that Iron Man," he said casually.

"We've asked for it."

"It does sound like a suicide assignment, doesn't it?"

"It could be. There must be some Venus Killers somewhere inside the Iron Man—probably up in his head—"

"And now I remember what I wanted to ask you," Commander Doyle broke in as if he had lost the trail of Joe's speculations. "What can you tell me about your brother, Ruppert Kane?"

"Ruppert?" Joe's eyes widened. At a time like this why should they stop to discuss his brother Ruppert? "I don't follow you. Is Ruppert here? Have you seen him?"

"I've no intention of embarrassing you, Joe." The commander turned to one of the secretaries. "Where did you find that coffee, Miss Garnett? Get a cup for Mr. Kane, please.... There, Joe, don't let the question worry you. You see, the minute this trouble from Venus thickened, the earth governments Legan to send notes of protest to the Venus Storm Colony. Now nothing would suit those boys better than to try to pin the responsibility on their earth friends, shall we say. Is it your belief that your brother Ruppert was a friend of the Venus Killers?"

"Not exactly a friend," Joe said. "He was more of an interested observer. He's done a lot of travelling. Different types of people are his hobby."

"Do you think he has carried any hatred toward the earth and its people?"

"Oh, no. Why should he?"

"He was disappointed in love once, wasn't he?"

"Well, yes, I guess that went pretty deep." Joe met Doyle's eyes. "Yes, he was in love with someone who later married Paul Maddergall."

"But you don't think that disappointment turned into a powerful hatred?"

"No! Emphatically no!" Joe insisted. "He was a very mild person, tender-hearted. He could hardly kill a fly, he was so—so soft! This was his worst fault, if you can call it that."

"Well, thank you, Joe, that answers my question. It just goes to prove that those replies we receive from Venus aren't to be trusted at all."

"Will I see Ruppert again?"

"I don't know, son."

"But do you know where he is?"

"After what you've told me—no, I haven't the slightest idea where he is. He may not even be involved in this trouble at all. He probably isn't. Please just forget that I even mentioned him."

L ONG AFTER their conference was over, Joe kept recounting what had been said. The more he studied the matter the less he could make of it. But one word of parting advice he took from Commander Doyle, and passed it along to Dynamo as well. They should attempt nothing before tomorrow. Since the Iron Man had apparently spent himself for the day, Joe and Dynamo would do well to treat themselves to a night's sleep before undertaking their daring action.

"Anything I can help you with?" Dynamo asked as they were nearing the apartment-house entrance. It was natural that he would be curious about the private talk Joe and the commander had had.

"He asked me about Ruppert. Same old story, only now it's the Venus Killers trying to hang something on him."

Dynamo suppressed a groan as if resolving to say nothing.

"I know," Joe said gloomily. "Ruppert's a made-to-order stooge. Back in college days he was the one they blamed for leading the cow into the dean's bedroom during the milk shortage."

"Did he do it?"

"He didn't even know there was a milk shortage. He was off in a museum somewhere droning over the butterfly collection. Chances are, he's off in some remote regions of Jupiter this very night, studying the habits of the natives."

Dyname shrugged. "I don't know why he had to be born into your family."

In the apartment building they descended to their floor, eighteen stories below the surface, and ambled out of the elevator wearily.

"They're inspecting again," the elevator man said casually. "In fact, I think he's in your room now."

"He, who?"

"The man that was here before, checking on our underground space."

Joe scowled. He turned back to the elevator man. "Wait a minute. I don't get you."

"It's the emergency," the elevator man said importantly. "Don't you know, people on the surface are being packed in with the people that live down in. They're going around measuring the square feet of space, so they'll know—"

"No, no, no," Joe said. "They don't go around measuring. They look at the floor plan, that's all. You mean to tell me you've let some person into our apartment? Did you?"

"Well, I wasn't going to," the elevator man began to hedge. "But he had his papers. He showed me. When he was here before—"

"Here before? When? What day?"

"Must have been about two days ago. You can ask him yourself. He's in there now."

"Quick, Dynamo!" Joe said. "This has a phony sound."

THEY HURRIED to the apartment door. It started to open as they neared, but instantly closed. With drawn pistols they moved in, cautiously at first, then darting fast into the room. The lights showed an empty room. Footsteps sounded with a light scampering toward the air shaft in the next room.

"Same visitor!" Dynamo pointed to the study tables where he and Joe kept their papers. On each table stood a gleaming red Venus knife, pointing up.

The clatter of the air vent told them the desperate prowler meant to get out of the place unseen.

"Come back and fight!" Joe yelled. "Come back and show your face."

The slats of the air vent clattered to one side. The slight, grey-clad form of a man was disappearing that way.

"Fool! He'll never climb eighteen floors inside that.

Crack! A pistol shot sounded in the shaft. Heedless of the danger, Joe stuck his head and shoulders through the opening, flung an arm upward into the darkness, and caught the runaway by the ankle. The fellow's pistol must have slipped from his hand. Joe heard it clattering down along the brick

shaft to the bottom of the well.

Joe clung to the fellow's ankle and pulled.

"Come easy or fall to a quick death," Joe said.

A brittle tin-like voice snapped an answer. "I've signalled my men. You'd better let go. They're on their way. For your own good you'd better let go."

"You're coming in if I have to tear you apart!" Joe swore, and he put his muscles to the task. Whatever the fellow was hanging to, his hands gave way. He gave a savage little cry, and came with a jerk. Joe tumbled him into the room. Dynamo was on him, removing everything from extra pistol to fountain pen. Then he and Joe stood back to study the little fellow's bruised face under the light.

"The wall kind of battered you up," Dynamo said, "but I think I know you."

The small man glared defiantly. He glanced at the air shaft as though he expected a squad of bodyguards to march in to his rescue.

"Yeah, sure we know him," Joe said. "This is Mouse Moberly, the brain of the Zuber works."

"Right," said Dynamo. "One of my bosses."

"Thank you for the compliments, gentlemen," the battered little man said, dusting his hands. "This is all a mistake which I can explain—"

"You bet it's a mistake! Just dropped in for a friendly visit, did you? Left your calling cards sticking up on our tables. Nice and friendly." Dynamo's tone was rich with sarcasm.

Joe spoke with a fury that ran deep. "Now we know who planted the warning for my brother Lanny. And it's a fair guess that you were back of Senator Droondair's murder too."

"Sort of building yourself for the revolution you and Zuber aim to put over, is that it?" Dynamo said. "Mouse Moberly, Grand Mogul of the Metal Monsters. A mighty man is Mouse Moberly—tinder a magnifying glass!"

"Talk, gentlemen. Say whatever you please. In five minutes you'll both be dead."

"In five minutes," Dynamo said, "you'll be safe in the arms of the law." He started for the telephone.

"Wait, Dynamo," Joe said. "I think I have a better idea. This man is good at climbing up air shafts. He might be good at climbing up the legs of the Iron Man. We'll take him along as a mascot. If we get into a tight place—"

THE DOOR bell rang, and at the same moment Joe thought he heard more sounds coming from the air shaft. Dynamo reached into his coat and brought out a short piece of rope. They tied Mouse hand and foot and carried him to the door. The bell rang again.

"Now, Mouse," Joe said in a low voice, "you're a big boss and you like to have your orders obeyed without any back-talk." His hand was over the little man's mouth. Mouse Moberly was fairly purple with rage. "We're the boss now. You're smart enough to do as we say. Tell the men it's all clear, they can come in. The door's unlocked."

Mouse batted his eyes and tried to nod. Joe let him talk. Mouse spoke sullenly.

"Come on in, Winkler. It's all clear. The door's unlocked."

Winkler opened the door and walked in, a thickset man with protruding eyes and a gravel voice. "What happened? Where's Craddle? What's the matter, are you—ugh!"

Joe stepped up to plant a pistol in Winkler's ribs. Dynamo produced the needed rope, and Winkler was made helpless. A moment later at the air shaft Joe heard the low, hollow call. "Mouse... Mouse!... Are you coming up, Mouse?"

Joe whispered his order to the welltamed Mouse Moberly. "Tell him to get to the elevator and come down. Tell him you need him down here."

Ten minutes later the three prowlers sat in discomfort in three livingroom chairs. Dynamo stood nearby, playing idly with three red knives. Joe paced the floor, talking like a sergeant with three raw recruits on his hands.

"Now, Mouse—Craddle—Winkler— I've gone over the details, and if you're smart you know there can't be any slip-ups. This job calls for experienced prowlers who know how to climb. I'll wear a headpiece with three ray-pencils attached, one for each of you. I've used them before on troubleshooting jobs. They're like bloodhounds on your trail, and they're instant death if you make a false move.... Any questions?... Go to sleep, then. We start at four o'clock in the morning."

#### CHAPTER IX

JOE SLEPT fitfully. All through the night the news flashes sounded quietly from the radio at his bed. He arose at three thirty. The giant monster of metal had paced back and forth through the harbor until three, the newscaster said. No destruction, however, had taken place during the night. "The Iron Man is temporarily at rest.... He has crouched down on one elbow.... He is resting on the area of rubble where he destroyed buildings a few hours ago.... Efforts to communicate with him, either by radio or by signal, have failed completely.... Yet the theories persist that he has behaved with human intelligence.... His path of destruction

has presented a strange pattern that defies analysis.... He chose to destroy several public buildings not far from the shore.... He crushed the fine new interplanetary museum...."

That would be a shock to Ruppert, Joe thought, for the new museum had been one of Ruppert's favorite haunts.

"...He moved down one row of buildings, smashing each one in turn ...until he came to a certain gambling den with a very bad reputation.... This he passed over."

Dynamo, also listening, shook his sleepy head. "If 1've had any suspicions of your brother Ruppert, I apologize. He couldn't possibly have any influence with the Venus Killers if they passed over the gambling dens."

"You remember?"

"I remember there was nothing Ruppert hated worse than gambling. He was hipped on the subject. If he had had an iron fist the size of that monster's, he'd have pulverized every gambling house in the country."

"Thank you," Joe said.

"For what?"

"For saying something fair about my older brother. He's a perfectly swell person—just a little different from other folks. The girl he almost married thought he was a great guy. But don't you see what's happened?"

"You mean Maddergall?"

"Yes. Maddergall smears him with suspicion, and other folks pick it up. The Venus Killers need a scapegoat so they answer Commander Doyle's notes and try to make him think our trouble comes from one of our own men—Ruppert. The bad reputation started with one malicious lie, and look where it's got. Even you, my best friend, have begun to talk like Ruppert is something poison."

"Gee, gollies, I didn't mean to." Dynamo offered his hand. "I'll never say another word against him as long as I live. It's a promise." THEY CUT the handshake short as the radio announced the time. They called Commander Doyle and received the word they needed from his office. They awakened their three well-bound recruits, untied their feet, and marched them to the elevator, out the door, and into a taxi.

Twenty minutes later the five of them were moving gingerly up the long horizontal steel beam that formed the lower left leg of the Iron Man.

Winkler and Craddle moved sluggishly at the head of the line. They yammered like whipped truants. They wanted fire-arms. Joe wouldn't even let them have a club. They complained that their recently bound wrists were too weak for climbing. But the sort of sympathy they got from Dynamo didn't encourage them to talk.

"If you slip back," Dyname said, "I'll catch you on one of these Venus death knives. I've got three, compliments of Mouse Moberly and Company."

"If you think that was my idea," Mouse mat, "you're badly mistaken. I'm just a pawn in this game."

"That ain't what you told us," Winkler called back.

"Shut your head," Mouse snapped. "Get on, get on, you're stalling," Joe ordered.

The big monster of metal was lying quiety, propped up on one elbow. The lower beam of the leg was resting at an easy angle of approximately thirty degrees. This position, together with the aid of the magnetic grips which the men wore on their shoes, made the climbing no difficult trick. They had begun at the Iron Man's ankles, which rested in the water, their approach having been made by boat.

When they ascended toward the knee, Joe realized that a bad moment was ahead. The position of the Iron Man was such that the march from the knee joint to the pelvis would be downhill. Since Winkler, Craddle and Mouse were in the lead, they would get the benefit of the downhill trail first. If they saw their opportunity in time they might race away, out of range, before Joe could cross the knee.

He tried to crowd close on their heels. Mouse slipped, fell forward, and acted hurt. He limped.

"Move along. Move along."

"I cracked my arm."

"You don't walk on your arm. Move on. Faster. Faster."

THE OTHER two men were already at the knee. They scrambled over, and the next moment they were out of sight somewhere on the other side. Joe glanced to the shore, all of sixty feet below. They wouldn't chance a jump-off here, but if they got down to those narrow steel hips, out of range, they might make their escape. He hurried Mouse over the big slippery knee joint, and then he saw. The other two men were making a run for it.

"Stop! Stop or I'll cut you down!"

They were already out of range and they knew it. The pencil rays on his headpiece spat two lines of death, like tracer bullets in the early morning twilight. Their light sent reflected gleams along half the length of the Iron Man's upper leg. Winkler and Craddle were never touched.

"They're gone!" Dynamo muttered, close behind Joe. He fired two pistol shots. The man, untouched, leaped the gap toward the wide band of copper-colored metal that circled the hips like a strap.

Flash! The copper band met them with a wave of purple fire. Joe saw them move weirdly. They had landed without a fall, but they had been automatically electrocuted. They rolled up in convulsive movements that

ended in death.

The great iron monster stirred slightly. Joe, Dynamo and Mouse clung tight, watching. They saw the bodies of Winkler and Craddle slip like stuffed sacks and across the hips to the ground. The Iron Man stirred as if to find a more comfortable position, and rolled over on them. Mouse turned back to face Joe with a look of horror in his eyes.

Dynamo said, "Nothing like that ever happened in an air shaft, I reckon."

"Take me back," Mouse said. "Get me out of here."

"You mean you don't want to follow them?" Joe said. "It's a good thing we brought you boys along. That might have happened to us. All right, Mouse, take it calm. You're still leading the way, only we're changing the direction."

"We're going back?" Mouse said eagerly.

"Is your bad arm troubling you too much?"

"It's all right."

They marched back down toward the ankle. Dynamo's eyes expressed curiosity, but he waited for Joe to call the play.

"We're going to try a hunch," Joe said. "Unless I'm mistaken, we'll bump into a trap door somewhere down this way."

They padded along the lower extremity of the leg where it disappeared in the shallow water. Joe swept his bare arm back and forth over the metal surface and presently he found what he was looking for.

"Here it is, Dynamo. This gadget that looks like a steel wart. You touch it and it buzzes like an electric buzzer, and everything flies in, you and I and Mouse, all together. Move this way a little."

"Get me out of this!" Mouse said. "I've had enough. I'll do whatever you say, but get me out of this."

"All set?" Joe asked. "Hold tight to Mouse, Dynamo, so he won't take a notion to jump."

"All set," said Dynamo. "I hope you know what we're doing."

**J**OE PUSHED the button. Two panels slipped inward and **a** whoosh of wind sounded.

"Roll in1" Joe shouted. It was a superfluous command. They were rolling, drawn by the rush of wind into the big vacuum capsule. They tumbled together, the panels slid shut, and the capsule darted into motion. The low whissss became a barely audible screech as they gathered speed. They slowed for a sharp turn, and Joe knew they had passed the knee joint. Thin bars of blue light illuminated the gliding car. Both Dynamo and Mouse looked like death.

The next whirling curve was taken at high speed. Joe held his breath. This was the zone where the electrocutting rays had worked, out on the surface of the Iron Man's hips. But that danger spot was already passed. The car was rising into the chest.

"We're coming up!" Dynamo cried against the fine screech.

Joe had the same sensation—as though the Iron Man were rising.

"We're riding wild," Mouse muttered. "We're going round in circles."

"You're used to air shafts, that's all," Dynamo cracked.

They groped for a solid footing in the rounded end of the capsule and knew they were rising straight up into the iron giant's head. They slowed up and drew to a stop. The door opened and they clambered out dizzily.

They were on a high observation platform within the frame of the Iron Man's head. Thin lines of light illuminated its emptiness. The outer rail offered a view down into the depths of the machinery-filled chest. Joe could

see dimly the division lines of the great metal units that had come together to form the body.

"Hold up, there, Mouse," Dynamo barked. "We'll all explore this tin soldier together."

Mouse had moved toward the big sphere that occupied the central position within the circular platform. The inner rail surrounding the sphere recessed toward a single oval-shaped door, bright silver within a red metal frame.

"I never figured we'd find this place deserted," Dynamo said. "Shall we try the steel igloo? That must be the brain of the works."

They first made two rounds of the circular platform, pistols ready for trouble. They saw not a sign of a human being. The only sounds were the low, smooth hums of power units somewhere down in the vast steel chest.

"We're standing up, all right," Joe said. "There's the city below us."

Open-air slits in the circular walls gave brief glimpses of the dawn-lit world below them. Mouse was staring, as much surprised as anyone by the unsatisfactory view the narrow windows afforded.

"You can't see enough from here to take aim at anything," Joe said. "There's got to be a better vision than this somewhere."

"It must be in that igloo brain," Dynamo said, "or else this devilish thing is being operated from the outside."

"Here's where we go in." Joe turned to Mouse, who was keeping a sullen face and a silent tongue. "Step ahead, Big Shot. Here's where you earn your passage."

Joe motioned toward the silver door in the red frame. He put a pistol to Mouse's back.

"Open it real quiet-like and peek in. If you don't get your everlasting at first glance, move on in and we'll follow. And Dynamo—check the door as it opens. Make sure it doesn't close on us."

"I'll give it a steel block." Dynamo reached into his coat. "What about the explosives?"

"Wait till we see what's in the sphere."

"Okay, lead the way."

MOUSE HESITATED. Joe prompted him with the pistol. Mouse's quivering hand reached out to the latch. At his touch the door swung open silently. Mouse glanced back. Joe motioned him to go on. Dynamo bent quietly to fasten a solid block in the door. Single file the three of them tiptoed into the big empty ball of white light.

It seemed empty, it was so large, and it contained so little. The lightness of it burned Joe's eyes at first. He tried to look all directions at once. The staff of Venus Killers he had expected to find was not here.

"The Iron Man is moving," Dynamo whispered. "There's some kind of window across the way—or is it a screen?"

It was an odd sort of mirror. It must have been fed by lenses all around the giant's head. It had the curve of half a sphere, and it condensed the cyclorama, with hardly any distortion, bringing in the view from all directions at once. Looking across into it, Joe saw the sky, the rising sun, and the wide stretch of land and ocean. It afforded a downward view of the towering form itself.

"No wonder the old boy can spot his enemies from all directions," Dynamo said. "With this gadget he could see a fly on his big toe and a spiderweb on the moon at the same time. Is he moving?"

"Sure is," Joe muttered. "Hope we **ton't** go on a rampage."

The spherical room in which they stood was hung to maintain its upright position, no matter how the Iron Man might bend about. He was now bending forward. Joe saw the blaze of the spotlight come to a focus on a line of railway tracks a little distance in from the shore—the first thing he himself had looked at.

A surge of dread filled Joe as he watched. He had the horrible premonition that the monster was about to reach down and tear up the tracks. At the same time Joe saw the faint smile on the lips of Mouse Moberly. "Mouse hopes it will happen," Joe thought. "Mouse would like to see this beast of steel tear up a hundred cities so the Venus invaders could pour in."

The steel monster reached a hand down toward the tracks. Then, to Joe's consternation, the arm drew back. The monster took his headlight off the rail line and straightened up.

"He's stopped," Dynamo said. "He's not going to do it after all."

"Did you touch anything, Dynamo?"

"No, I'm standing right here by you."

"Did you—"

Mouse shook his head.

"Something governed that action," Joe said. "If we can find out what, we'll know how to control this deadly heap of iron."

"It's automatic," said Mouse with a cold metallic voice.

"Well, listen at who's talking," said Dynamo. "Maybe you want to tell us all about it."

"Anyone can see," Mouse said. "We got into the elevator and it went up. Automatic. Winkler and Craddle took the wrong route and ran into an electric fence. Automatic."

"But that's only part of the story," Joe said. "It's like a man. The heart beats. Automatic. The skin breathes. Automatic. But the eyes look down on something that could be destroyed, and what decides? What? Tell me that."

"Automatic," said Mouse.

"Automatic, hell. A minute ago we started to tear up a railroad track. I was scared it would happen. You, Mouse, you wanted it to happen. I saw it in your eye. But how did the darn thing decide?" Joe's eyes swept the rounded ceiling of light. "Is there something in these walls that picks up our thoughts and translates them into action?"

"I think you've hit it right there," Dynamo said.

"We're getting darn close."

Mouse scoffed. "For the last twenty-four hours it has been making what you call decisions, one after another. If all those actions were the reflections of some man's wish, where's the man? Here we find an empty room. Whose thoughts are here to be picked up? There's no one here."

"I'm not so sure," Joe said. "There's something over this way we haven't seen."

"There's room for a man," Dynamo said. "There's all the conveniences of a prison cell." He began poking around among the chests of drawers built into one side of the wall. "There's concentrated food supplies here for a year. There's a water supply, there's a bath—"

"And a small bed," Joe said, "and someone on it."

Back of the electric window, previously obscured from their view, was the cot where the one lone occupant of the Iron Man's head lay, apparently asleep.

"Stir him out of it," Dynamo said. Joe didn't move. He stared, standing frozen over the pale, glassy-eyed man who looked up at him.

"That must be the devil that's doing all the dirty work," Dynamo said. "Stir him out of it."

Joe reached down and put his hand

on the man's wrist. "Ruppert," he said, "What are you doing here?"

### CHAPTER X

**IT** WAS A day to be long remembered. For some it was the last day of life on this earth. Fear turned to panic. Terror spread around the globe like wildfire. Each hour of the day new alarms sounded across the continents and over the oceans.

Two new iron men appeared. Great warlike flying ships from the planet Venus were on their way. Seventeen were seen moving in squadron formation around the earth. The sky station six hours out from the earth was captured. Several nearer points were considered expendable. The Lazy Meteor was evacuated.

Newscasters worked like heroes to bring the earth a graphic account of what was happening. Planes and space ships buzzed and whirred and screamed through the skies. Television cameras loaded the air with spectacular scenes from all directions.

In their underground refuges, millions of people watched, horrified. Women as well as children cried and screamed whenever the television screen brought in pictures of the great iron killers, the deadly Iron Men of Venus.

Iron Man Number One waited in the harbor, poised to deliver a death stroke to any ship or building or railway that might take his fancy.

Iron Man Number Two, who appeared in the screen as identical with Number One, was stalking down the coast like a hungry beast. He was showing one of the same whims as Number One: he preferred public buildings. He might have been looking for the capitols of earth governments. With great handfuls of debris from towers he had crushed, he attacked any court or court house or provincial capitol building. He walked inland and ripped up the public parks with his mighty iron feet.

Iron Man Number Three showed a curious preference for airports and spaceports. He walked over the city, unmindful of the rows of apartment houses he was crushing with every step. When he looked down upon the new, modern port where many interplanetary lines had their headquarters, he appeared to go into a rage.

"That is Iron Man Number Three you are watching," the voice explained over television. "He has just demolished the new ten-million-dollar station of the All-Mars Tours."

Watchers who had the fortitude to take in the gruesome sights saw him killing the people who streamed out from the spaceport buildings.

"He's the fiercest of the three," the newscaster declared. "He spares no fence or wire or signal."

**T**HEN THE picture would color up with yellow dust as Number Three went into a rage of kicking. Walls toppled. Fires broke out. Red flames and black clouds of billowing smoke were everywhere.

"There, he's stopped," the announcer said suddenly. "The big guns were trying for him. Maybe they got him.... Just-a moment, I'll have an official report for you.... No, he has stopped, mysteriously. He has not been struck. It must be that some signal stopped him. Perhaps there is an unseen general directing these Iron Men.... However, we may have more a little later. As you know, Iron Man Number One has been entered by our forces. The three men who entered are being quizzed at the present moment."

The announcer paused, as if viewing the picture of the boiling smoke.

"I give you my own theory for what it may be worth," the anouncer continued. "I believe they are like gigantic tin soldiers, wound up to go a certain length of time. When they run down they stop."

Another newscaster cut in. "The theory you have just heard is not official. However, in support of this view I offer you these two evidences."

Here the screen flashed on a shot of Iron Man Number One, bent toward a railway, but definitely stopped in action. Then came the picture of Iron Man Number Three, standing tall and forbidding amid the fury of flame and smoke, but making no motion.

"Are these Iron men through? Have they shot their wad? Is their show over? Let us hope! but even so, this may be only a preliminary flurry of terrorizing, to precede the real attack by ships."

And so it went, through the underground houses and apartment buildings and storm cellars—wherever people had gathered to wait in fear.

Somewhere twenty-five floors under the surface, Claire Maddergall waited, eyes closed. Her husband was away, taking part in the investigations. Little Penny kept besieging her with questions and protests.

"But Mama, do we have to stay down here? Can't we go where Papa is? If the first Iron Man isn't killing anymore, can't we go up and drive out in the car and see him?"

"No, child, don't even think of such a thing."

"Then he is still dangerous, isn't he, Mama?"

"We don't know, dear."

"I wish we could go out and see him. If we'd drive by real fast he couldn't do anything to us, could he, Mama? Could he?"

"We don't know, Penny. Please don't think about it."

"He wouldn't want to kill you, Mama, if he knew how nice you are. He might kill some other folks, but not you."

"Being nice doesn't seem to make any difference."

"He might kill Papa, mightn't he?" "Why, Penny!"

"I mean if he kills everybody-"

"Yes, dear." Claire slipped her arm around the child's body, and wondered whether her little thoughts had found room for some suspicion of Paul Maddergall. How much might a little child know? And how much was there to know about Paul, his secret dealings with Zuber and Mouse Moberly and the Venus Storm Colony? Claire trembled to ask herself such questions.

But she did ask them over and over as her suspicions of her husband grew. How simple it would be, she thought suddenly, for her and little Penny to get into their new red sports car and spin straight down the avenue toward the Iron Man. Yes, within reach of it.

And if it should strike-

If it should, she and her child would never have to know how deep was her husband's guilt, or how vast his traitorous actions.

"Penny," Claire said suddenly, "would you like very much to take a ride in our new red car—"

"To look at the Iron Man?"

"Yes, dear."

"Oh, Mama, could we?"...

SOMEWHERE in the mountains, many miles from the scenes of destruction, an aged man and his daughter watched the little television screen. Every hour they breathed their quiet thanks to the young man who had been so kind to them. They might have been left in the path of ruin, as helpless as babes. But Joe Kane had happened to come their way, and had given them the will and the courage—and the money—to escape.

"Mary," the old man called feebly. "Mary, come and see. It's him again. It's that boy Kane. See at the right of

the screen. They're questioning him again."...

**E**LEVATOR service was bad all day in the underground apartment building where Joe Kane lived. The elevator man was too busy running off to the handiest television screens.

"That's him. That's Joe, all right. And there's his pal, Dynamo. They're the boys that climbed into the Iron Man to see what makes him tick."

"You mean those boys live right here in this building?"

"Eighteen floors down. I haul 'em back and forth every day."

"Isn't that where we heard the prowlers last night?"

"Yessiree. Joe and Dynamo catched all three of them—with my help, that is. I sprung the trap for 'em, and they did the rest. I could have had my picture. in the paper, but me, I'm just naturally modest.... Looks like I ought to be there helpin' Joe right now, the way they're firin' the questions at him. They're tyin' him in knots, sounds like.... Gee whiz, what does that guy mean, tryin' to accuse Joe?"...

#### CHAPTER XI

THE NEWSCASTERS had praised Joe and Dynamo only a few minutes before. Very daring chaps. They had found their way into the Iron Man's brain. What they knew might help to turn the tide.

But ironically, the quizzing of important men suddenly put Joe and Dynamo on the defensive.

"What is your explanation, Mr. Dink, about the explosives? Why didn't you plant them in his head and set them off as planned?"

"I—I don't know," Dynamo stammered. "Joe was the boss. I guess we were so dizzy we forgot." "Dizzy? You were grossly inefficient," Paul Maddergall said. "I don't think you ever intended to obey the command."

"But we were dizzy. It was like on a high building, only higher. And when it moved we could feel ourselves weaving around. You should go up, Mr. Maddergall," Dynamo said frankly. "Mouse Moberly said he was going around in circles."

"Mr. Kane," Maddergall said, taking a sadistic delight in this new chance to make Joe squirm, "it's up to you to answer the questions. You are on the spot, Mr. Kane. Do you understand?"

Joe narrowed his eyes in the direction of the brittle questioner. "I understand, sir, that I didn't accomplish everything. But I've made a start. And what I did was done in good faith."

The other men around the table were made uneasy by Maddergall's tactics, but he meant to play the game his way. He beat his fist upon the "Your expedition table. involved three men who went under protest. Two of them lost their lives. You say you entered the mechanical brain of the Iron Man, and that you believe his actions are the result of this brain's workings-in response to the will of its occupants. You had a chance to set off explosions in the brain, yet you didn't. Are you following me, Mr. Kane?"

"Yes, sir."

"Worst of all," Maddergall pointed an accusing finger in Joe's face, "when you discovered the man who occupied this diabolical brain, what did you do? Did you treat him as an enemy and shoot him on the spot? No. You ran the risk of taking him prisoner. And when you brought him back to us, what did we find? We found that he was your brother. Right?"

"I guess so, sir."

"You guess so! Indeed!"

"But even if he hadn't been my brother I'd have tried to bring him back here alive—for questioning."

Much to Joe's relief, Commander Doyle nodded his approval. "Yes, you're certainly right on that point. With more Iron Men moving in on us, I consider the most important immediate step in our campaign is to discover the key to these monsters' actions."

Maddergall was quick to put himself on the right side. "Exactly, Commander. I was just coming to that. What I'm asking Mr. Kane is, did he find the key—the trick—the secret the gadget—whatever you want to call the process by which these steel beasts guide their actions? The obvious answer is, he did not. He was right in the presence of it, and he muffed it."

"But Mr. Maddergall—" Chairman Helva started to protest; but Paul Maddergall would not be stopped.

"He muffed his chance. How do we know but what he failed on purpose? I hereby charge him and his brother Ruppert with high treason against the governments of the earth!"

JOE SAW that his hands were white as chalk. The ser-cant-at-arms was glaring at him, just daring him to try any rough stuff. Yet something made him rise and point squarely at Maddergall. He wanted to say that Maddergall would pay for that false charge. But when he found his voice, quavering with anger, he said nothing of the kind.

"If you really want to find the secret of the Iron Man—why don't you let my brother help? Or is he still alive?"

The eyes of the men around the table turned to Dr. Kenilworth, a short, keen-eyed young man with a plump face and a thin black mustache. His voice was gentle but strong with authority. "Ruppert Kane has been too ill for questioning. He has been the victim of severe shock. I don't think that anything he might say at the present time would have the slightest value however, those in charge are making careful records. If you would like, I'll give you a recording of our conversations."

The committee of inquiry listened eagerly. The voice of Ruppert was like the voice of a mother or a father moved with deep grief over the loss of a child. It was a cry, a heart-rending chant, a sobbing plea for peace... for no more killing...no more destroying... "Please, no! No, no, it mustn't happen."

Maddergall, looking very sour to see how things were going, muttered, "Sounds like he got his fill of it. More than he bargained for. But I wouldn't trust him to go back into that iron monster."

"Where is he now?" Commander Doyle asked.

The doctor smiled. "You may think it strange, but I have placed him out in the sunshine on the open plaza at the top of this building."

"Where he can watch the Iron Man?"

"Yes, that's so. I consider that we are at a safe distance. It seems to give him relief and assurance to know that the monster is not moving."

"If he thinks he can win any mercy for himself with a ruse like that—" But Maddergall was cut short.

"Just a moment," Commander Doyle said. "If I may have the floor—"

Chairman Helva gratefully recognized the commander. "Go ahead, Doyle. Untangle this if you can."

"Thank you." The commander turned a sharp look on Joe and Dynamo. "These boys, in my opinion, have done a heroic thing, even if they fell short of our hopes in some respects. I think it only fair that we give them another chance—that is, if they want it."

Everyone looked at Joe, waiting for him to speak. He stared at his hands. Dynamo remained silent.

"What do you say, men? Have you the nerve to go again?"

Joe spoke slowly. "We have the nerve—yes. If it is your command, we'll go. Otherwise—"

THE ROOM, almost completely silent, echoed the sound of light tottering footsteps entering the open door. Everyone turned at the sound of a broken voice, speaking huskily. In the doorway stood Ruppert Kane, his eyes staring like death, his hand trembling. A hospital attendant supported him as he moved into the room.

"I heard," he said. "I came to say ...that you, Joe...you must not enter the Iron Man's head...again. Rather than have you go...I would kill you."

That was what he had come to say. He turned around and the hospital attendant led him out.

"I see it!" Joe came to his feet suddenly, breaking the silence that had taken possession of the room. "I'm not sure, but I know how to prove—no, that wouldn't be possible. It might take days—still—"

"If you're talking to yourself," said Chairman Helva, "you're getting nowhere. But if you're ready to prove how the Iron Men work, I'm in favor of giving you another chance."

"It won't be easy. But it will prove —yes! I'm almost sure!" Joe was talking excitedly. Dynamo nudged him and he did his best to slow down. "Could we possibly raid those Venus ships and capture a few men—at least three—three who are sure to want to destroy us?"

"In a matter of hours we might work it," Commander Doyle said. "No, we needn't wait for hours. We can do it now!"

"What are you talking about?" Maddergall demanded.

"You! You, Maddergall—sir!" Joe pointed toward him eagerly. "You're the very one to prove it. It can be proved at once!"

They stared at him speechless. But Commander Doyle must have recognized a spark in his eye that meant he knew what he was talking about. Doyle, standing tall and tense, said, "Gentlemen, I don't know what this boy wants, but I'm in favor of letting him have his way, at any cost. Is there anyone here who would stand in his way?"

"Did he say it involved me?" Maddergall asked.

"You!" Joe said. "You'd be the one to put the theory to a test! If you want to solve our trouble, you can't say no. Are you for us?"

Maddergall got up storming. "Who the devil is this brat of a kid to question my loyalty?"

"Quiet," Helva shouted, rapping the table. "We've all voted to take a chance. Are you with us, Maddergall?"

"Not at the price of my life."

"Even if it saves the lives of millions?"

Maddergall reddened. "Let's hear the scheme. What is it?"

"Just this," Joe said. "You make the trip up into the Iron Man's head. You enter the brain alone. You stay for an hour. Then you come back down."

"You mean I go alone?"

"Take a bodyguard if you wish, to make sure you get back safely—just so you enter the brain alone."

"What if the thing starts acting up while I'm inside?"

Commander Doyle said, "The answer to that is, you figure out whyit's acting up. But one other question, Joe. Is there any season why Maddergall should go instead of someone else?"

"Every reason. As long as only Maddergall enters the brain, I'm pretty sure that nothing will be destroyed."

Ten minutes later, Paul Maddergall and **a** party of four hand-picked guards set out for the ankle entrance to the Iron Man.

### CHAPTER XII

WITHIN A few minutes after Maddergall and his bodyguard had left, Commander Doyle approached Joe and said, "Now would you mind telling just what kind of brainstorm this is?"

"You're the one I trust," Joe said. "I'll tell it all to you—and anyone who will believe me. You see, Dynamo and I have been barnstorming around mostly by trial and error, but at the same time—hey, what happened to Dynamo?"

"He left," the commander said. "He asked my permission. I'm trusting him the same as I would you."

Joe looked about in a state of worry. "I hope he didn't get a notion to go up into one of those Iron Men again."

"The fact is, that's where he's going. He had heard that Iron Man Number Three has stopped moving, and he said he thought he could find his way in."

"But he mustn't," Joe said excitedly. "Can we stop him? If not hell tear up the earth."

Doyle put a calming hand on Joe's shoulder. "He said you'd be worried. He said to tell you he was taking Mouse Moberly for a mascot and that Mouse would be with him everv minute."

Joe stared for a moment with a blank expression, then began to smile. "Say, maybe Dynamo knows what the score is too. He'll have Mouse with him every minute? Well...yes, it might be all right."

They ascended to the plaza on the surface. Dr. Kenilworth, who had been talking with Ruppert, making certain his patient was comfortable and well attended, came over to join Joe and the commander.

"Joe," Commander Doyle said, "is about to give us his explanation of the Iron Men's antics. But first he wanted to ask you about the experiments on brain waves, electrical accompaniments to emotional states and the like. Are you familiar with this field, doctor?"

Kenliworth said, "Unfortunately, the greatest experimenter and I should say the greatest authority in this field was cut short in his earth career. This happened several years ago. He was involved in some criminal activities and was deported to the penal colony in Venus."

"Then it's possible," Joe said, "that these Venus Killers have made new advances in this line?"

"They've very likely outdistanced us. Is this, you think, the basis of the Iron Man's brain?"

"Yes—that is—I'm almost sure it's this, with a complication."

"Meaning what?"

"That whatever one wishes while he's inside the Iron Man's brain, the brain executes that wish—in reverse."

The three men walked along the railing of the plaza, looking across the harbor to the tall figure of Iron Man Number One, towering into the low summer clouds. He was bent a trifle, as if intending to make wreckage of the railway yards beneath him.

"For example?" said Commander Doyle.

"For example, the way Number One has struck down everything that my brother Ruppert would not want injured. If Ruppert awoke to find himself in the Iron Monster, walking up out of the ocean by some automatic mechanism, the first thing that would

occur to Ruppert would be the danger of striking a boat. His frenzy of fear that the boat might be hit would be received by the electric brain around him—and reversed. In other words, changed into a wish to destroy. And the Iron Man's mechanism would go into action to fullfill the reversed wish."

"Yes, go on."

"My brother Ruppert would look down in terror and see a few survivors. He would wish them safety. The big steel monster would pick them up and put them to death."

"I recall," said the doctor, "that the Iron Man made wreckage of the Interplanetary Musuem."

"One of my brother's favorite haunts."

"On the other hand it passed over the well known gambling house-"

"Which was perhaps the one place in the city that Ruppert would wish destroyed... As long as he saw the destruction going on, he was too concerned to turn away from the view; and the more he watched, the more his sympathies were aroused—which, in turn, prompted more destruction."

"H-m-m. I wonder," Commander Doyle puzzled. "I wonder why the Venus Killers should have chosen to set it up in that reversed arrangement. Why not occupy the Iron Men themselves, and let their own destructive wishes be carried out directly?"

"Possibly they wanted to dodge their own guilt as long as possible,"

"Yes, but more important, they don't trust each other," Joe said. "They seem to cooperate, all right, when they're coming to attack us. But from what Ruppert has told me I know that they hate each other. If they had occupied the Iron Men themselves, their real wishes would have been felt and they would have been at each other's throats. It was safer for them to put the whole business in reverse, and let innocent people like Ruppert be their tools."

**THE COMMANDER** interrupted. "Look, the Iron Man is beginning to move. That means that Maddergall has now entered the brain. The monster is coming to life again."

"If the destruction begins all over," the doctor said, "he'll surely have the wits to come out."

"He was supposed to stay an hour," Joe said.

"An hour's destruction is a high price to pay for the proof we wanted."

"But I'm convinced there'll be no destruction," Joe said. "That's why I insisted on Maddergall."

"You mean\_"

"I happen to know he'd like a path of death and ruin to make way for his Venus friends. No matter what he's saying to himself this minute as he stands in the Iron Man's brain, the wish is there, burning in his heart and his mind. The monster will give us that wish in reverse. It will refuse to destroy."

Commander Doyle held binoculars to his eyes, taking in the massive head that peered down through the thin clouds. Sometimes the spotlight, brightly ablaze through the afternoon light, played across the waters toward the plaza. At other times it illuminated the lines of traffic moving at what was considered a safe distance.

The doctor was regarding Joe with interest. "If what you believe is true, Kane, how does it happen that no great destruction took place while you were up in the Iron Man's head? I should think your love for our ships and harbors and buildings and parks would have resulted in some hard pounding of those iron fists."

Joe smiled. "I played in luck. I happened to have someone with me who came under protest—Mouse Moberly, Old Man Zuber's top executive. That little hard-willed devil walked into the brain at the same time I did, with a pistol at his back. Whatever Dynamo and I may have wished while we were in there. Mouse's traitorous wishes counteracted us. But this I remember distinctly. We had gotten Ruppert out onto the platform and were about the take the elevator down when I decided to go back for a final look. For a moment Mouse wasn't there to counterbalance me. In that moment the Iron Man reached down and tore up a big railway station and half amile of track. And in that minute or two I knew what an awful thing Ruppert had gone through. There couldn't be a more frustrating experience. You look down at one person; you scream, hoping he'll get out of the way-and the steel hand instantly kills him. When that happens four or five times, you begin to get the feeling that you're doing it. Every good wish makes you all the more guilty. In a little while you'd go mad."

The doctor nodded. He looked across to Ruppert. "I can begin to understand what that poor fellow has been through."

"He was completely down when we found him."

"Exhaustion. A sort of spiritual exhaustion." The doctor brightened. "I believe, though, that he has the constitution to come out of it."

Alarms were sounding. The iron monster had begun to take great strides across the harbor. It was in fact moving in the general direction of the plaza where the commander, Joe and the doctor were standing.

"We'd better go down under," the doctor said. "We'll have to move the patient down. I don't want any nervous relapses."

Ruppert was shaking his head. He was asking the attendant to let him stay. Commander Doyle was standing his ground, too, as if the sirens hadn't penetrated his ears. He was watching intently through the binoculars. Suddenly he said, "Joe, what happens if Maddergall sees something he likes very much—something he loves?"

"The Iron Man would destroy it. Whatever Maddergall's wish, the monster will play it in reverse. Why? What. do you see?"

"Something red in the Iron Man's hand. He picked it up out of the traffic just before he started over this way. It's an automobile. There's a lady and a child in it."

### CHAPTER XIII

**"S**TAND CLOSE by me," Ruppert said to the others in his weak voice. He was watching the Iron Man move across the harbor toward them.

"Are you afraid?" the doctor asked.

"Not for myself. For you. I'm in no danger. You see, Maddergall hates me like poison...so the iron hands won't touch me."

Joe patted Ruppert on the shoulder. Clear thoughts were coming back to that tortured mind. It was plain that Ruppert had discovered for himself the awful relationship between wish and action within the monster's complex makeup.

"It's coming closer. It's shining its light on us. What's going to happen?" The doctor stood courageously, almost defiantly. The dark steel form came towering over them. In its hand it held the red sports roadster—held it cunningly, so that the two occupants being carried high above the water sat in safety.

The headlight blazed down, making the plaza look like a stage. It was a strange drama that took place there. Only those who understood the reverse of motives could appreciate what was happening. The Iron Man worked rapidly and precisely, as if knowing exactly what he wanted to do. The huge fingers set the car down within a few feet of Ruppert. In a steel grasp that couldn't have been entirely tender, the fingers lifted Claire from the car and placed her beside Ruppert. With a definite motion of persuasion, it pushed the two of them toward each other.

"The very thing that Maddergall wants least in the world—for them to come back together," Commander Doyle murmured, nodding toward Joe.

Joe, however, was foreseeing something that looked very much like murder. Little Penny had been left sitting in the car. Like her mother, she was speechless from awe and terror. Claire Maddergall cried toward her, then `fell into a faint. The doctor and Ruppert drew her back into the shelter of an alcove, and Joe only hoped they would find their way down out of sight before the Iron Man committed his next inevitable deed.

Now the big hand swept roughly at the car which contained the six-yearold child. It skidded sidewise across the plaza. It bumped against the railing and for an instant the hand paused. Joe was on the run, and the split second of hesitation gave him his chance. He leaped for the car, caught the side, clung like a bulldog. The child was screaming.

The rail was knocked out as if made of toothpicks. The car was swept over into the harbor. Joe went down with it. Metal was crunching around him. He rolled frantically and wrapped the child in his arms. He plunged out as the car swooshed down into the water.

He dived deep. The child might drown in his arms. That would be better than 'allowing it to be crushed in the grip of steel.

He struggled to swim under water. The child's fingers dug into his flesh. Strangely he was thinking of Maddergall. Up in that twisted brain Maddergall must be watching it all happen, unable to take his eyes from the horror of it, screaming inwardly against the tragedy of it. If so, his love for his child only hastened the Iron Man's deadly strokes. Through the water came the sounds of crunching metal once again. Then a whosh of water told Joe that the monster hand had lifted and gone.

The low concussions of giant footsteps sounded. The Iron Man walked a few steps and came to a stop. Perhaps Maddergall had emerged from the brain by this time.

Joe came to the surface gasping for air. The drowned child in his arms was a sad sight. He moved along the path at the shore line, uncertain which way to go. Then he saw the doctor and Commander Doyle rushing down to him. The doctor took the child. There was always a chance, if they worked fast and carefully....

THE ATTACK of seventeen warships out of space began at sundown. The whole armada came on before midnight. The earth's defenses met them head on. For three days the attack continued with fierce intensity. Then the surviving Venus Killers limped back across the skies, soundly defeated.

The earth had withstood the test. Though several major cities had suffered severe blows, the invaders' campaign failed to come off as planned. It was stymied by surprise actions on the part of the Iron Men. These monsters of Venus steel had miraculously turned against their builders and gone to the side of the defenders. A simple switch had turned the trick. Locked within their brains were the three men who hoped passionately to profit from a Venus victory—Moberly, Zuber and Maddergall.

These three, the best of friends in their world of schemes, were perfect for their job. As the Venus warships flew in over the Iron Men in their carefully planned routine, blazing pistols from the monsters' guns sliced them from stem to stern. They fell in heaps with their loads of bombs and men.

The earth could only guess how its three traitors felt to bring such a defeat upon themselves. The men locked in the brains must have been inspired to march up onto the continents and destroy everything with their own iron hands. They must have-for their wish was reversed by the giants of steel. Disobedient as always, the Iron Men moved out to sea. There, it was related by scouting planes, Moberly and Zuber recognized each other, and would gladly have joined forces. But their deep friendship now boomeranged. The two Iron Men fought each other with the ferocity of war to the death, and went down into the sea fighting.

Maddergall, it was believed, wanted nothing more than to go back to his wife, to possess her, and to make amends, if possible, for murdering his own daughter. Instead, the stubborn monster took him deeper and deeper into the ocean. It was said to have come to rest a hundred feet below the surface somewhere out in the Atlantic. "He has food and water for a year," came the report of the earth governments. "He will not be disturbed."

Many soft-hearted people, however, felt that he should have been informed, somehow, that his six-year old daughter had escaped the fate of the Iron Man's death grip. She had been rescued almost miraculously by Joe Kane; the water had been expelled from her lungs and life breathed into her by the swift actions of Dr. Kenilworth. Her mother, Clair, had found Ruppert again, and would no longer bear the name of Maddergall.

JOE HAD wondered all along about the earth men who had been forced into the Iron Men's brains, and who besides Ruppert had undergone this ordeal. He was not surprised to learn that Iron Man Number Two had contained a highly patriotic citizen whose murder had been cunningly faked to mask his disappearance. Senator Droondair, thought murdered, had actually been snatched by Killer spies to be used in one of the monster brain compartments.

As to the occupant of Iron Man Number Three, Joe was left in the dark during the thick of the battle. He was a pretty busy man during those tense hours. He had been made a special aide to Commander Doyle. Dynamo, in turn, served as his bodyguard. Refusing a uniform, Dynamo stuck to his tattered coat with the many pockets, which afforded Venus knives or ice-cooled grape pop as needed.

When the smoke of battle thinned, Joe was pleased to learn that a girl named Mary had sent him a message of appreciation, saying, "I think you are wonderful, Joe, and I hope I see you again some day." Joe smiled.

"Do you figure to see her again?" Dynamo asked, somewhat at a loss to explain the wistful behavior of his best friend.

"It might happen that way," Joe said with a far-away look.

But one quite sad note had to be added to the conclusion of the brief war. It came to Joe in the form of a letter—two letters—and a coat.

"Been meaning to give you these," Dynamo said. "I picked them up the day Mouse and I rode up into Iron Man Number Three."

Number Three, Joe recalled, had all but obliterated the best spaceports and then had mysteriously stopped, frozen into immobility in the act of destroying.

"It was Lanny we found in Number Three," Dynamo said. "We found him there dead.... You wouldn't have wanted to see him. You won't see him now because his body was lost in the first wave of attacks—"

"Lanny? My brother Lanny?"

"You thought he was dead before. Maybe I shouldn't have told you otherwise. But I figure, from the way I found him in the brain of Number Three, that he took his own life to stop the killing of others. He had got ahold of your coat, somehow, and these two letters were in the pocket."

JOE SKIMMED through the first letter. It was the message that had been handed to him during that first bad hour on the witness stand. He had pocketed it, but never had a chance to open it.

It was Lanny's handwriting, scrawled in great haste. "... I'm sure they'll knock out my ship to screen this kidnapping.... They're going to use me for their attack somehow. I'm helpless...we're pausing at a space station. Just a break that I may get a chance to send this... To let you know **f**'ve been kidnapped..."

The second letter had been written while Lanny was a prisoner within the brain of Number Three.

"... I can't understand, Joe, how your coat happened to fly into this place.... Don't you open your mail? Maybe they've got you, too...."

And the letter went on to describe Lanny's being forced into one of the parts of the Iron Man before it slid into the sea; and how, later, he thought he had found an escape into daylight, only to discover that he was now trapped within a ball of light, where the view came to him.

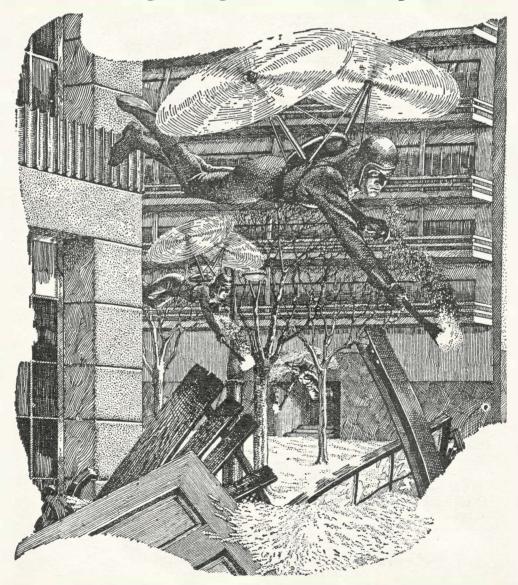
• At the last, he was agonized and helpless. Somehow his will was being twisted into destruction. Every prayer he breathed increased the vigor of the

(Concluded on page 162)

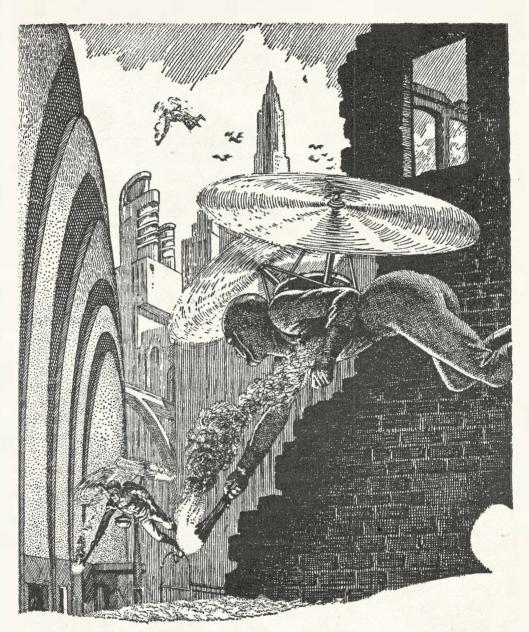
## THE SILVER PLAGUE

## By Clyde Woodruff

In a world without weapons, a world where trouble has not been known for centuries, even a slight danger can be catastrophic



Below them the earth itself seemed to pulsate under the horde of tiny creatures



THE THREE men stood alone on a vast green expanse of land. Behind them, to the north, the placid waters of a great bay lapped against the fringe of a beach several hundred feet away. But for these three, there was no sign of life anywhere except for a solitary gull wheeling high overhead, and no sound except the gull's call and the sigh of the wind through a grove of old trees that rose nearby.

"Well," said the shortest of the three men, "here we are. More than four thousand years ago, this immense meadow was part of the ancient city of New York. Queens, they called it. Where we stand, medieval man held what he called a 'world's fair' in 1939, and the year before he sank a Time Capsule deep into the earth here for somebody to find." Professor Harley Stevens mopped his brow as he spoke. He was a round little man, his face tanned and weatherbeaten. His incongruously large blue eyes, like a child's, looked happily about him. "Here we are," he repeated, "and I'm damned glad of it. Give me a perspiration tablet, somebody. My body temperature must be 110."

"Fine thing to ask for on an historic occasion," laughed Everett Stevens, passing ov **T** a small container. "But if you hadn't insisted on walking..."

"Walking! Of course walking!" said the old man explosively. "It's good for you. Forget about your confounded Masterson wings and use your legs."

Everett Stevens grinned. He towered fifteen inches over his father, and he had inherited the good-natured blue eyes, the paradoxically quick-changing and uneven temper, and the same strange yearnings that made him follow his father on his yearly trips to wilderness.

The third member of the party groaned and stretched himself flat on the ground. "Use our legs, huh?" he sighed. "I've just about used mine up. You can't make me believe there ever were human beings who used their legs all the time. Physical impossibility." Red-headed Henry Peters, threetime member of a Stevens expedition, yawned elaborately. "Me for the Masterson," he drawled, "and conversely, the Masterson for me. Till death do us part."

"All right," said the Professor, vigorously nodding his head, "fly if you want to, but make yourself useful. Go back to the wagon and get the stuff I laid aside."

"Can't make me mad," said Peters. Languidly, he rolled over on his belly and reached a long arm up to his

shoulder, pressing the control button of his Masterson. Instantly, the white metal wing discs strapped to his back began to whir softly. He snapped the helio switch, and comically, lying full length in a sleeping position, he rose ten feet from the ground. There he hung for a moment, yawning, out of reach until the Professor bent down for a small stone. Then with sudden haste he made a flight adjustment and proceeded at minimum speed towards the south.

"A million laughs, isn't he?" grinned the younger Stevens to his father, watching Peters' prone figure swerve sharply to avoid the trees. The Professor made a pained grimace. "Two million," he said.

**S**OME TEN minutes later, when Peters 'returned, his Masterson was no longer idling but humming at high speed. Instead of tools, he was carrying the portable teleradio. "Message was coming in when I got to the wagon," he said before the Professor could say a word. "The call card says it was from Mrs. Stevens. I hope it isn't bad news."

Forgetting the scolding on the tip of his tongue, Professor Stevens quickly opened the teleradio speaker. He had left instructions at home for him not to be bothered by constant calls. In a moment, the recorded message was heard. "Harley, this is Madge. Something terrible has happened. Listen to this recording from Audivisopress."

A silver peal sounded, preceding the cast, then it came: AUDIVISOPRESS, Fourth Commonwealth. News of the Day. American University announced today that Professor Harley Stevens might return from his latest explorative sojourn flushed with what he calls a victory for the obsolete studies of history and archeology, but he would return to find that he has been ousted from his chair in Medieval History. Overdean Winters declared that the University had given up trying to dissuade Professor Stevens from his generally ridiculed expeditions.

Said Dean Winters: "In the ten vears that Professor Harley Stevens has spent his leaves digging in ancient crypts, the University has been besieged by requests to halt his exploits. Aside from such valueless findings, to name a few, as the fact that our game of skyball resembles an uncient game called football, or that America was originally inhabited by red-faced men who tore hair from each other's heads, much of his work has placed parents and teachers in a state of anxiety. His presentation of an ancient weapon called a pistol started dangerous experiments on the same principle in several chemistry laboratories.

Again, his insistence on the cultural worth of savage civilizations of 1900-2500, discounting wars and disease plagues, undermined the teachings of his own University. We know that Medieval times were barbarian, and we have not even an academic interest in the field. Furthermore, the Professor's repeated insinuations that our great civilization is effete, even though frequently amusing, have been characterized more than once as smacking of David Blake. Finally, such eccentricities as the Professor's continual walking about the campus, and his recent adoption of a savage custom whereby he cultivates a certain flora and inhales the smoke caused by its burning—a. custom avowedly barbarian called smokinghave proven the breaking point. The University cannot countenance such scandalous\_"

And here Mrs. Stevens' voice broke in: "Do you hear that, Harley? What are you going to do? Oh, Harley, I warned you, I kept telling you. And now with poor Everett and Henry with you—Harley, what will you do? Har—"

With a vicious snap, Professor Steven<sup>s</sup> shut off the teleradio. "Be quiet, will you?" he shouted at the silent instrument. Testily, he turned to the two younger men who faced him with somber expressions.

"Well, Father," said Everett Stevens, "what will you do?"

The Professor glared. "Do?" he muttered, while his blue eyes took on what for him was an absurdly vengeful look. "Do? When I get back I'm going to kick Winters a hundred feet up—with his Masterson off. Right now, there's something more important. Henry, get back to the wagon and bring those tools. There's a message under our feet that's waited four thousand, four hundred and seventytwo years for us. I'm not going to keep it waiting another minute."

THOUSAND miles from the deserted seacoast spot where three men labored, the Fourth Commonwealth of America, twenty million inhabitants strong, was pursuing life and happiness in its customary fashion. Only on this wonderful day the Western Conference Skyball Playoffs were taking place. A million spectators floated in the air around the five hundred cubic yards of space that marked off the skyball field. Brilliantly colored balloon stadia seated thousands who preferred to sit; official terrestial trolleys filled with functionaries and their friends spun slowly around the area, enabling its occupants to view the game from all points; private copters by the thousands perched in mid-air at fantastic atmosphererental rates; and hundreds of thousands of pedestrians, blackening the skies, hung in the air with their Mastersons whirring, wearing the gold caps that signified a paid admission.

In the center of this, the skyball area, marked off by heavy glassoid cables that gleamed scarlet in the sun. suspended from rows of tiny balloons anchored to the ground. A box of air. and in it, two teams of twenty-one men each, resplendent in their glistening, tight-fitting uniforms. They were in the neutral zones now, lightweight speedwings revving furiously, pawing the air with the basket-like appendages that were fastened to their arms and hands, the huge scoops in which they carried the skyball. Cheers swept the skies until the heavens rang as the Bearer flew out to the center of the area, holding the skyball in his case. He fumbled at the case lock and a great hush descended for a moment. Then, with a flourish, he opened the case and dropped the ball, a sturdy blue amberglass sphere filled with hydrum. It fell slowly for a hundred yards through the area. The Bearer waved a banner. With a furious spurt. both teams darted for the ball. Delirium was on.

Untold millions were watching the game from their audivisors. The schools had declared another of their amazingly frequent holidays; the complex machinery of the government paused. Hospitals, stratoplanes, resorts, factories, foodfields, everywhere—the world stopped and gave its attention to the business in hand.

THIS WAS life in America in the year 6410, which in the new calendar was the year 3966, dating from 2544, the year of the last International War, which had reduced Europe to three backward commonwealths and

made of most of Asia and Africa a desert. In this great civilization, one week it was skyball, the next an earthborer marathon, or a carnival, a masquerade, or something else. There were fortunes paid in the semi-annual lotteries when new ideas for amusement were drawn and voted on. President Matthews, running for office, had truthfully declared in his platform that, "the business of society is the fullest enjoyment of life."

This was the society which for more than twenty-five hundred years had been "germ-free", as the eloquent state officials never tired of boasting, as though they had had something to do with it. A society that had conqeured all but the necessary bacteria, and had wiped out malignant, incurable and contagious diseases. There had been no war since the last .historical one of 2544. So many secrets of the laws that governed their universe had been theirs from time immemorial. Was it not a society of which man could be proud?

There were dissenters here and there in the last century or so. A few. And of these one spoke softly. One did not like to recall David Blake, the Master, as he had been known. Recordings of the dedication speech he had made for American University's new Chemistry buildings fifty years before were contraband. A University student, or a light-hearted reprobate, or a stealthy dealer in curios might have one, and behind the soundproof doors with every listener vouched for, one might still hear the old man's voice: "The continuity of our civilization shows on every hand the evidences of senility. Our world is dying and it needs but a minor catastrophe, one which a healthy world could easily combat, to topple it to its doom. What we know and what we have are not ours. We inherited them from men who struggled for them...." The listeners would grin a little at this point; the word "struggle" was not a polite one. Old Master Blake had gone to the end of his days a shunned, ostracised man, shorn of past honors, bereft of friends, an object of scorn.

Yet there had been others before Blake, like Preston: "The search for new expressions of our already myriad forms of sensual cultivation is degenerate. Everything must gratify, must titillate the senses. The modern mind is a wondrously delicate instrument adapted for pleasure and carefully trained against thought."

Or Atkinson's defense, after being expelled from the Society of Engineers, of his heretical plea against the famous Anti-Ether Laws, socalled: "Although we have not engaged in space travel for a thousand years, let us not forbid others from so doing. We gave up interplanetary voyaging because it was too strenuous and too dull. But a day may come when man will have more energy than we possess, or express it differently, and that day man may again want to challenge the outer reaches of the universe. Let us not pass our judgment and condemn that man as an outlaw."

Fools, all of them. Content to spend their lives in cloisters, in libraries under inches of dust, and pay Professor Harley Stevens, in his own way no better than any of them. A History Department chairman who chose to teach Medieval History, a course that had not enrolled fifty students in a decade. A putterer in an outmoded field, countenanced for years because his father, the fabulously wealthy Samuel Stevens, had given so much of that wealth to the University. There was a way of dealing with heretics, when the time came....

YET ANOTHER three thousand miles away, at the moment when Everett Stevens' radifinder wavered over the spot where the Time Capsule lay, and the White Team scored its second goal on the Skyball Playoffs, at Alaskan Foodfield C-09, the operator of the teleradio was getting no response to his frantic calls. Hours before he had contacted the administration offices of the First Commonwealth on the Pacific Coast and told them. He had been answered, goodnaturedly enough, to be careful about the amount of Dendrite Jag he drank. Only after repeated calls on the audivisors, where the operator's face could be seen, was some slight credence given him. Audivisopress transmitted as an item the news that a small portion of FF. C-09 had been lost. That and nothing more.

Sweat had discolored the operator's green tunic, and the thin muscles of his arms were knotted as he reached from one to another of the outlets. There was no answer. Again and again he plugged in, while beside him stood the now silent audivisor over which he could get only the skyball game. Despairingly he looked out from the height of his tower over the fields below. Another hundred acres had become bare, and the rate was accelerating. A thousand acres in three hours.

From the wall speaker issued the conflicting voices of the field operators: "Hello, hello, hello. Animals, little ones, millions of them and they're eating—eating everything! And doing something else! Making ropes or webs or something. They're right under me. Tune in and see!" But the teleradio operator had already seen and torn his eyes away. Now, a headphone within arm's reach glowed sullenly, and as he fitted it on, he heard from Food Field G-36: "Hello, C-09, I've heard from 34, 35, 37... it's spreading...it's everywhere... the crop's going!"

A dozen operators now, wild-eyed, frightened, plugging in and getting no answers. And the headphones hammering, the field operators bawling through the wall speakers, twelve men in the Alaskan Foodfields going crazy....

The score at the Playoffs stood: White, 5; Green, 4. And millions here too going crazy, screaming as the brilliantly-clad swift figures of the skyball players looped the sphere expertly through the air.

It was night when K-17 of the Southern Alaskan Foodfields babbled a message through to the Third Commonwealth. By then the whole northern portion of the fields was gone, and the operators had fled. But it was the first break after the game, after a score of commentators had reviewed it, criticizing the Greens, praising the Whites, inviting in the public figures and famous names of the day to say a few words and give their reactions to what they had witnessed that breath-taking day.

And when the message finally did come through, it was incoherent. Only a silence from the other towers and the thin note of panic in that solitary voice induced an official, just before he left for the Metropole Underwater Ballet, to send a patrol stratoplane to "see what the hell he's yelling his fool head off about."

HENRY PETERS was complaining again. "Listen, Professor. Three days ago we dug up this Capsule. All right. I don't mind having to decipher an absolutely strange language which you humorously call English, and I don't mind sleeping under these branches for a while. But," and Peters scratched his red head, while his long face looked even more dolorous, "I'll be doggoned if I'll stand for not hearing from my girl."

Professor Stevens cocked one blue eye up at Peters, the other attending to the mass of papers that lay before him. The three were sitting under an oak near their little plane, and the low metal table before them was littered with the odds and ends of their research. "No one uses the teleradio," said the Professor shortly, "unless they guarantee that Mrs. Stevens isn't on it. When you're my age, lad, you'll learn that these expeditions have more than one purpose. Learn to seize the opportunities for solitude."

"I've learned," said Henry. "But what worries me is that maybe my girl will learn too. You remember what you told us about these people who left the Capsule for us—about how they used to express a grievance? Well, that's what I'm doing. I'm going on a—what the hell was it? —a strike! I'm on a strike."

"Henry," said the old man gently, not bothering to look up, "if you don't continue those notations on *photographia*, you'll be **a** rather warm corpse very shortly."

Everett Stevens paused in his work. He had been laughing all through the bickering. "There really isn't any sense you two fighting all day," he grinned. "Last night I adjusted the mechanicensor on Mother's call number. I had to speak to Susan." He widened his grin. "You don't have to look at me that way, either of you. I didn't get her. Couldn't get anything. Some kind of a disturbance. And before I could fix it, you both came back from the excavation. So I didn't really cheat after all, and Henry can speak to his girl without you being afraid of Mother."

With a loud whoop, Peters ran to the plane. Professor Stevens regarded his son, nodding his head in mock reproval. "Censored your own mother's call number," he said, pursing his lips. "What is the younger generation coming—"

"Hey!" Henry Peters came bounding out of the plane, his long legs speeding uncertainly over the grassy terrain. He was carrying the teleradio in his arms.

"What, again?" burst out the elder Stevens, but Peters drowned out his nervous protestations.

"Listen to this," he shouted, setting the teleradio down. "Just listen to this." But he stood there blankly, looking from one to the other, his hands shaking excitedly until the younger Stevens impatiently switched the instrument on.

"By special order of the Commonwealth Council, the Department of Civilian Discipline has been authorized to communicate the following emergency message over all private call systems: In view of the northern Foodfields catastrophe, all technicians, first class, of Categories L through O, are requested to report to their emergency stations." There was a short pause and then, "Everett, this is Susan. They've declared an—" The voice stopped and again they heard! "By special order of the Commonwealth-" until Professor Stevens shut it off.

The three men were standing around the table, faces flushed, almost trembling with agitation. First mobilization on the Emergency Call—the Call that every schoolchild knew by rote—the Call that had not been issued for more than fifty years, since the Pacific earthquake of 6355.

"Father," said Everett Stevens, "they called my Category, Structural Engineers." That was all he could say. "Carry this stuff to the wagon," ordered the Professor. "There isn't any use trying to get a call through." Despite himself, his round face showed alarm as he strode heavily to the plane.

INSIDE, he immediately turned on the audivisor, and while the voice boomed out, he set the takeoff controls. "AUDIVISOPRESS, First Commonwealth. As scheduled, we take you now to central Cannadia .... " Another voice took up the cast and the circular screen lit up. "Here you will notice the complete destruction of ten thousand acres of greens in a single day. Thus far the damage has been only to foodfields, but authorities ar 8 alarmed not only for the food supply, but for Helios, the Fourth Commonwealth, which lies directly in the path of the invading animals...." The scope of the caster flashed out across the field, then moved down closer, and into the screen's ken came the picture of tiny animals, hordes of them, nibbling with razor-like teeth on the plants before them. They were perhaps an inch long, covered with a silver, scaly dermis, and the sun's rays glanced off them to form a blinding, glittering sheen, as though they had inundated that vast plain.

At this point, Everett Stevens and Henry Peters came lunging into the plane, carrying table, papers and all. Swiftly they took their posts, and in a moment the copter blades lashed out. Only when the plane was well aloft on its licensed level, controls locked, did they sit down beside the Professor and watch the AV screen. Silently, as the little ship sped on, the three men sat grimly, listening to the explanations of what they saw, following the wake of a strange horror from the Arctic to the borders of their own country. "...in the three days since these animals were first reported, no remedy has been jound. The Department of Civilian Discipline has not issued any further communiques since transmitting its Emergency Call. Additional Catagories may be called soon. Meanwhile, eighteen of the northern fields have been totally destroyed. We see now the remains of..."

No one said a word as the plane flew on.

A<sup>T</sup> THE end of that first week of terror, the order came to Helios, Fourth Commonwealth City, to evacuate. The ravaging horde was almost upon them, their ever-growing numbers moving like a deadly shadow over the face of the continent.

In Professor Stevens' home, all was confusion. The Professor himself, Everett, the two younger boys and a daughter hurried from room to room of the rambling suburban cottage, gathering their effects. Even Mrs. Stevens had for the past few days forgotten her numerous minor woes in the face of what was happening. The household teleradios glowed incessantly, messages coming from friends and relatives. The audivisor was on constant duty, hammering out the new official orders. At length they were ready to leave, and they stood on the house landing, scanning the skies anxiously for a sign of the dory that would come to pick them up.

And then it came, spinning furiously to a halt several hundred feet overhead. Two freight porters came down and took up the Stevens effects on a small freight platform Masterson. The Stevens fastened their wings securely, all but Professor Stevens and Everett. Mrs. Stevens had been crying silently, but now she looked at her husband. "Harley," she gasped, "you must come with us. You're eligible for exemption." "No, my dear." He held her comfortingly. "They requisitioned the wagon, and as master of a plane, my duty to the state lies in going with it. No man can be exempt today." He smiled sadly at her. "Besides, outside of caring for this crazy son of mine, who will be there to try to knock some sense into the idiots who are running the defense?"

There was an impatient blast from the dory. "Goodbye, Mother," said Everett Stevens gently. "Watch the brats, and don't forget to call Susan for me."

And so this family parted, as thousands were parting, their trim discwings whirring, lifting them to a dory and the safety of distance. As the two Stevens looked after the dory, Everett turned to his father. "What did you mean about knocking sense into the idiots?" he asked.

"Nothing," replied his father. "Nothing at all. I just happened to think of an old friend of mine, and somewhere we had been thirty years ago...."

Half an hour later, the Stevens plane was one of a small stream that trickled through the sky towards the northwestern edge of the city. From the moment of their landing on a great recreation plain, the helplessness of the congregated city and state officials was apparent. Men with violet armbands were scurrying through the air. bent on diverse missions; great speakers blared forth numerous and often conflicting orders; men stood about or hovered in mid-air in tense groups; and no one had the vaguest notion of what they were to do, or what they could do.

**PROFESSOR** STEVENS, alone while his son reported to his Category, found himself near a worried knot of scholars on the patio of the **P**ower Administration Building, and he listened desultorily to the wild rumors, current for the moment, that made up their conversation. The little animals were insects...they weren't insects, but pseudopodia of an unbelievably immense carnivorous animal that had appeared from the interior of an iceberg...they were scavengers from a remote planet, shipped in rockets by interplanetary p i r a t e s...they ate through stone walls...they were impervious to everything but hypnotism, and therefore robots...or not robots...

The old Professor listened wearily, reflecting with a sad shrug of his shoulders how few of these teachers of men knew a whit of what they were so avidly talking about. Insects—how many of them had ever seen an insect? Planets and rockets—who among them could explain, however feebly, how a rocket worked, or the slightest findings of any of the great interplanetary voyages of the dim past? Robots, hypnotism... "Bah!" exploded the Professor in a loud and disgusted growl, and again, "Bah!"

He was standing on the fringe of their circle, and when he spoke, every eye turned on him, coldly, hostilely. "Stevens!" someone whispered. The little group began edging away, their nervous eyes fixed on him, almost as though he were in some way responsible for the tragedy. Professor Stevens screwed up his round face and thrust out his chest. "Witch hunters!" The reference to a matter far removed from their knowledge was entirely lost on them, and the Professor strode away, a satisfied victor.

The loudspeakers roared again. The men were to proceed via Masterson to the Transportation Center. Torches were to be passed out. Torches, Stevens thought—weapons actually. Man had not held a weapon for thousands of years, and now he was using one. Fire—what was more primitive? And yet what else was so simple or so effective? Vaguely, he thought again of an old friend, Adolf Fourier. What else was he trying to think of? The thought was too misty, and what little of it came through was too absurd to take seriously. Still, where was Fourier now? He would find out.

He walked to the stately Transportation Center, found the pyramid building and ascended the flight shaft from the interior, surprising the arms dispensers by coming up from the rear, instead of hovering in line outside the building. Unfortunately, his habit of walking had led to a careful check. and a clerk in violet headgear refused him a torch. "Our records," came the stiff refusal, "hold you as an undesirable, and no duties are expected of you." The old man shrugged and went out as he had come. Momentarily, he had thought of seizing one of the flame torches that lay within easy grasp, but then he had dismissed that thought.

**O**UTSIDE AND overhead, there was a great phalanx of men flying still further north. Hurt and outraged though he was, Stevens reluctantly began walking north. He had to see for himself. At least that.

It was then shortly before noon, and when he came to the outskirts of the city, not far off he saw the silver blanket that covered the earth for miles ahead. He saw other things. The tremendous color symphony auditorium was no longer its magnificent carefully-nuanced blue, but hung with giant streamers of thin silver strings, tens of thousands of them. Swarming over the building, climbing up the sides, was that advancing wall of silver. And then the auditorium sagged —as though some hand, more powerful than one could imagine, were pulling at it, and one by one the walls fell. The dust rose a hundred feet into the sky, and a low column of defenders that had deployed down, fled upward again. When the thunderous booms of the falling walls stopped, and the dust had gently subsided, the auditorium lay level with the ground, its sheen like a lake, and a dozen other adjoining buildings near him were already hung with the glistening streamers.

Now he thought he would go forward a bit and take into his hands one of the insects, if indeed they were insects, and examine it. But as he started, a warning boomed from the sky, cautioning the men not to go near the silver animals. They had been found to eat everything organic! With a shudder he stopped, and then all at once there were two youths dropping swiftly toward him. "Get away, get away!" they shouted. He looked into their frightened faces and wondered why he was so calm. There were a few of the animals near him; he could have touched them with his foot.

Suddenly there were men dropping on all sides of him, thousands slowly coming down in formation. Six feet from the ground they stopped, and at a signal they turned their torches on the silver horde. Hastily the two young men seized him and dragged him aloft with their own Mastersons, out of the path of those thousands of flames. With a start, Harley Stevens' mind cleared, and he realized that he had been in a daze. The episode at the Transportation Center had affected him more than he had realized, the brand of undesirable had burned too deeply. His own Masterson had been turned on and he was quite alone now, alone in the midst of thousands, a hot anger blinding him while he fought to retain his calmness. There were days to come, days when he would need that mind.

The flame torches showed blue and

orange, stretching in long, hissing jets as they swept the earth below. The metal and duxtrete of the buildings were not inflammable, but no living thing could have resisted that sheet of fire. Seconds later, with the intense heat already unbearable, the signal came to cease. And when the last torch stopped, and the colored curtain of fire lifted from the earth, they saw that they had failed.

The silver had spread in every direction, embracing a new set of buildings. It was as if there had been no fire at all. An awed, brooding silence fell like a veil over the thousands in the air, a portend of the times to come. when that silence was to be remembered as the first terrible greeting to defeat. But at that time they couldn't fully, understand. These men of the sixty-fifth century hardly knew the meaning of the word. Perhaps if they had had time to reflect and understand, they would have left the warnings unheeded and dashed themselves against the tiny foe.

But, perhaps mercifully, that realization was denied many of them. The first to recover called out, but they were too late. The buildings around them were beginning to sag, the walls were swaying. And overhead, the swift enemy had spun their cables from building to building and to the ground, reaching in myriad lines that were scarcely visible but for the sun's rays glistening beautifully on them. When the walls began to fall again, and the choking spray of dust rose, panic seized that first army in its flight upward. Many of them were lost under the walls, some fell blinded by the dust, and others-hundreds of themwere torn to shreds as they flew headlong into the thin strength of the cables that spread out like a lovely, haphazard network of death. Where twenty-five thousand men had gone

out, half returned, and they returned to flee.

And Harley Stevens, hovering in the sky over all this, an isolated speck in a disastrous sky, was the last to leave....

SO HELIOS fell, and after it, Ossa the Magnificent, City of Spires, rainbow-hued Ossa that had stood for a thousand years. And after that, Futurama, with its treasured architecture, its superb sheer crystal domes. the center State edifices with their murals etched in the amberglass walls. And with them went thousands of square miles of land-land that had been foodfields, or free land, or play land. The silver insects covered it all. eating whatever lived, drying the rivers and lakes simply by drowning in them in hundreds of millions, and tearing down everything else with their steely webs.

That third week, the silver area took an abrupt turn to the east, and before nightfall of the same day, Emergency Law went into effect in every city in the hemisphere. It seemed a little ridiculous, because there had been no disorders, no rioting. The purpose of the law, answered the harassed officials, was to keep the populace at work, to keep the vital functions of the State from ceasing. But so few of the addressed populace had ever had any work to do, and those who had state functions to fulfill had usually taken two or three hours a week for it. And they hadn't stopped; they wanted more to do. Everybody wanted something to do, something to keep them busy, to occupy their idle minds. But they went about living, those first few weeks, the way they and the generations before them had lived all their lives-they played! The dances were more overcrowded than ever, the picnic fields

flooded, the purveyors of Dendrite Jag, and mindease, had more orders than they could fill. Philosophicalminded citizens commented on the ironical spectacle that took place at the capital, Unos, in the third week of terror, where three million people attended a second-rate skyball game, a game ordered by the officials. But it wasn't the same. No one watched the score. People were doing the same things they had always done because there was nothing else to do. They played and danced and laughed with a quiet desperation, with the nerveshattering tenseness that gripped the nation. There was nothing to do.

They knew what the silver plague was by then. Insects, their scientists had told them after the first Emergency Convention. Insects—tiny animals belonging to branches of life almost extinct on earth. They had come from the north where, five hundred years before, an old volcano, uncovered by retreating glaciers, had spluttered its last—and they had come from the interior of that volcano. So much they knew and no more. They could not even study them first hand because they feared the insects' reproducing in captivity.

In Ossa, the Department for Civilian Discipline had emptied its unvisited museums of the few centuriesold weapons that remained; the ancient radio death-ray, the electroglow, the heatwave, Kemp's Paralysto. But the models were too old; they would not work; there were so few who knew anything of operating or repairing them. Men hadn't fought anything, they remembered their proud boast now, for so long. Futurama, when it fell, was empty and silent, and it fell undefended.

Then the second blow fell. Food rationing began. The destruction of half the food supply, to a civilization that had spent so much of its energy cultivating and experimenting with it, and the consequent necessity of relying on concentrates, was a heavy blow. The next few days were swift in torture, slow and unbearable in time.

**THE SECOND Emergency Conven**tion called by the D. C. D., in Unos was in an uproar. The speech of the learned Professor Otto Schwartz had been interrupted by a short, round man who sat in the second row. "Bah!" the man had said in a loud snort, and then he had paraphrased the learned Professor's measured sentences. "Our science will triumph in the end, will it? Our science, indeed! That gives it about a month to do its triumphing in." And with that, the interrupter had started up the aisle.

"One moment, if you please," Professor Schwartz had called after him, but before he could say another word, thin, white-haired Overdean Winters jumped from his seat on the rostrum, his face purple with rage.

"That man," shouted Winters, "is Harley Stevens, here on a provisional invitation, and the mobilization decree of Category A does not include him."

"Thank you," the Professor in the aisle had bowed. "You make matters so clear. My provisional invitation excludes me from speaking here, as I intended, but the comforting part of that is that it also allows me to leave."

At this another man, a lank, middleaged individual with flaming red hair, had risen and shouted: "Don't let him leave! My son is a member of Professor Stevens' staff, and I know that he is working on something, something new. I demand that he be heard1"

"Nonsense!" shouted Overdean Winters. "Nonsense, I say!"

At this point the Convention had gone completely out of order, with hundreds of men and women clamoring, yelling their opinions. Audivisopress men, in their balcony, wondered how much of the melee had been cast before they had remembered to snap shut their instruments. The bell gavel gave out helpless clangs, and for five minutes the noise continued unabated, dying finally to a low murmur of indeterminate protest.

Administrator Harvey rose. "The D. C. D. which is responsible for this Convention, has no part in scholastic quarrels. If what Professor Wade Peters says is true, Professor Stevens will be given the rostrum to speak his mind and declare his proposals."

"Only on the promise that I will be allowed to finish what I have to say, and on the condition that Audivisopress cast my speech, as it has for every other speaker," came Stevens' answer.

The Administrator nodded. Professor Stevens walked slowly to the rostrum, his face expressionless but with his blue eyes blazing. He turned and faced the packed chamber, felt its hostile silence. Then, after a moment, he began to speak.

"The sciences are here today. Among you are chemists. What are you but glorified cooks and beverage brewers? Physicists—what do you know besides operating machines to produce color symphonies, or using natural laws to get new thrills for a jaded populace? Psychologists—what is your function aside from prescribing the customary month's absence from city life, and detecting the advance of senile dementia in men who have hardly reached their prime? Doctors—how long can your drugs compensate for our lack of living?"

A GREAT audible current of protest swept the room. Professor Stevens held up a hand and continued, his voice penetrating, his syllables clipped and precise: "I am a disciple of David Blake, you are saying to yourselves. I do not deny it."

"Stop him!" furious voices called out. "Not another word!" "Enough from the savage!" They were on their feet now, clamoring. The Administrator clanged for order, reminding them of the speaker's privileges.

Stevens' face was set in hard lines. "You call me savage. I don't mind. Though your intent is insulting, our divergence on the meaning of that word is so great that I confess that I am the least bit flattered." Deliberately, he paused and reached into a pocket, from which he withdrew the long black object he called a pipe. Calmly, he filled it, and lit it with a spark from the bared end of a wire on a nearby Masterson motor, and just as calmly he exhaled a large cloud of blue smoke. Audivisopress men gasped at the spectacle they knew was being received by millions.

"Savage!" Stevens spat the word out. "By that you mean uncivilized, brutal, forceful, ruled by primitive and normally submerged passions. We don't know, by that criterion, how far removed from savagery the man of 6410 is. He doesn't show it, perhaps for the reason David Blake advanced —and I ask you to excuse me—because he hasn't had to struggle. But savage in that it means a man who has never stopped struggling, never stopped thinking and doing. In that sense I see the insult as something sublime.

"What my idea is, in detail, I will not say. There are too many among us here only too ready to pass a law like the Anti-Ether decree, for my especial benefit. Blake said that a minor catastrophe could topple our world to doom, where a healthier world would survive. My plan entails going to a healthier world to seek the means of saving ourselves, the world of the

past, the world that you call savage—"

No one knew, after that, if Professor Stevens had meant to go speaking. The audience, most of them, were beside themselves with rage, and they hammered on their desks, screamed insults, yelled broken answers. The chairman's bell was like a whisper in a thunderstorm. But it was impossible to go on, and when Stevens left, staunchly walking up the aisle, Wade Peters, kept there by the rules, waved to him....

But in his home some hours later, under the questioning of his son, a good deal of the staunchness left Professor Stevens. He sat in his great easy chair, sipping hot tharo, fighting the fatigue that showed in the lines of his weatherbeaten face. His son was pacing the room, hurried words pouring from his lips, bitterly reproachful: "The way you sounded over the AV, oozing confidence—and now you aren't sure what you meant."

The elder Stevens shrugged. There was a mass of notes before him. "I can't be sure. It was more than thirty years ago, these notes..."

Everett stopped dead in his tracks. "That?" he said, incredulously. "Was that what Professor Peters meant Henry had told him? But it's the vaguest, the most uncertain—"

"Wait until Fourier gets here."

"Fourier!" echoed Everett Stevens, dismally. "Fourier the hermit!"

"Henry," said the Professor, "get me my pipe, please. You'll find it in the upper poche of my tunic."

"Confound it," said Everett desperately. "We can't be seen with a man everyone laughs at. That speech of yours was—" he spluttered, unable to find a word strong enough. "But Fourier, who has spent his life in what even you were content to leave as a hobby—an archeologist. And banking on a man like that was enough to make you so arrogant in that speech."

**GOT ENTIRELY**," said Harley Stevens. He stuffed his pipe and looked around at his staff, at Frazier, MacDougall, pert Susan Copley, Rennich. "Not entirely," he repeated, his face suddenly serious. "There are days ahead of us that are undreamt of. We have never had a famine or a war or a plague. We have never had to witness what man can do when he is desperate enough. Wait until the rations grow smaller, the cities more crowded. I only hope that we will be successful, that we will be in time. There will be days too dark to endure, but from history we know that they will be endured. There will be sights unseen for thousands of years, too terrible to describe, because there will be no hope.

"That is why I, in my small way, appeared to be so arrogant today. Arrogance, however distasteful, brings with it a sneaking confidence in the man who offends with it. Unconsciously we feel that a man must have a reason for his arrogance, as you yourself did, and that brings hope—as it did to you. Perhaps that small ray of hope will to some degree offset what I fear, and if it does, I will be well repaid. If nothing comes of my own hopes, then nothing except my last memory will have suffered."

Professor Stevens leaned back and puffed on his pipe. The golden glow of the entrance lamp was startling, almost audible in the silence. Someone, the awaited Fourier, undoubtedly, was at the door. The Professor rose. "For another, Everett," he said, as if he had not stopped speaking at all, "I am a constant advocate of arrogance, when you can get away with it." He smiled broadly at the quiet circle that confronted him. "Atrogance is good for the heart. Keeps the blood circulating

and the conversation lively. My own theory." With a reassuring chuckle that belied the gravity of the situation, a chuckle that brought smiles to the faces of his listeners, the Professor left the room.

When he returned half an hour later, Adolf Fourier was with him. For a man of sixty, Fourier was a remarkable specimen. Almost six feet tall, his lithe body stood erect and graceful, the muscles rippling under his tunic. His luxuriant black hair, almost untouched by gray, rose from a massive forehead, but his stern appearance was entirely dissipated by his eyes—dark, brilliant eyes that were soft and kind.

"Adolf Fourier," Stevens introduced him, "my boyhood friend. He was with my father and me thirty years ago on the first treasure expedition my father ever conducted. He has since then sought for other treasures, and he has found them in a knowledge few possess."

"Poof!" said Fourier quietly. "You praise me as highly as you would if  $\downarrow$ were high scorer in a skyball game." He said a few words to each of the people in the room, then he addressed Everett: "Will you please let me see the Audivisor files of the instructions cast last week. I have heard about them, but I live cut off from the world and I have not seen them as yet."

Something in the way he spoke gave his listeners an inkling of the importance of his request. Susan Copley turned in time to see Professor Stevens clenching his hands, and then the curtains darkened the room.

Soon the AV screen lit and the filed cast began. The scope followed field after field of devastation, tracing it from the volcano in the Arctic through the havoc of Futurama. Passively, the audience sat there, until "We descend now to a close view of this tiny monster, until now unknown to man." came from the recording cylinder. "And here we see the insects devouring the remains of a tree, noticing also the cables which it manufactures from. somewhere inside the round sections of its body." From that point, where Fourier had sat tensely, his interest wandered, as if the problem had been set and his mind was now grappling with it. The curtains parted again, and in the light Professor Stevens regarded him, betraying no emotion.

"I think yes," said Fourier at length. "In the southern part of the French peninsula, as you said. Yes, Harley, yes."

The elder Stevens rose then. He motioned to his son to begin the preparations they had planned. Another expedition was under way.

WO SMALL stratoplanes rested on the earth near each other. Not far away, in the center of a clearing, rose a great mound of earth, completely overgrown by a dense thicket. Surrounding that mound, while Rennich and Everett Stevens laboriously cut their way through the thicket, were the other members of the Stevens expedition. After a time, a dull, booming sound came from inside the thick growth where the two men had lost themselves, and then Everett's voice. "We're here. It's a metal door all right, something like what you said steel was."

Fourier hurried into the thicket, and in a while the three men emerged. Fourier was scribbling away in his open notebook. He looked up. "This time we're right," he said, those dark, intense eyes of his alive with anxiety. "The inscription etched into the door says: 'This crypt was sealed in the year of Our Lord 1945, on the fiftieth anniversary of the death of Louis Pasteur, to perpetuate his memory and the achievements of French Science in the Nineteenth Century.'" Fourier paused. "To perpetuate his memory," repeated the elder Stevens. "His name has probably not been spoken for more than a thousand years. Among us only Adolf and I ever heard of him, and we know nothing of him. We had forgotten his name, scarcely remembered having been here thirty years before." He turned away from the scribbled translation of the ancient words in Fourier's notes. "And now—to work!"

THE DAYS passed all too quickly. Inside the musty, cramped rooms of the crypt, brooding with the ageless silence it held, the profusion of data and materials was bewildering. At every halting step there was laborious translating to do, painful, detailed sorting, minute careful examinations of everything there in the search for a clue vaguely remembered. The work was heartbreaking, but it went on hour after hour, day after day. Thousands of volumes were being examined, thousands of exhibits, specimens, vials, chemicals, photographs, charts diagrams, histories, all the meticulously collected evidences of the progress of a race. Sometimes, Harley Stevens, haggard and fatigued, would mutter, "All this they accomplished in a hundred years. They must have been proud of their work, those men we call savage." Then he would shake the sleep from his eyes and continue.

IN UNOS, long before the dawn of the thirtieth day of the plague, the rioting began. Like a might conflagration, reports that the city had run out of food concentrates had swept the populace the night before. The capital and sixth city of the Americas was doomed. The still-growing mass of silver that had enveloped everything to the west of the broad Missip River, paused at the banks of that swift flood, its advance held up for a time. But Unos was doomed from within, its terrible end written in blood.

No food, the rumors said, and the tragedy of Unos began. That first day suicides mounted into thousands, whole families plunging to their deaths from the skies, their Mastersons shut off. No home, no government building, no manufactory suspected of holding any reserve of the concentrates, was safe from the wild marauding mobs of men and women lashed by the unknown horrors of starvation. In vain did the Audivisor plead for hours on end that there was food for all in the cities further south, that their own reserves had been sent there for safety, that the evacuation of the city was thus to be forced.

While tens of thousands fled Unos, twice their number went berserk, and the garbled versions of the government's plea only added to their mad fury. They had been left to die, they screamed, to perish in the silver death that was choking the Missip River five hundred miles to the west. There was no reason left in that vast mob as they plundered and destroyed the city, burning everything inflammable in huge pyres that stretched their flametipped fingers to the sky.

In the French peninsula, when the first reports had come through to the small group working there so feverishly, the expected blow still struck heavily. After the first hours, when Unos ceased casting, and official censorship evidently forbade mention of what was happening in the capital, they breathed a prayer of thanks to whatever Providence they believed in, for at Harley Steven's insistence they had seen their own families and friends leave on liners for the Southern Americas. They had waited with dreadful expectancy, fighting not only time but the strong possibility that all their work would be for naught.

Then, a day later, when America

had seen the first police force in its modern history created, for the commonwealth of Scintilla had followed the fate of Unos—on that day Everett Stevens held a case of small glass bottles, and his hands trembled as he passed them to Fourier.

"Bombyx Moril" Fourier had whispered, the tears running down his face. Savagely, he ran through the case and the others in its cabinet, lifting out the numerous books and pamphlets that were there. "The diseased ones, the diseased ones," he kept muttering. Then he stopped, and in his hands he held two small vials. "At last," he said, "pedrine."

His voice was quiet as he called the other men to him; and they gathered around him in a hushed circle. "Henry, translate this. MacDougall, come with me. Susan and Frazier, fetch the alumalloy case." He stopped and held up **a** hand. "Outside, Professor Stevens **is** asleep for the first time in two days. Do not awaken him. Our success is yet far from assured. Let us hope that when he wakens, the first part of our work will have been realized."

**CIX** HOURS later, when Harley Stevens woke, it was as Fourier had prayed. They were succeeding. Fourier held up the first vial he had taken from Everett Stevens. "We found the Bombyx Mori," he said. "It was as you remembered. This name of theirs is written here in a language that was dead even in those times, a language called Latin. Their other name was worm-that-makes-silk, or in ancient English, silkworm. These tiny insects were harmless creatures that lived on mulberry leaves. Before they died, they encased themselves in little sacs called cocoons, which they manufactured from a fluid in their seripositors. The fluid formed threads which man unwound to make a fabric he called silk, somewhat like our cellulose strands, as you can see...."

Fourier was speaking as if in a dream, speaking rapidly, pouring out what he had read so avidly for hours, what he worked over. Harley Stevens' head was clear and rested, and as he listened, his breath came heavily. He spoke with an obvious effort. "They are as I remembered," he said. "They look so alike. But Adolf, they are so...different, this domesticated creature, and the ones—"

"Different!" Fourier's eyes were red with tears. "They are different. But they are the same animal. They must be-they must! The one we know has lived deep in the earth for countless centuries, the last of an extinct species, counting its life span in the dark caverns where it had adapted itself to exist. It developed an armor, and it was baked in the inferno of volcanic heat. It ate everything organic, and probably even itself, until it found its way to the surface again and found food enough for all. It manufactures a strand, but it is a flexible and sharp strand of unbelievable strength. A strand without a purpose now, a vestige, an evolutionary remnant. Yet it is the same animal, and it is subject to the same diseases...." Fourier's voice died out at the realization of the price of their failure. "It is the same!" he said, hoarsely, forcing every last nerve in him to believe.

"We're staking our lives on it," said Stevens quietly, "Ours and the others. So many others..."

Fourier shook himself back to reality. "Come to MacDougall and see what we are doing," he said. He continued speaking as they entered the outer doors of the crypt. "They had left some vials with samples of insects preserved in a fluid, and among these insects they left some that had contracted a fatal disease called pedrine. We took the pedrine bacteria

and are trying to bring them back to life. MacDougall, with his experience in the foodfields, knows that they have formed either spores or cysts, and he says they will live again."

MacDougall was sitting near his small thermoven, looking through its slides to the cloudy mixture within. "The last stage," he nodded towards his work.

"Are they still alive?" asked Stevens slowly.

Again MacDougall nodded his sandy head. "Either still, or they will live again. I don't know what pedrine is, and Peters says the men who fought it didn't know much about it either. They fought crudely, destroying those creatures which showed the black dots that meant infection. This man Pasteur saved the worms without wiping out the disease. In two days, if all goes well, we will have more of the bacteria than we can take back. And we know that pedrine will affect only these creatures and nothing else."

Stevens stood silently a moment. "They're alive," he said, after a long interval, "as alive as every one of man's words that have been buried here. We are taking with us the symbol of man's victory over an ancient enemy. From the evidences of that victory, we will yet take the fruits of what we call savages." He laughed aloud. "This dank little crypt would have lived though all the outside world had perished. It would have proved the only immortal."

A UDIVISOPRESS was casting from Phaethonia, off the Mexo Gulf on southern America. "... and on the outskirts of Scintilla, yesterday's experiment is to be repeated." In a hundred million AV screens, the desolate fields a scant mile from the ghost city of Scintilla flashed into life. "The three official stratoplanes are about to take off for a survey of the results of yesterday's work. And there they go..." At that moment, a short, round man with a wide grin on his face turned and accidentally faced the taster. He was holding a black, curved object in his hands, and from his nostrils issued a stream of smoke. There was just a brief moment when this was teen, a moment that lasted long enough to see the great satisfaction that lit the man's face. Then the caster switched off and the view came now from high over the earth.

"We are casting now from one of the stratoplanes, and we are over what was formerly free land." Below the sun shone for countless miles on a glistening mirror of destruction. The caster swam through air, and focused on one of the planes. A red-haired youth and another, with features that reminded one of the man who had smoked, stepped out of the pedestrian door, Masterson discs spinning. Strapped to them were large metal boxes with tubular outlets. As they dropped toward the ground, from the boxes they began to let out clusters of a dark, soft substance.

"Mr. Henry Peters and Mr. Everett Stevens are sowing the field with pedrine bacteria," said the AV voice but suddenly it was no longer true. Henry Peters had suddenly thrown the box from his back, and as it fell towards earth, he straightened out and tived after it—only to give it a downward shove! And there was the other one, Everett Stevens diving beside him, and tugging at his box. Then as it fell end over end through the air, both young men seized hands and began dancing crazily in the sky.

"One moment! One moment!" shouted the AV voice. The scope of the caster shot down. The great silver field was still and unmoving as far as the eye could see; the insect hordes lay with their gleaming bodies marred by dark specks, ravaged by a disease from which man had saved their forebears. Then, without warning, there were other men dancing in the sky, the pilots who had decided they would rather dance than return with their planes.

"One moment! One moment!" shouted the AV voice, and then it stopped. Probably the casters were dancing too.

When service resumed some moments later, the Audivisor announced: "We have been besieged with an impossible number of calls demanding to hear Professor Stevens and to see his staff. At least half of these calls have requested that we ask the Professor the name of the flora which he ignites and inhales, and also the details of the instrument called a pipe. In response to these calls, we return you to Field 64-D, outside Scintilla."

And there stood Professor Stevens, arm in arm with Adolf Fourier, who. absurdly enough was smoking the Professor's black pipe. Around them were grouped the others of their staff, half of them betraying the effects of Mindease. Informally, Stevens addressed the casting phone: "History," he began, "my favorite subject, will record the days to follow as the first era of reconstruction .... " His smile had begun to fade even as he spoke, and it was evident in a moment that he was going to be violently sick from the fumes that happy Adolf Fourier was blowing in his face.

### THE END

Next Month . . .

THE LAND BEYOND THE LENS

The first half of John Bloodstone's thrilling book-length duology! Don't miss it — In the March AMAZING STORIES!



FOR A LONG time astronomers classified comets, those weird gigantic combinations of particles and gases which sweep through space, as *permanent* and *transient*. This classification was based on a study of the orbits of the comets. If a comet had an elliptical or egg-shaped orbit, it was a permanent comet, part of our Solar System and a regularly visiting member.

On the other hand if the comet had a parabolic orbit, a huge open orbit, it was called transient because it was assumed that it made but one visit to the System, coming in close to the Sun and then sweeping outward, never to return.

But improved telescopes and observational instruments are changing the picture somewhat. At best only a small portion of a comet's orbit could be observed and from these data it was deduced whether or not the comet was permañent or transient. However, even slight errors in observation could give the wrong figures. An examination of orbits of comets has disclosed that *every comet* has an elliptical orbit, that it is permanent and that comets are just as much a part of our Solar System as the planets are! True the dimensions of the orbit may be vast, so vast that the comet sweeps far out into interstellar space before it swings back on the return leg of its journey, but no matter how long this takes, the comet does come back. Familiar also is the fact that the comet always keeps its glowing tail (glowing from reflection) away from the Sun, even though it is traveling toward the Sun or away from it. This is due to light pressure on the thin vapid gases which compose it.

The origin and purpose of comets are unknown. Apparently, they serve no purpose nor have any function. That they may have come from a shattered planet is possible but this is pure guessing. Eventually when we get out into space it will be possible to "hop aboard" a comet to study and analyze it. In fact "thumbing a ride" on a comet, provided its mass is great enough, may be one way of approaching very near the Sun or one of going very far beyond the limits of the orbit of Pluto. Scientists feel strongly towards comets for they suspect that in some way as yet unguessed, these perennial visitors conceal within themselves some important facts about our Universe.

### THE METAL THAT CAN SEE! By Roy Small

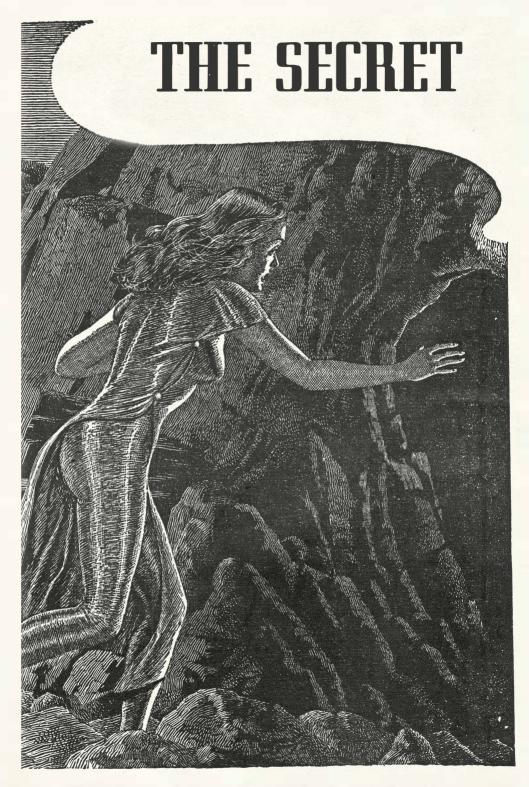
GERMANIUM metal is one of the Rare Earths, those metals in the Periodic Table which a few short years ago were regarded with scorn by chemists and physicists. If you asked them of what use they were, they shrugged their shoulders. They are whistling another tune now about these same Rare Earths for many many uses have been discovered for them, particularly in electronics. Germanium metal especially appears to have a very promising future.

It is used widely now as diodes for electronic work, little one-way electrical valves of extreme compactness, used for changing alternating signals to direct ones. In the miniaturization of parts which has been an important phase of modern electronics, germanium diodes have proved their worth. Even more important is the appearance of the germanium photo-cell. This ingenious gadget can be made no bigger than the head of a match!

It operates like a conventional selenium

photo-cell; that is, when light falls on it, its electrical resistance is greatly altered. It is more sensitive than the selenium, however, and above all it is extremely compact; more than one hundred cells can be mounted to the square inch. And in that fact lie its potentialities.

In the electrical imitation of sight as in television, the substitute for the human retina is usually special mosaic of metal scanned by an electron beam and this produces the electrical impulses from the visual picture. That is the familiar iconoscope. It is possible, however, to imagine a huge screen of germanium photo-cells serving as the retina, of course much smaller than the present ones, and the simple construction of this sort of "camera" without scanning beams is certainly fascinating. In other words this arrangement behaves more nearly like the human eye. As yet it's only a dream—and it may never materialize but don't bet on that!—the lab-men have a way of making the fabulous into fact....



She saw a man in there—a man who had no business being on one of Jupiter's moons!

# OF SATELLITE 7

By Jheodore Pine

The streets lay thick with corpses, dead eyes turned to the sky. While past them sauntered a small man with a carpet bag!



**G B UT** WE demand an explanation!" The lady was stout and fur-bedecked; her tone was arrogant as she glanced at the other passengers and then turned again to the uniformed officer. "Twelve days since we left Mars, and on our first stop we are not permitted to leave ship! I have friends in high authority, young man, and I promise you once I reach Ganymede—"

"Fine, lady, fine! You do that." The officer was struggling with his temper. "As I told you once, we only berthed here for emergency refuel. When Captain Frederick returns you can tell your troubles to him. In the meantime, no passenger leaves this ship!"

Near the observation rail, a darkhaired Earth girl had overheard the conversation. Her lips quirked in a smile as she turned to the tall young man at her side.

"I can't say that I blame her much. I'm curious myself! Something's wrong 'here; can't you feel it?" She shuddered, moving closer. "Martin... what do you suppose is happening down there?"

Martin Lok didn't answer. His gray eyes were thoughtful as he gazed across the terrain of Satellite Seven, washed in tenuous light from the distant sun. From the high cradle where the Aurora had berthed he could see the plains and endless ridges dropping away into pits of shadow. But nearer, almost at their feet, lay Praa-Inek, the solitary city of Jupiter's seventh moon.

It was a quiet city now, with not the slightest sound or movement. No men had come to greet the *Aurora*. The eerie silence clung like a patina, and overlaying all the scene was an impalpable feeling of great tragedy.

At the far edge of the spaceport Martin saw Captain Frederick and three of his officers. They held binoculars, surveying the city below. Presently they turned back, hurried up the ramp toward the *Aurora*.

"I wonder what they saw?" The girl was at once anxious and excited.

"I don't know, darling. Come along. We'll learn what it's about."

They moved through the throng of passengers and arrived at the outer exit just as Captain Frederick came aboard. Martin stepped quietly forward and showed credentials. The Captain didn't appear too surprised.

"Martin Lok of the Solar Specials? I heard you were with us. It's an honor, sir!"

"I'm not aboard officially, Captain. May I present Mrs. Lok? The very recent Mrs. Lok, I might add. This is her first trip spaceside of Mars." Martin gestured at the city below. "How does it look down there?"

"Pretty bad. Very bad!" Captain Frederick was puzzled and worried. "I'm radioing the Ganymede Guard to get out here at once. Would you like to go ashore and see for yourself?"

"I'd consider it a personal favor, Captain." **F**REDERICK handed him a pair of binoculars. "We're taking on fuel now and we'll up gravs within an hour. I advise you not to go into the city itself. No telling what's down there!"

Martin Lok nodded, then paused thoughtfully. "By the way, Captain Frederick, isn't Mars-Ganymede a through route for passenger liners? How did you happen to set down here at all?"

"One of our fuel units burned out. Radiation loss was forty per cent before the rocket crew discovered it. So I thought it safer to set down."

"You radioed that you were coming in?"

"I tried to—yes. Twenty hours ago. But the Station here was dead!"

"I see .... Thank you, Captain."

Martin and Irene hurried down the ramp and across the huge space dock to the far rail. In the hollow below, Praa-Inek lay for a mile in either direction, a city of modern buildings and circular-patterned thoroughfares.

Nothing moved.

But the streets were not empty ....

Martin raised the binoculars and looked for a long minute, sweeping his gaze across the panorama. His face was grim as he handed the glasses to Irene.

"It—it's impossible!" she gasped. "Nothing's alive down there!" The entire populace wiped out! What could have done it?"

Martin Lok shook his head solemnly. "Look at the positions of those bodies. They're undamaged. There's no sign of a struggle or disturbance anywhere. Whatever it was, it must have struck with the speed of light!"

Irene lowered the glasses. "Did it get them all, do you think?"

"Exactly what I was wondering! Twenty thousand Praanians dropped dead in their tracks....It just doesn't make sense to me." Martin rubbed thoughtfully at his jaw. "Another thing—are they really dead?"

Irene stared at him, then excitement leaped to her dark eyes. "There's one way to find out!"

"Come on. We'll have to hurry." They made their way to the automatic conveyers, and a minute later were descending to the city.

A<sup>S</sup> THEY reached street level, Martin pointed to one of the taller buildings close by. "That's the Trans-Space tower. Captain Frederick said he radioed twenty hours ago! I want to see if his message came through on the tape."

He eased the energon-blaster in his belt as they hurried forward. The building's foyer, with high triangular doorway, was gloomy with sinister shadows and deep silence. Their footsteps echoed eerily through the vastness.

In room after room they saw gangling cadavers seated at desks or slumped to the floor. The Praanians were not unlike Earthmen. They were tall but slight of build, with a bluish leathery skin typical of most outer planet races. The facial contours differed mainly in the almost total absence of a nose, and this, together with overly large eyes, gave them a blank, almost childish, look.

Martin examined a few of them now. Cautiously, he tested for heart or respiratory action.

"This settles one point." He arose grimly to face Irene. "They couldn't be more dead. But there's not a mark on them. And look at those eyes!"

Praanian eyes, as Martin remembered, were ordinarily very large and expressive and deep violet in color. Now they were simply blank. It wasn't a blankness of horror. It was absolute absence of any expression, and to complete the ghastliness the eyes were now totally devoid of color.

They moved on and found the Trans-Space Control room at last. A single Praanian was there, slumped forward in his seat. Martin pushed the corpse aside and examined the huge panelled instruments. All were dead. He found the code telector tape and it was blank. He tested the senders and the receptor tubes. There was no response.

It was as though something had sucked away every source of power, leaving the Station dead and blank! As blank as the Praanian corpses throughout the city, Martin thought, drawing a startling parallel.

He turned to Irene. "This man was in touch with space, he had unlimited power at his fingertips, but even he didn't have time to act!"

"Martin, I don't like this." She shuddered, glancing around. "It's creepy here! Let's get back."

"I think you're right."

They hurried through the rooms toward the outer exit.

SUDDENLY Irene stopped in her tracks. She clutched at Martin's arm. She was staring at a doorway on the far side of the panelled room.

And even as she watched the door was slowly closing!

She screamed.

Martin leaped a foot off the floor, then he seized both of her arms and began to shake her. "Stop it! Stop it, do you hear? What in hell's the matter?"

Her scream subsided to a moan., She could only point to the door.

Martin leaped across the room, blaster in fist. He threw open the door. The corridor beyond was empty and dark-shadowed, except where a skylight made a filigree pattern of sunlight on the floor. Martin returned quickly to her.

"What was it? What's the matter with you?"

"Did-didn't you see?"

"See what? I saw an empty corridor. There's nothing out there!"

"The door ... it was open, but someone—something closed it!"

"Probably a draft. Come, you can see for yourself." They hurried to the corridor and stood quiet.

"There aren't any air currents," she pointed out.

There was something else, though, a feeling that Martin couldn't describe. Chill fingers dragged at his spine. "Did you see anyone? Anything?"

She shuddered. "No, I only saw the door closing."

"Probably your imagination then. Let's get out of here!"

"It wasn't my imagination," she said petulantly as she followed him to the street.

**T**HEY BREATHED easier in the open. The sunlight was tenuous, but welcome. Everywhere they passed they saw the Praanian populace struck down in grotesque attitudes. In every case there was the complete blankness of expression, the total absence of color in the eyes.

Martin recalled his Politico-History of the minor planets. Satellite Seven, or "Praa", was only one of several exploited by Solar mining interests in search of precious and fissionable metals. They had built this modern city for the Praanians and given them luxuries those people had never dreamed of before.

By now the mines were pretty well exhausted, but Praa had been granted a minor status in the Federation due to its location as a way-station between Mars and Ganymede. The Praanians, ordinarily an indolent race, had risen to the occasion by maintaining an orderly and efficient government. And now the entire race had been wiped out!

"I'm no expert on space-biology," Martin said, "but I do know that in a couple of days the streets of Praa-Inek will be intolerable. If only I could find a clue, a single clue! This might be a thing that could spread to other planets!"

"Other planets?" Irene wailed. "Suppose it spreads to us? You don't think the evil force that killed all these people would balk at two more, do you?"

Martin grinned. "That's what I like about you, darling. Always looking on the bright side."

"Very funny. A nice honeymoon this is turning out to be!"

"At least we're alone," his words echoed and re-echoed in the seething silence.

The corpses became more and more evident. This was one of the main thoroughfares, with modern store windows as well as outdoor markets. But, indoors or out, death had been sudden and impartial, all-enveloping.

Irene shivered. "Hadn't we better be getting back to the *Aurora?* I suddenly remembered, I left a game of Martian canasta unfinished with Mrs. Moore—"

Martin stopped suddenly, gripping her arm. He stood listening. In the fantastic silence he had caught a noise. It seemed to come from just across the street.

He moved in that direction, with Irene coming softly behind him.

The noise came again. The sound of digging ....

MARTIN paused, surveying the scene. He spied an over-turned cart of mineral ore, and then he glimpsed something bobbing around behind it.

He drew his blaster and moved for-

ward. With a sudden leap he was around the cart, thrusting the gun before him.

"Come out of there! Come with your hands up!"

The digger bounced erect with a strident squeal. "Don't shoot! Don't!"

Martin stared, then with a sigh of relief he put the gun away. "It's only Professor Aarrnt," he called to Irene. "We met him when we came aboard at Marsport, don't you remember?"

The Professor was Martian, an avocado-shaped little man with bulging innocent eyes and wisp of graying hair around his coppery dome. Just now he was trembling as he grabbed up **a** shabby satchel and clutched it to his bosom. Then he relaxed, smiled abashedly as he recognized the two.

"I managed to slip away through a side port," he said. "I wanted to stretch my legs and putter around a little. I toddled along after you two."

Martin grinned. The Professor looked like a confirmed putterer. "Right now, we'd better all of us toddle back to the ship! Frederick said they were upping gravs in an hour."

They hurried back to the conveyers, Professor Aarrnt almost running to keep pace.

"I remember now," Martin said. "Didn't you mention that you were something of a mineralogist?"

"It's only a hobby. I'm really a biochemist. But I do love to study mineral formations on these minor planets!" His voice tittered. "Why, did you know, young man, I'm working out **a** theory now that will prove the correlation source of every—"

He never finished. From the huge space-dock above them came the sound of rockets—deep-throated at first, then rising in a crescendo of fury.

"They're leaving!" With a cry, Irene raced for the conveyers. Martin caught her arm just in time.

"Too late!" he shouted against the sound. "You'll be caught in the rocket wash!"

With a burst of flame, a shrilling of rockets that tore the atmosphere asunder, the *Aurora* rose majestically and gathered speed into outer space.

SIMULTANEOUSLY, two startling things happened. Professor Aarrnt had sunk to the ground, rocking from side to side with hands across his face. And away to the left, beyond the city, a pillar of blue light leaped to the sky. It hung poised for the merest instant, tugging upward, then broke apart into hundreds of tiny fingers. Swiftly they dissolved, fading away against the sunlight.

Martin turned quickly to Irene, but she hadn't noticed. She was staring with alarm at Professor Aarrnt. "What's wrong with him?"

Martin helped the man to his feet. The Professor was trembling, his face had gone pale, and he was so miserable he seemed about to cry.

"I'm just afraid, I guess," he moaned. "Don't you realize we're marooned here? Do you think they'll turn back? What's going to happen to us now?"

"It's all my fault," Martin said bitterly. "It may be hours, they might even reach Ganymede before they discover we're not aboard! Still, it's not as bad as it seems." He made swift calculation. "Captain Frederick has radioed the Ganymede Guard. If they leave at once they should be here within forty hours. Until then we'll just have to make the best of it!"

"What do we do first?"

"I suggest we keep our heads and not get panicky. We can take another look around. You'll have plenty of time now to collect ore specimens," Martin indicated the Professor's tattered satchel, "and I'll have time to look for clues to this ghastly business." "I'm hungry," Irene said.

Martin groaned. "When weren't you? Come on, we'll see what we can find. But don't touch a thing that's been exposed! Look for food in plastite containers; there ought to be plenty of it here."

Martin was more worried than he cared to admit as they moved through the main streets again. The corpses lying everywhere were bad enough, but he was thinking of that bluish pillar of light he had seen. He was sure there had been a malignance about it, almost an aliveness—and Martin Lok was not prone to imagination. He decided not to mention it to the others.

"I'm glad of one thing," Irene was saying. "This proves it wasn't a ghost I saw back there in the Trans-Space building. You sure scared the...hide off us when you ducked through that doorway, Professor."

"Trans-Space building? Doorway?" Professor Aarrnt blinked.

"Yes. That one," Irene pointed it out.

"But I never went into that building. I haven't entered any of them!"

Martin seized his arm. "Are you sure?"

The little man shook his head vigorously, and Martin saw he was telling the truth.

"Forget it," he growled to Irene. "Professor, didn't you say you were really a bio-chemist? Then you must have some theory about what caused this disaster! Haven't you examined any of these people?"

"Examined? I have indeed, young man, and most thoroughly. And I do have a theory supported by overwhelming evidence." He cleared his throat. "I recall a vacation which I spent with an exploring party on the northernmost continent of Venus. We ran across an entire series of villages where we found the natives dead—struck down suddenly—with no outward signs of violence. My theory then, as now—" Aarrnt's voice lowered to an eager, confidential whisper—"is that a cosmic plague swept out of interstellar space!"

Irene saw an objection. "But that means germs, or some weird kind of virus! How could—"

"Young lady, don't you contradict me!" The Professor did a crazy dancing hop. "Such things do exist in space, minute forms of life that don't conform with any known patterns. Now, in this instance, we are indubitably in the presence of something utterly new and cosmic. It's most fascinating!"

He rubbed his pudgy hands together gleefully.

"Stay away from him," Martin whispered to Irene. "He's a crackpot!"

THEY FOUND food markets easily enough. As they entered the first one, Martin brushed against a cadaver leaning upright against the wall. Slowly the body toppled to the floor.

"We'll just have to help ourselves," Martin said wryly. "Somehow I don't think they'll mind!"

"In that case we'll have nothing but the best." Irene moved along the shelves looking for plastite containers.

Professor Aarrnt had paused before a gleaming fountain. As he bent over it, Martin seized his arm. "Professor! If your plague theory is right, do you think you ought to drink that?"

The little man was startled. "My goodness! That's right, isn't it?"

They hurried after Irene, then Martin paused as he spied a rack containing flash torches and batteries. He lifted one down and tested it. It was dead. He tried other batteries and they were all dead. Martin's face went grim as he remembered the Trans-Space control room with its powerless instruments. It was as though some insatiable source had drawn off every bit of energy.

Irene returned, her arms loaded with containers. Quick alarm appeared as she saw Martin's face. "What's the matter?"

"Don't you feel something?"

They stood quiet, the three of them. The feeling was all-encompassing. In the air and about them, almost tangible. Something prying, reaching out, touching softly upon their minds and as softly withdrawing.

Irene shuddered. "I've—I've felt something ever since the Aurora left! I thought it was just the excitement, my nerves...."

"It's not nerves," Martin said crisply. "Come on, we're leaving here. We're getting out of the city."

"But why?" the Professor wanted to know.

"Has it ever occurred to you that night comes mighty sudden on these close-horizoned worlds?"

"N-night?" Irene whispered.

"Exactly. Night. There'll be no lights here and, personally, I don't care to bed down with a lot of Praanian corpses! I have a feeling we'll be safer in the open."

"My goodness!" Aarrnt clutched his satchel to his breast. "Let's leave immediately!"

THEY SET out at a brisk pace. Shadows were already lengthening in the streets, and a crisp chill touched the air. They had scarcely reached the outer limits when night descended, sudden and uncompromising. Jupiter rose far on the horizon, but from a distance of six million miles it appeared only as a small disc, dark red and dull.

"I saw some hills just ahead," the Professor remarked. "If we can get over there we might find a cave or

gully where we can camp."

The man's idea was so sensible that it startled Martin. They moved on across firm and rolling ground into open country, the sharp starlight barely pointing the way.

"I'm experienced at these things," the Professor said. "I recall the time when a party of us were stranded in the K'Yith Swamp of Venus. We were without food, two of us were injured and we had to find a place—"

His voice shrilled on and on with the grim details, but Martin wasn't listening. Once more his scalp tingled with that errie feeling, the subtle suggestion of something trying to touch his mind. He had thought they would be free of it once they left the city. But now it was as if—the impression hit him suddenly—*it* was as *if* the three of them were not alone!

Irene moved closer and took his arm, and he knew she was feeling it too. Twice he thought he glimpsed shadows some distance behind, but when he whirled to look nothing was there but the solid darkness. Chills dragged along his spine.

Presently their way dipped into a wide hollow, and Martin noticed a scattering of small shrub-like trees. He paused to examine them, then announced: "I think we'd better camp right here."

"But why not go on?" Aarrnt protested. "The hills are just ahead."

"No. How do we know what's in those hills? We'd better stay here and use these shrubs for fuel." They set to work gathering the wiry growth, piling it in huge barricades around them. Martin dug a small hollow for the fire.

AND WHEN Irene applied her lighter, the latest type with electronic pack, it refused to work! She stared at it with startled dismay. "We'll have to use mine," Martin said. "It's the flint type."

He breathed in relief as the flame sprang up. The fuel was green and burned slowly, but it drove back the chill and the darkness. They dined well, then Irene surprised them by bringing out cigarettes of superior Mars quality.

Martin lighted one, leaned back and smiled. "Better than the swamps of Venus, eh, Professor?"

Already the warmth and food were allaying their uneasiness. The eerie feeling was gone now. Nevertheless, Martin remained alert as he stared into the wall of pressing darkness.

"As I recall, the span of night here is about seven hours. We'd better keep a guard posted."

The Professor came erect. "Eh? Why?"

"To keep out the vampires," Irene said rashly.

"Vampires? Good heavens, what are—"

"Don't you have them on Mars, Professor?" Martin smiled. "Never mind; my wife has a grim sense of humor at times. Just the same we'd better keep a watch."

"I'm—I'm not sleepy," Aarrnt said nervously. "What are these—what was the word—vampires?"

"It's only an Earth legend. Forget about it."

"No, I'd like very much to hear it."

Facing the darkness, Martin told him the various forms of the legend. And when he'd finished, the Professor didn't smile. He bobbed his domed head quickly. "A legend? How can we be sure of these things, young man?" There was a strange light of eagerness in his eyes. He moved over to the fire and lay down, a rapt expression on his chubby face.

Martin glanced around nervously, then glared at Irene.

"I'm sorry," she said contritely. "I shouldn't have mentioned the subject." She moved closer and they sat side by side, staring into the darkness.

**I**<sup>T</sup> WAS AN unnatural darkness. Thick and cloying, trying to move in to smother the tiny circle of firelight. Even the silence was thick and unnerving.

"Say something," Irene whispered.

"I wonder if they've missed us yet on the *Aurora*?"

She groaned, and Martin said, "Well, you said to say something! All right. Give me another cigarette."

He lit it and put his arm around her and stared overhead. Even the stars seemed dim and far away now. Jupiter was rising higher, but its dismal blank surface only put **a** pall on their thoughts.

They heard a sound....

Martin leaped to his feet. Then he laughed nervously, gesturing toward Professor Aarrnt. The man was curled into a huddle, using his satchel as a pillow. He was snoring blissfully.

Martin threw more fuel on the dying embers. The flames seemed to dispel the gloom that had come upon them, and they laughed together. "Sleep if you want to," Martin said. "I'll stay awake."

"No. I'd rather sit here and talk."

... It was perhaps an hour later. Martin had twice replenished the fire, and he found himself smoking innumerable cigarettes to keep awake. Irene was smoking them too, something unusual for her.

Martin blinked and shook his head savagely.

Something...something close at hand and hypnotic was trying to lull them to sleep.

Martin realized it through his dulling senses.

Suddenly he fek Irene stiffen

beneath his arm.

He came quickly awake and saw her face. It was white and scared, her lips moving in a frantic effort to speak. Terror was in her eyes as she stared past his shoulder.

Martin whirled and then froze.

In the darkness across from the fire stood a shimmering figure arrayed in gold. A tall female figure, with dark flowing hair and green eyes that shone like a cat's from the blank whiteness of her face. The lips were blood red. With a fixed gaze, she was staring at Professor Aarrnt's chubby figure at the edge of the fire.

Martin saw that much in the first frozen instant, then leaped to his feet with a yell.

THE APPARITION seemed to sway forward—there was a fluttering movement—something like a long dark cloak swirled in the darkness and the figure simply vanished!

Irene was clinging to him, terrorstricken. Through her moans came "something that sounded like, "Vampires...vampires..."

Precious seconds were wasted as Martin tore her arms away. With blaster in fist, he leaped across the clearing. There was no sound, no movement in the enshrouding darkness. He hurried back to the fire and seized a flaming branch, then swept it close to the ground. Still moaning, Irene came beside him.

"There," he pointed to tiny footprints embedded in the soil. "Does that look like vampires? Whatever whoever it was—she's as human as you. Come on."

Martin moved away and she quickly followed. "You—you saw it too, didn't you? It wasn't my imagination this time!"

He nodded grimly. Holding the

blazing branch high, they circled the camp and then moved outward through the darkness. There was no sound or movement. They proceeded upward across the slope. For some five minutes they searched, while Martin held his blaster in readiness.

At last he knew it was hopeless. Whoever they'd seen had vanished as  $\tilde{q}$  uickly as she had appeared.

"How can the Professor sleep through all this?" Irene wondered.

The branch sputtered and went out.

They hurried back to the camp, where the final shock awaited them. The embers had died down to a faint reddish glow—and Professor Aarrnt was gone!

IRENE BEGAN to tremble. "She got him! She came back for him! Didn't you see her eyes? There was a -a hungry look!"

"Don't start that nonsense again!" Martin seized her by the arm. "There's an explanation for all this. I'm going to find out what's going on here!" He built up the fire and stared around. "No sign of a struggle. That means he left under his own power and for his own good reasons."

"His ore satchel is gone. Do you think he'd pick a time like this to go prospecting?"

"Damn. No, I don't!" Martin came alert, staring toward the rise of hills blotting out the stars. He began to have an inkling of the truth, a fantastic truth. "Come on," he said abruptly. "We can't leave him out there, we've got to find him!"

They plunged toward the hills looming darkly half a mile away. Soon they stumbled into a shallow gully which gradually narrowed into a ravine with rearing cliffs and cobalt rock underfoot. Irene called out once: "Professor Aarrnt!"

"Be quiet," Martin cautioned her.

"But if he came this way-"

"Please, darling, if you value our lives, be quiet. There's danger here."

Something in his voice made her tremble. She stayed close at his heels as Martin picked his way carefully through the gorge.

"What is it?" she whispered.

"I don't know yet. Listen!" He stopped abruptly. From far ahead came a sound of sliding rocks, then hurried footsteps that died away.

Once more Martin Lok came alert. It wasn't the alien feeling this time. It was a supernal awareness which he'd developed in the spaceways. His fist tightened about the blaster as he moved ahead slowly.

The way levelled out and then widened. Light appeared far ahead—a faint blue glow, scarcely more than a hint in the darkness. But Martin could see a widening grotto.

"Better wait here," he whispered. "No!" Her voice was scared but determined.

Martin squeezed her arm. "All right, but stay behind me!" They moved for another hundred yards and were staring into a grotto which seemed to extend interminably downward. And then they saw Professor Aarrnt....

THE LITTLE man was standing quite motionless, enfolded in a pillar of soft bluish light that rose up from the floor. There was a living quality about it, an aura that seemed to emanate an impalpable evil. Fear rose thick in Martin's throat. He managed to call out: "Professor Aarrnt!"

The light pulsed and seemed to come alert. The Professor moved his head. The face was white, the eyes glazed and unseeing. His lips moved but no sound emerged. He swayed forward and backward.

The look in those eyes turned Mar-

tin's blood to ice. With a harsh cry he leaped forward. "Professor, get out of here! Run!"

Things happened so swiftly that Martin remembered them only as a montage blur. From the shadows outside, a figure leaped into view—female, shimmering gold, with green eyes and bright carmined lips across the white face. Claws reached out as she struggled with Professor Aarrnt. The latter was snarling with weird, singing curses. The vivid light enfolding them both swayed like a giant guttering flame. Then, to Martin's horror, Irene was there, leaping into the flame, clawing at the vampirish creature as she tried to pull the Professor away.

The melee encompassed mere seconds, while Martin circled for an opening. Then, with a shrill curse, Professor Aarrnt pulled free and fled. In a blinding instant Martin realized the truth.

He tried to leap after the man, but a terrible paralysis washed across him and he couldn't move. A tongue of cold blue flame struck his wrist and the blaster clattered away. The flame widened, enfolded him, coalesced, and there was an unwholesome churning at his brain.

He wanted to curse. The light tightened at his neck, yet there was no pain, only a feeling as if he were sinking into waters of a dark sea.

He heard Irene moan once as the sea engulfed him.

**R**ETURN to consciousness was slow and painful. His head throbbed. His entire body seemed seared and drained of energy. Hands were fluttering about his face.

Martin opened his eyes and saw Irene bending anxiously over him. He groaned and sat up, then his eyes widened as he saw the green-eyed girl. She was a miserable huddle against the grotto wall, and it was apparent now that she was no vampire creature. She appeared to be a badly frightened Martian girl! Her face was pale beneath the carmined lips.

Martin glanced toward the grotto entrance and saw three of the towering flame-entities barring the way.

"Darling," Irene's voice was a little hysterical, "it seems we've made a terrible mistake. This is Thurla Dhaarj. She was aboard the *Aurora* too! And Professor Aarrnt—"

"I know," Martin said bitterly. "He's the one we had to fear. We should have realized it sooner!" He turned to the Martian girl and noted the tight-fitting gown of gold brocade, the cloak of dark Kra fur. "So that's what fooled us out there. When you turned away against the darkness, you seemed to vanish! I suppose it was you in the Trans-Space building?"

Thurla nodded miserably. "I was trying to find Professor Aarrnt. He's he's my uncle. I followed him from Mars, but he didn't know I was aboard. I wanted to save him, if possible—"

"But why all the hide-and-seek business?"

"The satchel—he kept it with him always—don't you realize what it means?"

"I'm just beginning to," Martin nodded grimly.

She choked, and Martin saw blind panic in her eyes. "We must get away from here!"

The guardian flames suddenly moved. Now they coalesced, merged into a single pillar of light that grew in size, swayed forward, reached out with a brightening sentience. It closed about the trio with a commanding coldness. Thula shrank away with a gasp.

"Don't talk, don't fight it!" Martin warned. "Do what it says!"

The cold radiance tightened about

them, and they felt themselves propelled forward.

**T**HEY WERE facing a great expanse of rock that reached interminably overhead. But it wasn't entirely blank. Thousands of crystal forms clustered there, scattered in profusion, seeming to extend far beyond the depths of the grotto.

And, **as** they watched, the crystal forms began to move. A vast pattern formed across the wall. It seemed purposeful and deliberate. A pattern of super-imposed circles, triangles and other geometric shapes that formed at last a single Entity of surpassing beauty.

The Entity was intelligent! Martin realized it even before an inner light shattered through millions of facets. He steeled himself. The light reached out to envelop him, and it was different from the flame, not at all unpleasant but alive with a snapping intelligence. Suddenly there came a garbled mental impression:

Life-base...carbon, protoplasmic... sustaining principle similar and universal...electrical force-energy....

There was more, much more, but Martin couldn't grasp it all. He sensed a hurried urgency about this crystalline Entity, then a startling awareness that death was near. Not death in the ordinary sense, but utter extinction extinction for it!

Before he could grasp the meaning, the impressions faded away and there came a relentless probing into his mind. He tried to veil his thoughts but it was useless. The Ganymede Guard... Earth...knowledge came forth and was absorbed eagerly by the prying light-tendrils. Martin felt himself reeling. Thurla was a moaning huddle on the floor. He glimpsed Irene as she collapsed....

And just as abruptly it was over.

There was something of exultance, a foreboding purpose, as the tendrils withdrew. The crystalline walls were blank.

**I**RENE'S FACE was a mask of anguish as she staggered up. "It was asking me things. About Earth and Mars and the other planets! Our inter-spacial travel—"

"I know, I felt it too." Martin's brain seemed wrung dry. He staggered forward and his foot struck something heavy. He bent quickly, and his fingers encountered the smooth metal of his blaster. He thrust it into his belt.

A glance at the exit showed him that the guards were there again. Three pillars of cold bluish flame, gently pulsing.

Thurla moaned and tried to sit up. Martin helped her to her feet. "Keep your voices down," he whispered as they moved toward the shadows of the wall.

"Thurla, listen to me. You've got to tell me all you know about Professor Aarrnt! Was he ever here before?"

"Yes," she nodded, "about three months ago. Then he returned home to Mars, but he behaved so oddly! I knew it had something to do with that satchel because he kept it with him always—"

Martin swore softly. "Because he had to! One of these crystal forms is in that satchel and it's controlling him —dictating—directing his will!" He turned to Irene. "Remember out there when we had the eerie feeling? We felt it only when we were in Aarrnt's presence. The alien mind was trying to reach us too, but it wasn't quite strong enough. Remember how anxious Aarrnt was to get us over to these hills? It was the alien mind directing him!"

Irene shuddered, glancing around the cave. "But this—the Entity that spoke

to me—"

"A composite mind, self-created, drawing from all the others in the common interest of survival! These lifeforms are silicic, but highly sentient. My guess would be that tney suosist on the energy-force fields that origipate within all planetary bodies. Electric, magnetic, gravitic, call it what you will. In this instance, primarily metal. But the planet has been mined out, and now they are dying!"

"But the Praanians," Irene said. "What happened to them?"

"These forms probably united and drew all energy-source from the city in one flash. As a result, the Praanians died. Remember, we're protoplasmic, but we contain something of this prime energy."

"And now these entities want to go to other worlds." It was Thurla who spoke, her voice frightened as she grasped the real meaning.

"Exactly. And the only way they can leave is by spacers! That's why Professor Aarrnt sabotaged the Aurora, so it would have to set down here. But Captain Frederick was too cautious to come into the city." Martin glanced quickly toward the exit, and his voice lowered: "I think we're being held here because they know a rescue ship will come. And now that Professor Aarrnt is loose, he'll guide the crew over here! These things will be in possession of all of us and they'll have the spacer they need. That will be only the beginning."

Irene paled. "The Ganymede Guard! They'll bring several ships, and this Entity knows it—"

"Quiet!" Martin warned suddenly. The flame pillars had moved, swaying toward them, leaning forward with a suggestion of surveillance. Martin lay unmoving. He felt Irene trembling beside him. A blanket of bluish light washed closely about them, hovered for a moment and then withdrew.

MARTIN didn't move but his voice came as a soft whisper in the gloom: "Irene—Thurla—listen carefully now. We still have a chance, and I think it'll work. We've got to get out of here."

He felt the pressure of Irene's hand in his.

"These flames," he whispered. "They're dangerous, but they're only a manifestation of the Entity—an outer guardian. I've noticed something about them." His hand twisted beneath him and he removed the blaster. He set the sliding control to fullest power and felt it click into place. "We'll only have one chance, so I want you to do exactly as I say regardless of how silly it sounds!"

He glanced toward the exit and saw the guardians there, pulsing gently.

"When I give the signal, I want you to scream. Both of you! You understand, Thurla? Scream. Give it everything you've got. Then follow me!"

Slowly they rose to their feet. Martin held the blaster in readiness. They moved toward the exit. Then Irene stumbled on a bit of loose rock. With a swirling motion, a deepening of color, the flames leaped toward them.

"Now!" Martin yelled.

The sound from two female throats was beyond belief. It shrilled, it echoed, it swelled through the rocky confines. It rose in piercing crescendoes that shattered from wall to wall. "Again!" Martin yelled.

The flame-entities were falling away against the shrilling sound. They hugged the walls tenuously, spreading, dividing into shreds of angry color. But only for seconds. Desperately they were trying to coalesce once more into a single unit.

Martin leaped forward, felt the cold flame lashing at him, then he was be-

yond the rocky exit. "Hurry!" he shouted to Irene and Thurla. "Get out of here—don't wait for me!"

A bit of blue radiance lanced outward with stunning impact. Martin stumbled and fell. He felt it tighten about him angrily, reaching for nerve centers at his neck. With his last remaining strength he aimed the blaster toward the inner grotto.

There came a shattering roar, the raw thunder of energy unleashed. Rocks fell about the entrance, and the explosion's backwash caught him with stunning impact. Blinding dust rolled out into the narrow gorge. The flame entities shrank away, but there was still a flickering as they tried to reach out. Martin blasted again. And again. There came a rush of tinkling sounds as thousands of crystalline forms shifted through the debris, trying to unite. There was something unwholesome and evil about the sluggish movement.

Martin staggered to his feet. Blood was streaming from cuts on his face. He felt Irene beside him, shouting something, tugging frantically at his arm.

But he wouldn't leave. A sort of madness came upon him. He blasted time and again, exulting at the ruin as tons of rock buried the grotto. Then, choked and bleeding, he stumbled with Irene and Thurla through the ravine and into open country.

The curtain of stars was paling. A mist was visible far on the horizon. It was almost daylight.

MARTIN paused and looked back. "It'll hold them for a while," he said grimly, "but they're not finished! It'll take more than blasters to kill off such life-forms. And they're desperate, they want to survive!"

Irene was tearing strips of cloth from her blouse. She dabbed gently at Martin's face, trying to stem the blood. "Never mind that now! There's one more thing we must do—"

"Professor Aarrnt," Thurla said. Her voice was choked, face twisted with dreadful realization. Martin turned quickly to her.

"You said he was out here three months ago. When he returned to Mars, did he have more than one of these crystal forms with him? He might have distributed them secretly!"

"I don't know," the girl shook her head miserably.

"We'll have to worry about that later. Right now we've got to find him! So long as that thing has control... He's probably at the Trans-Space tower. He'll wait there until the spacers arrive."

But Martin was wrong. They hurried toward the city and before they reached the outskirts they saw Professor Aarrnt far ahead.

Something was wrong with the man.

He was running, but not towards the city. His direction seemed aimless. He. fell, then rose, only to stumble and fall again. There was something frantically desperate about his movements as though he were trying to escape from something that was—inescapable.

As they came nearer, Martin realized the truth. The Professor had paused and now he was digging—digging with bare hands into the earth. Trying to bury the satchel with its alien life-form in a desperate effort to rid himself of it.

"Don't go near him," Martin warned the others. "Wait here!"

He approached slowly, blaster in hand. Aarrnt's face was pale and twisting. The movement of his hands was a slow and terrible effort as though he were battling against a greater force that beat within him. He glanced up through frantic eyes and saw Martin.

"Stay away!" he gasped. "I've been fighting it. No use. Once it controls your mind, you're lost...never regain your identity...." Aarrnt collapsed into a quivering heap, all strength gone.

Martin felt unreal. His spine tingled. The power of the thing was reaching out. He saw Professor Aarrnt clutch the satchel to him as though there were a terrible affinity, something he could not break. The man's lips writhed and words came slurred and unnatural: "Leave while you can! I'll die, but it'll take you...you'll become one of them...."

Martin moved swiftly nearer. "Tell me quickly! Did you take any of these things to Mars?"

"Two. Professor Karnak and Tor Aihel of the Mineralogical Institute. They'll be coming out here for others...." The words slurred away as Aarrnt's features twisted. Tiny particles of light came from his bare face and hands similar to radium disintegration seen under a powerful microscope. And before Martin could move, Aarrnt's body hurled itself upward, leaping toward him, hands grappling for the blaster!

Martin staggered back, but the man clung to him. There was a terrible and unreal strength about Aarrnt now. The eyes were glazed, unhuman. He was no longer Professor Aarrnt. The alien mind had taken over. Streaming particles of light enfolded Martin as they struggled. He felt his strength being drained away....

With a last frantic effort he brought the blaster around. Felt it pressing against Aarrnt's side. He released the trigger.

There came a muffled roar, and the flesh and blood that was Aarrnt simply vanished in shredded disruption. Scintillant particles of light sprayed upward and blanked out. Martin staggered weakly, feeling the power of the thing still on him. He spied the satchel and there seemed to be frantic movement within it.

Again he blasted, point blank. And when the roar died away and the fountains of dark earth settled, he saw shards of tiny crystal scattering the landscape. A few of the larger pieces were shifting, sluggishly trying to move.

**I**RENE AND Thurla were hurrying toward him. The latter was a tragic figure, her face anguished.

"I had to do it, Thurla," Martin spoke wearily. "There wasn't any choice. He was no longer your uncle or anything human. You understand?"

Dazedly, she nodded. Martin bent quickly and examined one of the larger silicic fragments, half the size of his fist. Deep within it he saw a flicker of bluish sparks, but even as he watched they were dying out. Other fragments were already turning black. He touched one with his finger and it was slightly resilient.

"Now I know the weapon to use." He arose grimly. "Not blasters, but super-sonics! Sound in the ultra range tends to disrupt their nervous system, or what serves as one for them—their cohesive powers. Without cohesive unity they die, just as protoplasmic cells die."

"So that's why you told us to scream!" Irene said.

"Yes. I noticed the way those flame emanations shied away from sound. And remember when the *Aurora* took off? The way Aarrnt trembled and covered his face? He was reacting against those screaming rockets!"

Irene shuddered, glanced back toward the hills. "But why weren't these things discovered before now?"

"Probably some fault or disturbance deep in the planet gave them a slow outlet to the surface. Don't worry, supersonic cannons should finish them off. It's my guess the Federation will put this world in quarantine until it's safe again. Come on, we'll go back to the tower and wait for the Ganymede Guard."

"Good," Irene beamed, "but first-"

"I know," Martin grinned. "You're hungry."

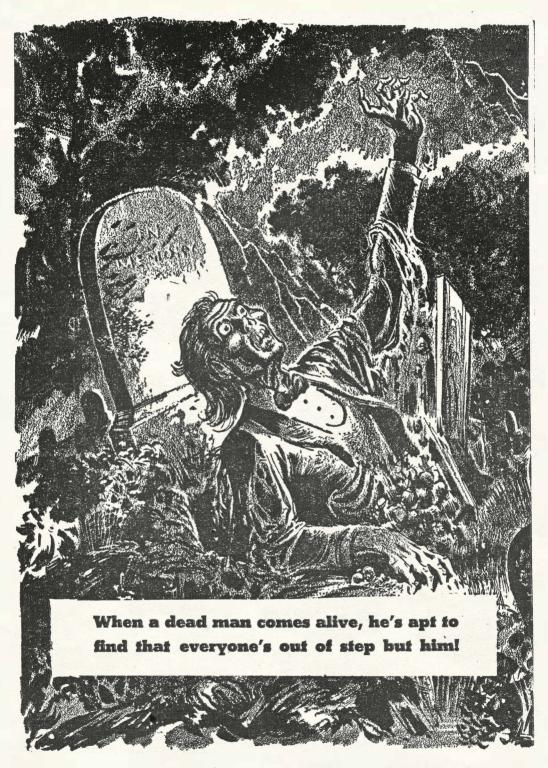
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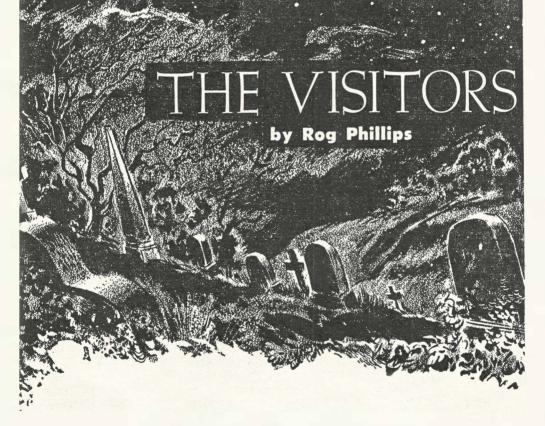
THE LETTERS "T-O-T" stand for a new phrase in warfare, a phrase which gladdens the artilleryman's heart and which strikes terror into the hearts of the enemy. It could just as well be called "saturation fire", for it is a way of so severely smothering an enemy with a devastating hail of shells and bombs and guided missiles that no living thing can walk away from it.

In ordinary bombardment, a target is selected and the artillery or the airplanes or the guided-missiles men are told to destroy it. They do this and then seek another target. But in the Tee-Oh-Tee method they make use of the principle of "Time On Target", which is a curt way of describing a bombardment in which every single shell or missile from every single weapon arrives on a target area at the same time! Guns and rockets and planes are so synchronized that no matter where they are at a given instant, when the order to "Tee-Oh-Tee" is given, they fire at whatever time is calculated to bring their missiles crashing down on the enemy all at one time. If they fire in salvo, round after round, the enemy is hammered by a series of incredibly ferocious blows from which there is no recovery.

"Tee-Oh-Tee" was first used on a very small scale in World War I and then on a larger scale in World War II. In Korea it has been perfected because of electronics and communications techniques. In any future war, due to the perfection of electronics methods, the use of proximity fuses and atomic bombs and atomic shells, any target or area subjected to "Tee-Oh-Tee" will simply be shattered into smithereens—so utterly obliterated that no thing, living or dead, will remain in the area!



In the tranquil silence of the country graveyard, the corpse screamed hideously



HEARD the mantel clock strike twelve. I guess I must have just 'awakened. I don't know. But that's the first thing I was aware of. I was lying there wide awake all of a sudden, maybe a minute, maybe only a second. Then—bong, bong, bong—twelve times. I counted them. Then it got light. Not all of a sudden, but starting from scratch and increasing, sort of. All in seconds. Light as broad daylight. Only it was a different sort of light. Something like from those sodium vapor lights south of town on the highway for a couple of miles, but not quite like those, either.

## Then I woke Dorothy."

Dan Morgan looked from the old caretaker to his wife and smiled at the anachronism of calling an incredibly old, wrinkled, white-haired woman Dorothy.

"That's right, Mister Morgan," Dorothy said. "He woke me up, and it was like he says. Then we heard the footsteps."

"Yes, we heard the steps—if that's what they were. They were deliberate like. Not rapid, not slow, but deliberate. And firm. And heavy, too. They shook everything like the elevated used to shake things when it went by when we lived in the city years ago."

"Not quite like that, Joe," Dorothy said. "The shaking was only when the footsteps sounded. Not continuous."

The feeble old man had a quiet dignity and seriousness about him. He said, "I didn't mean continuous. I meant things shook like that, more than like an earthquake. I've been in earthquakes too. And then we heard the music."

"Music?" Dan's voice lifted in surprise.

"Yes," Dorothy answered. "Like a violin, only there weren't any notes, any tune."

"There was too a tune," Joe said. "Only it was hard to put a finger on it. Did you ever have a dream, Mister Morgan, where you saw a printed page, and as long as you didn't try to read it it was clear, but the minute you tried to focus a single word so you could read, it sort of faded? That's like that tune was. There, and not there. I tried to get it, and I kept having the feeling that if I could only hurry my mind a little, I could. That it was just a beat or two ahead of me."

"And the light kept on all this time?" Dan asked.

"Oh yes," Dorothy was firm. "All

the time. Steady. And it wasn't like it came through the window from outside. It was outside all right, but it was in here too. There weren't any shadows. I remember that distinctly. No shadows. I thought of shadows and looked on purpose, but there weren't any."

"I didn't notice that," Joe said. "I was getting dressed. I remember I thought maybe there was a fire near here. The light made me think that. Fires make funny lighting sometimes."

"Where did the footsteps seem to come from?" Dan asked.

"COME TO think of it," Joe said slowly, "they seemed to come from the street and go by right outside, and then go on in. Thump, thump, and it wasn't until they were well inside that the music started."

"It was beautiful music," Dorothy said.

"It was crazy music," Joe corrected. "I never heard anything like it. More like voices spoken by a violin. Sad, then coaxing, then commanding—all mixed up. Only if there were words, it was like hearing somebody speak through a wall so you can't make out what they say."

"And then you went out to see what was going on?" Dan said.

"Not just then," Joe said, rather shamefaced. "To tell you the truth, when I started for the door I got scared all of a sudden. I never felt quite that scared before in my life. Talk about knees getting rubbery, mine were."

"But you did go out finally?" Dan asked.

"Oh sure," Joe said. "But that was after it got dark again and everything was quiet."

"Take him out and show him what you found," Dorothy said. "I don't want to go. I'll fix some coffee and sandwiches for you while you're gone."

The old man got up. "Come on, Mister Morgan," he said.

He picked up a flashlight and led the way. Dan followed. They followed the walk for a few yards, the circle of light from the flashlight reflecting eerily from the bouncing raindrops and the glistening puddles.

"It started to rain after it got dark again," Joe said, without looking around. "Don't suppose that has anything to do with it...." He cut over the lawn to a gravel walk, then finally came onto the lawn again. "There it is," he said, bringing the light to bear on it.

Dan stared at the rectangular hole in the ground, and the box at the bottom of the hole with its earth-encrusted lid tipped at a crazy angle like one hinge might be broken. The box was empty.

"It's the only one," Joe said. "I looked all over while I was waiting for someone to come. All the rest are untouched."

Dan's eyes lifted to look at the piece of marble at the farther end of the hole. It bore the inscription:

## George O. Mark 1903—1947

**Good.** Put him on." He looked through the window of the booth at the woman looking over the books on the lending-library shelves, the two kids eating ice cream at the soda fountain, the druggist with his scrawny frame and large adam's apple selling a man a pack of cigarets. Then: "Hi, doc. What'd you find out?"

The voice at the other end of the line sounded cautious. "The dirt from that grave just vanished. Not a particle of it on the lawn. And the walls of the hole weren't just dirt. I guess you noticed that yourself. They were

fused dirt. Fused an inch deep. I broke off several samples. I'm sending one over to the university to see if it's radioactive."

"Radioactive? Why?"

"It was just an idea," the coroner said. "Foolish, perhaps; but if the dirt taken from that hole were disintegrated..."

"What about the coffin?"

"Nothing fused about that. Matted and partly decayed clothing. A little fresh dirt that probably came from the lid when it was lifted back. No sign of the body, of course. You saw that yourself. I looked around to see if maybe a bone might have dropped off and been overlooked. Formaldehyde was strong in the decayed clothing. Embalming is just a racket in my opinion. Doesn't last long after the box gets in the ground. The body starts sweating it out. Not much, but enough."

"How soon do you think you can get a report from the university?" Dan asked.

"Forsythe said he'd get to it after his two o'clock lecture. Shouldn't take long. Probably three or a little after."

Dan looked at his watch. It was one-thirty. "I'll give you a ring then, Fred. I'm calling from the drugstore. The Mark residence is down in the middle of the block. I'm going to call on them. See what I can find out. S'long."

**IT** WAS a white shiplap house. Two stories, with long narrow windows. The numerals on the square post to the right of the porch steps were *five four three*, with the *three* hanging upside down by one nail, and the place where it had been a dirty *three* in unpainted wood. There were two front doors side by side. The left-hand one revealed stairs leading upward behind the curtained window. Under the bell button to the righthand door was a yellowed card with *Mrs. Abbie Mark* printed clumsily. Dan pushed the button and waited. There was a radio going in the house next door.

After a minute he pushed the button again. There were footsteps. Through the window he saw a woman coming toward him, wiping her hands on a dish towel. She brushed her hair back with her forearm. Then she had opened the door and was looking up at him questioningly.

"Mrs. Mark?"

Her eyes went sideways toward the doorbell knowingly. She smiled and nodded, hiding the dish towel behind her.

"My name is Dan Morgan." He smiled. "I'm not selling anything. I want to ask you a few questions about your husband. And if you have any pictures of him, I'd like to see what he looked like."

She had opened her mouth to protest she wasn't married now, but his use of the past tense changed her attitude to curiosity.

"What do you want to know about him for?" She smiled. "If he had been famous... But he was just an overhead craneman at the shipyard. He died of a heart attack. It was in the morning, just before he went to work." For a moment she looked sad, but the memory was dim. She looked up at Dan again.

"And you have pictures of him?"

"Oh sure, around someplace." She paused, then: "Will you come in?" she invited hesitantly.

"Thanks," Dan said.

She stood back, regretting her invitation for a moment, then shrugging off her hesitancy and reverting to what was obviously her normal personality: cheerfulness. "The house is a mess. I'm in the midst of the laundry. I'll give you the picture album and you can relax on the davenport while I shut off the machine."

She opened a drawer in an old-fashioned desk and brought out a snapshot album. Dan took it and went obediently to the davenport.

"I won't be too long," she said.

Dan nodded. As she pushed through the kitchen door he decided he liked her. She didn't push herself. She was intensely curious, but could wait. That was an unusual trait in a woman.

The snapshots weren't very good. They were clear enough. Taken with a cheap box camera. There were perhaps fifty prints in the album. The same man appeared in all of them. Mrs. Mark appeared in some of them. In others were the recurring faces of two boys and one girl, their ages changing toward the back of the album until they were in their late teens and early twenties.

George O. Mark had been just like nine out of ten men you would see leaving a shipyard any day of the week when the day's work was done. Perhaps five eleven, judging from his wife's height. A calm and good-natured expression on his face. Shoulders neither broad nor narrow. His chin was square, with a cleft. His nose was slightly flat, halfway between a fighter's nose and an ordinary one. The type of man who would obviously work for wages until he died an unspectacular death. And be married to a woman who raised her children until they married, then settled down to a life of widowhood without protest. A woman named Abbie who took her own name back to tell the world she was a widow.

The last picture in the album, occupying a page all by itself, was of the grave in the cemetery, with the inscription on the stone clearly legible. The stone he had seen at the edge of the hole before dawn that morning.

"HEAR FROM the university yet?" Dan pulled a cigaret out of his shirt pocket and stuck it between his lips.

"Forsythe called half an hour ago," the coroner's voice answered. "They're getting some equipment together to take out to the grave. They're quite excited about it. The sample didn't show radioactivity, but it did show some remarkable things."

"What, for instance?" Dan asked, lighting his cigaret while his eyes roamed the drugstore.

"The bubbles in the sample were filled with helium. A spectro analysis of a small flake of the stuff showed several elements that shouldn't be there. And one element that is impossible, according to Forsythe. Nonradioactive radium. Very small amounts, but enough so that the geiger counter should have gone hog wild near the stuff."

"Maybe they're wrong," Dan suggested.

"Forsythe said he'd stake his reputation on it. Every line of radium is there. He says there can't be any mistake. Says that theoretically there's no reason why there can't be nonradioactive radium, if the nucleus is constructed differently. He also said they can find out more about that later when they get enough of the stuff purified to study the X-ray spectrum, which will give them more of an idea of how the nucleus is put together. What did you find out from the widow?"

Dan chuckled. "I didn't tell her about the grave. George Mark was exactly like a million other men. He was an overhead craneman at the shipyard. He died of a heart attack after breakfast one morning when he over-

slept twenty minutes and had to hurry or he'd be late for work. They had three kids, two boys and one girl, all married now and with kids of their own. I let her talk on, hoping something might come out. Nothing did. She makes the best coffee I've had in a long time. I'll have lunch and then go out to the cemetery. By that time maybe Forsythe will be there."

He jiggled the hook until the city hall operator answered. "Give me Harris' office," he said. Then, "Hello, chief. Morgan. Any results yet?"

"None. No sign of a truck or car entering the cemetery. The lawn around the general area of the grave doesn't show signs of disturbance. We've questioned all the service stations around town without turning up anything." There was a throaty chuckle. "Guy named Wainbright called the newspaper and insisted he saw a flying saucer last night. I sent Frank Newcome out to question him. Frank says Wainbright admits he was drunk at the time, and anyway it was around ten o'clock when he saw it. Only other development is that the shipyard says they have George Mark's fingerprints still on file. Never got around to cleaning out the files."

"Oh, fine!" Dan said. "Send a fingerprint man out to the cemetery and have him dust the tombstones."

"You forget," Harris said. "What good would it do? It rained afterwards."

"Guess I'm slipping," Dan said. He frowned. "Flying saucer, huh...? Did the coroner tell you what they found at the university?"

"I got the connection," Harris' voice came. "I suggested to Prinz that he run a short editorial on it in the evening paper. Maybe someone else will come forward and claim seeing it. Of course, it's farfetched, but..."

"But so is Mark's body's being

snatched farfetched," Dan finished the thought. "I'm on my way back to the cemetery now."

"O.K., Dan. You might as well play around with this. There's nothing else right now. I'll mark you down on the sheet as being on special assignment. You can sleep late tomorrow."

"Thanks," Dan hung up and left the booth.

THERE WAS a tent over the grave. It was the one that belonged to the cemetery and was used to cover freshly made graves so that the unsightly holes and mounds of dirt would be hidden from view. A uniformed policeman slouched near the tent. The only other signs of life among the tombstones were two spinster-looking women a hundred yards away, who had just placed a wreath on a grave. One of the women looked like she was crying, the other comforting her.

Dan nodded briefly to the cop and parted the flap of the tent. He lifted his eyebrows in surprise. The two faces that looked up at him didn't seem more than twenty-one or twentytwo years old.

"Forsythe?" he asked.

"That's me," one of them said, and grinned.

"I'm-Dan Morgan. Police. Find out anything more? The coroner was telling me about the radium. I'm more or less in charge of this case...."

"Oh." Forsythe placed his hands on the grass at the edge of the hole and leaped out as if he were jumping from a swimming pool. He rubbed his right hand on his lightweight coveralls and extended it. "Glad to know you, Dan."

They shook hands. Dan decided he liked the scientist.

"This is my assistant, Hugo 'French," Forsythe said. "A postgraduate student."

Dan nodded acknowledgement. "What have you found out that's new?"

"I hate to say anything about it," Forsythe said with a wry smile. "Frankly, I'd like to haul in some dirt and cover up the hole and forget all about the whole thing."

"Why?" Dan asked, surprised.

Forsythe's face turned dead serious. "Pound for pound," he said, "the dirt that filled this hole is still here. At least that's probably the source of it. But it's been changed into other elements—radium is one of them—that are all quite impossible. From the evidence, I would say that whatever carved out this hole, did so by transmuting the dirt into heavy metals that flowed down around the casket."

"That makes sense," Dan said.

"Yes, it does," Forsythe agreed. "I couldn't imagine a better way to make a hole in the ground. We've been doing some spot spectroscopic work. There's probably enough polonium here to make two atom bombs. But it isn't radioactive. Right now we've been trying to peg a couple of lines on the spectrum that seem to indicate elements far higher on the scale than any known. We know there's a lot of them, and the specific gravity of the solid metal blobs in the dirt around the sides of the casket is higher than that of pure uranium. But the geiger counter is silent as...as a tomb." He chuckled. But immediately he was serious again. "Another strange thing, there's no evidence whatever of any heat being produced. The grass is green right to the last blade at the edge of the hole. In spite of the apparent melting of the dirt to form a sort of lava crust in the hole, no heat was produced."

"That doesn't mean much to me," Dan said. "Do you have any ideas yet as to what went on here last night?"

"There," Forsythe said softly, "we come to the real core of the thing. I can state quite flatly without any fear of being proven wrong later that there is nothing on earth that could have produced what we've found. Nothing."

"What about Hell?" Dan grinned. Forsythe blinked. "It's a thought," he said. And he wasn't laughing. "However, Hugo and I have been speculating, and we have a different idea. Science like what seems to have been used in this case is probably a thousand years ahead of ours. It's possible that we've had stellar visitors. Visitors from some other planet, perhaps even from some other solar system."

"Grave robbing?" Dan asked incredulously.

"Where else could you get a better specimen of the life on this planet?" Forsythe shrugged. "Especially if you didn't want to disturb the living."

"Hey, Dan." It was the cop on duty outside. "The caretaker says you're wanted on the phone."

"O.K," Dan called back. "And, Forsythe, go ahead with your work. The city can wangle you an expense account on this. Not much, but..." With a final smile he ducked out of the tent.

**I**<sup>T</sup> WAS Harris on the phone. "Dan," he said, "we've found a couple that—"

"Let it wait for a second," Dan interrupted. "I've got something more important. The scientist from the university has uncovered something that may be worth millions in that grave. We've got to get the legal department to work on it or we'll lose it. I don't know whether it belongs to the city or to Mrs. Mark; I think there's something about mineral rights being sep-

arate from property rights. Get them to work on it, and right now. According to Forsythe, there's enough heavy elements to make a couple of atom bombs. That sounds like real dough to me."

"Good boy, Danny," Harris said. "I'll get to work on that right now. It's four o'clock now, though. Doesn't give us much time. Come on down. There're two people here you should talk to."

"I'm on my way." Dan hung up, smiled at the caretaker's wife, Dorothy, and went out to his car.

In the waiting room next to Harris' office were three people. One was the reporter Phil Ames whom Dan already knew. The other two were a boy and girl in their late teens, and obviously nervous.

"Hi, Dan," Ames said with a note of familiarity to impress the boy and girl. "This is Alma Richards and Harold Beemis. They read our little news item about the man who saw the flying saucer last night at ten o'clock, and came right down to the newspaper office to tell us what they saw. I brought them right over here. They've told their story to Chief Harris, but he asked them to wait and tell it to you."

"O.K," Dan said. "Let's hear it."

"Alma and I were out driving last night," the boy started hesitantly. "We parked on the dirt road that runs down the side of the cemetery on the north end. At about midnight—I'm not exactly sure when it began, but it was ten after twelve when it was over there were some heavy thumping sounds. The car even shook a little."

"It was like a heavy elephant walking on springy ground," Alma supplemented.

"They seemed to come from west of the cemetery and go into it," Harold continued. "Then we heard some music. I guess you'd call it that, though I can't remember a single note of it, and I have the strange feeling that there weren't any notes. It was something like a violin playing over a loudspeaker a long way off. Then everything got bright as day with an eerie light."

"You saw what went on in the cemetery?" Dan asked.

Harold Beemis frowned. "That's the funny thing about it. We couldn't see anything. Everything was bright. And as long as I didn't look directly at something, I could see it in a vague way, but when I would try to look at anything, it would sort of fade away. One thing I did notice, though, the light didn't spread like light should. There were low clouds last night. Almost black. They should have taken some of the light and thrown it back down. Know what I mean? But they didn't. And Alma noticed the strangeness too. We've compared notes on it all day."

"In other words," Dan said, "you didn't see anything going on in the cemetery."

Harold and Alma looked at each other again. "I didn't say that exactly," he hedged. "What I said was that we couldn't see anything directly. We could see things out of the corners of our eyes. When we looked at them directly they faded out."

"Then what actually did you see?"

"That's what we can't agree on," Alma spoke up. "I saw one thing, and Harry saw another. What I saw looked like a giant man from the waist up. From the waist down he looked like a goat standing on its hind legs. He seemed to be a hundred feet tall. Now you tell him what you saw, Harry."

Harold Beemis turned slightly pink. "I saw," he said with a note of doggedness in his voice, "a woman about fifty feet tall. She didn't have any

clothes on. And-" He stopped.

"Go on, Harry," Alma prodded him, smiling impishly.

"She had several sets of arms," Harold said. "They seemed to come out from her sides one on top of the other. Maybe three pair, I'm not sure. And instead of having..." He looked helplessly at Alma, then averted his gaze. "Sbe had four **or** five pairs of breasts like an animal, a female cat or dog, only they were shaped like—like a—girl's."

"The funny part of it," Alma said, "is that we both saw the different figures standing on identical spots. What we really think is that whatever it was, it was one thing, but that I saw it different than Harry did. It was right in the middle of the cemetery. We couldn't see it when we looked at it directly. The only way I could see it was to sort of look up at the sky, and then out of the corner of my eye I could see this thing in the cemetery."

"And then the light faded," Harold said, his eyes on the floor. "It faded like you'd turn a gas flame off slowly. And the minute everything was dark again, it started raining."

"COME ON down to the office, Dan," Harris' voice came over the telephone. "Forsythe's bringing down some of the professors at the university. They'll be here at ninethirty. Dismissed their classes for the day. Pretty excited about all this and want all the dope."

"Can't they wait until afternoon?" Dan complained. "I was up until dawn with the caretaker and his wife."

"Snap out of it, Dan. You can go back home and finish your sleep afterwards."

Dan grumbled, hung up, looked regretfully at his bed, then staggered to the bathroom and a shower.

At nine-thirty, he walked up the

steps of the city hall. In Harris' office he acknowledged introductions: Dr. Maurice Holmes, department head in psychology; Dr. Hugh Arnold, head of the science department and Forsythe's boss; and Dr. James A. Burke, department head in the school of medicine. In strong contrast to Forsythe's youthfulness, they were all in their fifties or older.

With introductions over, Dan sat on the sidelines and smoked cigarets, answering questions when they were put to him. At first Forsythe did most of the talking. Dan listened idly, learning nothing new. Finally Dr. Maurice Holmes took the conversational ball.

"What was your impression of those two youngsters, Mr. Morgan?" he asked. "Do you think they made up any part of their story—perhaps to conceal something?"

Dan flicked the ash from his cigaret. "They struck me as telling the truth with the belief that we wouldn't believe them," he said. "I would say they told all they knew and didn't try to conceal anything—unless it was what they were doing parked on that side road."

"Did you ever hear of rods and cones, Mr. Morgan?" Dr. Holmes asked.

"I don't understand you."

"In the eye."

"Oh," Dan said. "Yes, I've read something about them. What about it?"

"The cones are what we see out of when we look directly at something," Holmes explained. "The rods give us side vision. The very remarkable thing about the description those two kids gave of what they saw is that it indicates absolutely a temporary blindness of the cones of their eyes. They were seeing with the rods only. Since I doubt very much that they could know about such things, I'm quite sure they

were telling the truth."

"Then why did they see different things?" Dan asked.

"That also is quite natural," Holmes explained. "None of us ever really looks by means of the rods. We just use them in a vague way to perceive movement. Something at the side moves swiftly and it attracts our attention. We turn our head and bring the cones to bear on it, getting shape and color. In other words, we never get around to synthesizing shape with our rods. Mental laziness. Bearing that in mind, I would say that both of them saw the same thing or things, but the shape they perceived was an attempt of the imagination at rationalization. It was entirely in the subconscious, and-what is especially significant-the male subconscious and the female subconscious are just different enough so that it would probably come out the way they described things. A symbolization."

"I see what you mean," Dan said, thinking of Harold's many-breasted woman and Alma's man who was a goat from the waist down. "And I think you're right. But what could blind one part of their eyes and not the other?"

"We know a few things along that line," Holmes said. "For example, an extremely bright flash could do it for a few seconds."

"Not for more than a few seconds though," Dr. Burke said. "I'm of the opinion that it was some property of the light. Perhaps some frequency to which the rods are sensitive and the cones aren't, or vice versa."

"That's what I was thinking," Forsythe said. "It was night. Suppose that light was in the ultraviolet in some band we haven't experimented with, and it was still night to the cones but light to the rods. We could experiment along that line. I don't believe it's been done."

The phone was ringing. Harris had waited until Forsythe finished talking; now he picked up the phone. "Hello," he said. "Who? Morgan? It's for you, Dan. Some woman."

Dan took the phone. "Mister Morgan?" It was a woman's voice, urgent, fearful. "This is Mrs. Mark. I'm at the drugstore on the corner. I slipped out. I don't know what to do. George is home. He came home two hours ago. And he can't be. I saw him die. But it's him. My God, will you do something! Help me—please help me—1"

"Stay right there," Dan said. "I'll be with you in five minutes." He slammed down the receiver and started for the door on the run.

"What's the trouble?" Harris asked.

At the door Dan turned. "Right now," he said slowly, "I'd give the devil odds over Mars. The corpse from that grave is alive."

**D**<sup>AN</sup> PULLED into the curb directly in front of the drugstore. He got out and was at the store entrance before the car door had slammed shut. Inside, he looked quickly around without seeing Mrs. Mark. Without pausing he went to the back to the phone booth.

She was there, the door pulled shut. At first Dan thought she had fainted. He tried to open the door and she looked up abruptly. Her eyes were wide and round. Recognition replaced the fear in them. She clawed at the door, and when Dan got it open she clung to him, her entire body trembling violently.

Dan called to the druggist, "Get some kind of sedative for this woman. She's suffering from extreme shock."

"I can't," the druggist said reproachfully as he walked over to them. "You know that. It takes a doctor." •

"Well, get a doctor then," Dan ordered. "Don't take all day. Can't you see this is an emergency?"

It was ten minutes until the doctor arrived, and another ten minutes until the shot the doctor gave Mrs. Mark took effect.

"Have you got your key?" Dan asked her then. She tried to answer, but couldn't do more than part her lips. Dan looked in the phone booth for her purse. When he found nothing he shrugged. Then, to the doctor, "Can you see that she's taken to City Hospital? Her name's Mrs. Mark. I'll get in touch with the hospital later."

The doctor nodded. Dan hurried out of the drugstore, conscious of Mrs. Mark's haunting eyes on him all the way. He hesitated, then leaped into his car and zoomed the fraction of a block to the white shiplap house. Leaving the motor running he slid out, making sure the while that his service automatic was ready for use.

He trotted up the walk and took the steps three at a time. At the door he jammed his finger on the bell and peered through the door window. There was no sign of movement inside.

Impatiently, he tried the door. It opened. He hesitated, then pushed it open. Standing in the open doorway he called, "Mr. Mark!"

There was no answer. He went in. A strange odor assailed his nostrils. He had never met it before, but instinct told him what it was: long-decaying flesh from the grave. It clung to the lining of his nostrils like oil, and tore at the subconscious roots of his mind like horrible claws.

"No wonder she went to pieces!" he muttered.

With a nervous stride he went through the house. The sickering odor was everywhere, but George Mark was gone.

Dan went back out to his car. He sat behind the wheel and lit a cigaret, taking deep drags to destroy the stench of death. He watched his hands tremble, then laughed weakly. After a minute he got out and walked to the drugstore. The doctor and Mrs. Mark were gone, the druggist informed him. The doctor was taking her to the hospital in his car.

Dan went to the phone booth and called Harris. "Chief? The corpse was home all right. But he left. God! The smell! Mrs. Mark is at City Hospital. Send several cars to this neighborhood. I don't know what they should look .or, but I can tell you it smells like the inside of a damp coffin and a mixture of lysol and formaldehyde." He started to hang up, then added, "And, Chief, send the coroner and some men out here. I want him to get that odor himself. And we'd better have someone on guard—in case."

He hung up, went back to his car and waited. Ten minutes later, not only the coroner but the delegation from the university arrived. And with them came three patrol cars that pulled up to the curb with an air of settling down for a long time.

"WHAT'S ALL this nonsense?" Dr. Holmes asked. "Of course you've found the explanation by now, Mr. Morgan?"

Dan nodded his head toward the house. "Go on in," he said, "and ask me the same question when you come out."

Burke was already going up the walk. Holmes hurried after him. Arnold, head of the science department, hesitated, then followed them. Forsythe came over to Dan.

"Do you really believe George Mark has come back to life?" he asked skeptically.

"All I know," Dan said, "is that

somewhere around town there's something walking that lay rotting in a grave since 1947, and Mrs. Mark, who doesn't know her husband's grave is empty, said it was her husband. You're a scientist. Did you ever see evidence that contradicted your theories about what should be?"

"This contradicts my theories," Forsythe said. "I was all ready to believe that some extra-terrestials had robbed a grave to get a specimen to study. Now, I..." His voice drifted off as his superior, Arnold, appeared in the doorway, waving for them to come in.

Dan and Forsythe went up the walk.

"Did you examine the bathtub, Morgan?" Arnold asked.

"N-no," Dan said. "I was just looking for people or corpses. I didn't take time to—"

"Well, come in and look," Arnold said.

They followed him in. Burke was squatted in the bathtub picking things out of the drain with some tweezers and depositing them on a sheet of paper. He looked up when they crowded into the bathroom. "We've identified the source of the lysol odor, anyway," he said, pointing to a bottle on the shelf above the washbasin. "And unless I'm very mistaken, what I'm getting here will prove to be halfdecayed cloth."

"The evidence," Holmes said, "would indicate that a revived corpse took a good bath in this tub to wash off the smell of death."

Fred Witty, the coroner, appeared in the doorway of the bathroom holding a hanger with a suit on it. "He could have put on some clean clothes here, too. There're even shirts. Mrs. Mark never threw away her husband's clothes."

Dan squeezed past Forsythe and Holmes to the door. "I'd better steal one of the pictures of George Mark and take it down to the City Hall," he said. "It looks like he must have made himself presentable before he left here. And I think I'll run over to the hospital and see if Mrs. Mark can talk yet."

"Chief Harris took care of that," Burke said quickly. "He gave orders for two police officers to go over and stand guard over her, and a court stenographer to sit by her bedside and take down everything she might say."

WHEN HE pushed through the door into Harris' office, Harris jumped to his feet. "I tried to catch you at the Mark house," he said. "George Mark showed up at the shipyard this morning to go to work."

"Then he's there?" Dan asked, starting to turn to the door again.

"No," Harris said. "We overlooked that bet. The guard at the gate held him and called the shipyard office on his phone. Then he told Mark to scram because George Mark had been dead since 1947. The guard says he looked blank for a minute, then asked what year it was. When the guard told him it was April 1953, he 'acted kind of funny' for a minute, then left."

"Did the guard say anything about a strange odor?" Dan asked.

Harris grinned. "He said the guy had b.o. plenty."

"By the way," Dan said, "I nearly forgot...." He took the snapshot from his pocket and laid it on the desk. "Here's a picture of Mark."

Harris nodded, and started the ball rolling so that before another hour had passed every policeman on duty would have a duplicate.

"I think I'll go home now and get a little more shuteye," Dan said, yawning.

"Have a cup of coffee with me first, Danny."

They were on their way out of the office when the phone rang. Harris went back to answer it.

"It's Clancy at the hospital," he told Dan. "Mrs. Mark keeps asking for you. The doctor says you'd better go on out there. She's on the verge of a breakdown even under oplate, and your being there may quiet her." He winked. "Maybe she's got a crush on you."

Dan shook his head. "She's twenty years older than I am."

"Too bad," Harris teased. "Still, none of the young ones seem to interest you."

"Maybe she has a good-looking nurse at the hospital," Dan said. "Let's have that coffee. I need it."

AN HOUR and a half later, he took off his shoes and lay down on his bed for a nap. There was a thoughtful look on his face. Mrs. Mark had insisted over and over that the man had been her husband. He had acted just like he did that morning he had died. He didn't even seem to remember entering the house, but seemed to think he had just gotten up. She had slipped out to the drugstore to phone when he started to take his bath.

She had gone to sleep finally. His presence had made her stop fighting the opiate.

He sighed deeply and closed his eyes. The next minute, it seemed, the phone was jangling insistently.

"We've got him," were Harris' excited words over the wire. "Twentythree spotted him and picked him up. They're on their way down with him now."

"Good," Dan said. Then, "You're going to hold him for questioning, aren't you?"

"Hold him!"

"Well, what are you going to hold him on?"

"We can hold him on a million

things," Harris sputtered.

"Such as escaping from a grave after being legally buried?" Dan said. "He may deny being George Mark. You may not be able to hold him. So this is what I want to do. I want to keep in the background on this. If you hold him and he drops dead or any other thing that will wind this up, you don't need me on it anyway. But if it turns out that you have to let him go, I want to be able to follow out an idea I have without him thinking I'm with the police."

"What's that?" Harris asked.

"Get acquainted with him," Dan said. "As a great ham would say, there's more to this than meets the eye. I have a hunch what George Mark is going to want before long is a friend. And I want to be it."

"Maybe you have something," Harris said. "O.K, Danny boy. Go back to bed and at five o'clock I'll call you again and tell you what happened." Harris chuckled. "Here's something that'll interest you. The D. A.'s office is stumped on the problem of mineral rights covering one grave in a cemetery. They're going to try the angle of buried treasure. But they say the problem of ownership is something that may go all the way to the Supreme Court unless some kind of agreement is reached by all the parties concerned."

"Well," Dan said sleepily, "I don't much care. Only we could use a new City Hall, and Mrs. Mark could probably use a few thousand bucks. She owns the grave, doesn't she?"

"Cemeteries are very restricted residential subdivisions," Harris said. "The D. A.'s office is trying to find precedents to go on. So far they haven't found any. Go back to bed. I'll call you at five."

It was four-thirty when he called again. "Sorry to cheat you out of half an hour, Dan," he said, "but you hit the nail on the head about holding Mark. He's wised up a little since morning. Denies his name is George Mark. Funny thing, his fingerprints don't check with those from the files at the shipyard."

"Who does he say he is?"

"Says his name is George Bancroft. He produced a savings account pass book on the First National Bank to prove it. The account was opened today. It has five thousand dollars in it. He had two hundred and fifty dollars in cash in his pockets, too."

"Are you sure it's the right man?" Dan asked.

"If you got near him you'd know," Harris said. "I put him in the second-floor rear cage by himself. We're going to work on him tonight and see what we can get out of him. In the morning we can't stop him from getting a lawyer—and then we can't hold him."

**D**<sup>AN</sup> WALKED into Harris' office. He started to say hello, then sniffed distastefully.

"Sleep good?" Harris asked.

"Not too good," Dan said. "After you called yesterday I decided to get in touch with the university and talk with Forsythe. He told me the stuff they dug out of the grave isn't worth much, if anything. It has a curiosity value only, according to him. Radium that isn't radioactive is as useless as plain lead. So I told him to bring it down here and leave it. Then he admitted that from the scientific standpoint it might be worth a lot because it might be the clue to the nature of the nucleus."

"That's taken care of now," Harris said. "Forsythe's boss, Arnold, got in touch with the Atomic Energy Commission and they've gotten a government order impounding it all."

"I suppose the F.B.I. will be in on it now." Harris shook his head. "Maybe later. We get along pretty well with them. I talked to Bradley just before you came in and told him about your plan. He said he would contact me if he got any orders, so as not to gum up anything we might have cooking."

"You're going to turn Mark loose this morning?" Dan asked. "And what did you get out of him?"

"Nothing," Harris said. "He wants a lawyer. I caught J. G. Andrews while he was at breakfast this morning." The phone rang at Harris' elbow and he picked it up. "Oh. Send him in," he said after listening. Then to Dan, "J. G.'s here now."

The door opened. The city's biggest lawyer came in. After an exchange of somewhat breezy hellos, he sat down and crossed his legs, puffing on a cigar while Harris explained things.

"I don't know," he hedged when Harris ran down. "In spite of the fact that you would be the fast man to even consider such a wild tale unless there was good solid ground for belief, the fact remains that this man who gave his name as George Bancroft is entitled to his freedom and has every right to be left alone. You say you want me to spring him and then pass Dan off as one of my assistants? He has five thousand dollars in a savings account? Why don't you let me handle him myself? If he's what you claim-really George Mark who has been dead and buried since -1947-I'll find out soon enough and let you know."

Harris shook his head. "Unless you do it our way you don't get to see him."

"But the man's entitled to counsel. I can get a writ—"

"You can't solicit clients," Harris said. "Unless you agree, I'm going to call in Harper or Ghold. They're good lawyers too. One of them will play it our way."

Bradley blinked thoughtfully a minute, then dipped his head. "I'll play it your way."

"Good," Harris said. "Now, Dan, we'll put on our act in room five. You can watch through the peephole. It'll give you a chance to see Mark alias Bancroft and study him without his seeing you."

**D**<sup>AN</sup> STAYED in Harris' office and leaned against the wall, his eye close to the small hole that gave him a clear view of everything in the next rocm.

Harris showed J. G. Bradley the hole. After that, Harris sat down behind the desk and Bradley sat down on a chair near the desk. Five minutes later, George Mark was brought in.

Dan stared at the man who now walked in. A man with calm blue eyes in a placid face. All the evidence pointed to this man's having been an embalmed corpse in a grave for almost six years. The corpse had been taken from the grave, and approximately thirty hours later it had walked into the same house where it had originally died—walked in, indeed, as if it had never left it.

With an air of unreality, Dan watched George Mark walk forward into the room. Then he caught the look of distaste on J. G. Bradley's face and the wrinkling of his sensitive nose, and the aura of unreality vanished.

Harris went into his act. "Bancroft or Mark or whatever your name is," he said, "this is J. G. Bradley. You asked for a lawyer and he's it."

"Glad to know you, Mr. Bancroft," Bradley said, rising and shaking hands with superb acting skill. Mark remained standing. Bradley sat down and took out a spotless handkerchief, pretending to blot imaginary perspiration from his brow, then with an appearance of abstraction thoroughly wiped his hands. After that he turned to Harris. "On what charge are you holding this man?"

"Questioning in connection with the removal of a body from a grave illegally," Harris said.

"You mean you're holding him on suspicion of robbing a grave?"

"No. We have every reason to believe he's the corpse that was stolen."

"Preposterous!" Bradley snorted. He turned to George Mark. "Do you wish to retain me as your lawyer? I'll have you out of here before an hour is past."

The man nodded. He still hadn't spoken, and Dan was curious to hear his voice.

"How are you fixed financially? Can you afford a twenty-five-dollar retainer? If not, I'll foot the court expenses myself in the cause of justice."

"I can pay you."

Dan was disappointed. George Mark's voice had been perfectly normal. It made him realize he had been expecting something eerie in tone like they have in mystery radio dramas.

"Good!" Bradley said. He turned to Harris. "Can you let him wait here? It'll only take me five minutes to see the judge." When Harris grunted a surly "Yes," Bradley rose quickly and left the room.

After he had gone Harris glowered at Mark, who looked at the ceiling and ignored him.

"Where'd you get the five thousand you put in the bank?" Harris shot out suddenly.

Mark looked at him briefly. "I arrived in town yesterday," he said calmly. "I opened that account with money I brought with me because I plan to stay here for a while."

"Your wife is in City Hospital suffering from nervous shock," Harris said. "What are you going to do about her?"

"I don't know what you're talking about," Mark answered. "I have no wife."

"Where did you come from?" Harris asked.

"Why answer?" Mark said. "The only answer you would accept is from a grave in the cemetery."

J. G. Bradley came breezing back into the room with an official looking folded paper and laid it triumphantly on the desk in front of Harris. "Will you have Mr. Bancroft's belongings brought in so he can depart?" he said officiously.

Harris looked glumly at the paper on his desk, then used the phone. When the envelope containing Mark's two hundred and fifty dollars was brought in, he handed it over to Bradley, then glared at Mark. "I'd advise you to get a lawyer permanently while you're in town," he said threateningly. "I'm convinced you're George Mark, and the first proof I get hold of that will stick I'm going to bring you in."

"None of that!" Bradley bristled. "One of these days your persecution of people you suspect is going to get you in trouble."

Harris didn't answer.

Bradley put the envelope in his own pocket and went to the door. "Come on, Mr. Bancroft," he said. "I'd like you to come up to my office. It's just across the street. We can make arrangements so the police department leaves you alone."

"HAT'D YOU think of him?"

Harris asked when he came back to the office.

"In a way he was a disappointment," Dan said. "He acted just like any one of a hundred people would."

"Doesn't that strike you as being a little strange?" Harris said. "Regardless of the fact that it's impossible for a six-year-dead corpse full of embalming fluid to come back to life, you and I know that that's what he is."

"Ordinary rules don't hold," Dan said. "Are you driving at something?"

Harris went to the window and stood there with his back to Dan. Suddenly he turned around. "Yes, I am," he said. "I can't get that flying-saucer stuff out of my mind. It made sense for the corpse to be missing when we thought it might be foreigners from another planet wanting a human specimen to study. George Mark coming to life casts a different light on it. A wolf-insheep's-clothing setup. I don't like it, Danny. I don't like it. Especially the fingerprints' not matching."

"You mean you think some alien form of life is animating him?"

"Maybe," Harris said. "And maybe he is an alien form of life. Maybe the corpse of George Mark is still around someplace."

"But that smell!"

"I don't pretend to know the answers," Harris said. "All I'm saying is, don't lose track of the possibility that you may be dealing with something far smarter than George Mark. Don't just think you're dealing with a man brought back to life."

"But if it isn't just George Mark brought back to life, why would an alien creature want to go around masquerading as a human? To conquer the world?"

"More likely to study us." He reached for the phone as it started ringing. "Yes?" He listened for **a** minute, then snapped, "Send him in."

"What is it?" Dan asked.

"An interne at City Hospital with something he thinks is hot."

The door opened. Dan recognized the man as one he had seen in the hall at the hospital the day before.

"I'm Dr. Ranston," he introduced

himself. "This is my lunch hour and I don't have much time, but I wanted to talk to you about it before talking to the officials of the hospital because —well, frankly I don't know whether it's anything wrong or not."

"O.K," Harris said. "I'll listen.

"A man was brought to the emergency entrance early this morning. He looked like he had received a scattered blast of buckshot. He died shortly after he arrived."

"Didn't the hospital notify the police?" Harris asked.

"Yes, of course," Ranston said.

"Oh, yes!" Harris recalled. "I remember now. I read the report when I came down this morning. The pawn broker in the Jameson Building."

"That's the one," Dr. Ranston said. He fumbled in his pocket and brought out an envelope. He opened it and spilled half a dozen minute objects onto the desk that looked like slivers of glass. "That's some of the pieces I picked out of his face."

"Glass!" Harris said. "This is something."

"Not glass," Ranston said. "Diamond." He moved one of the pieces with a fingernail. "If you look closely at this one you'll see that one surface is perfectly flat and polished.

"My father is a jeweler," Ranston continued. "I worked for him while going to school and I know a little about diamonds. I'd say that this fragment, and the others too, is from a diamond that exploded."

"Exploded?" Harris said, puzzled.

"I think the cause of death was an exploding diamond," Ranston said. "That would make it accidental."

"I don't get it," Harris said. "How could a diamond explode?"

"It's been known to happen," Ranston said. "The thing that makes this unusual is that it was a finished diamond. And also the force of the explosion. It would almost seem to me like—well, like it was a freshly made diamond, if it were possible to make them."

"It isn't possible?" Harris asked. "That's the nightmare of the diamond industry," Ranston said. "Some day someone is going to discover how. Then the bottom will drop out of the market."

Harris looked at Dan, his eyebrows lifting. He turned back to Dr. Ranston casually. "All right, doctor. Thanks for telling us this. We'll handle it from here."

When the door closed behind the doctor, Dan said, "So that's how he got his five thousand...."

THE PHONE rang. "It's J.G.," Harris said in an aside to Dan when he answered. Then, "What's that? Say it again." He listened for a minute or two without saying anything, while Dan shifted from one foot to the other impatiently. "I guess we'll have to try it differently then. I guess you couldn't do anything else. But any time he contacts you, let me know immediately, no matter what it is."

He hung up and frowned up at Dan. "Bradley says that George paid him his twenty-five bucks but refused to play along on any scheme for permanent protection. He was a trifle surly. Said he was going to rent a room in a hotel under his own name which he still insists is George Bancroft, and stay around town as long as he feels like it."

"Then the thing for me to do is get into the same hotel," Dan said. "Next door to him if possible, and strike up an acquaintance. Maybe it would be better that way anyway."

"That's what I was thinking while J.G. Bradley was talking," Harris said. "I'll get to work on finding out where he registers."

"Better cover the bank where his

money is, too," Dan suggested. "He might be planning on leaving town. That's what I would do in his case."

"How do you know what a corpse that's been dead six years would do?"

"Or something from another planet masquerading as a man?" Dan countered. "While you're on that, I'll take a quick run out to the hospital and see if I can talk with Mrs. Mark. Maybe she's in good enough condition to talk now. I'll go directly there, and come directly back, in case you want to get in touch with me."

At the hospital, Mrs. Mark greeted him with a wan smile.

"How do you feel?" he asked.

"I don't know," she said. "It's all like a bad dream. One afternoon you call on me and ask questions about my dead husband. The next morning he comes home from the grave." She stared at him, a haunted look deep in her eyes. "Don't try to tell me there wasn't a connection between your visit and—and George's."

Dan looked at the interne and received an imperceptible nod. "Yes," he said to her, "there was a connection. The reason I called on you was that your husband's grave had been broken into and his body was missing."

He waited for her to be surprised over that. Instead, she nodded slowly. "I thought as much," she said. "Of course his body had to be missing from the grave. Because it was George. It was just as it was the morning he died. He kept saying, 'I'm late for work, but I've got to wash this damn stink off me.' And I was too terrified to do more than nod and wring my hands."

"Think back carefully," Dan said. "Did he seem to know his way around the house without having to think?"

"Oh, yes!" Mrs. Mark said hastily. "He even grumbled about his clothes' not being where they should be. He looked in the drawers where they used to be kept. I had to get his clothes where they had been put away."

"Now think back six years ago when he died." Dan said. "You were with him when he died? Did you see him in the casket at the funeral?"

"Yes. He clutched at his chest and fell over. I called the doctor right away. When the doctor came, George was already dead. And I saw him before the funeral in the private room. He was lying in the casket sort of propped up. I—touched his face. It was so cold and hard, but when I stood away he looked just like he was taking a nap."

Dan nodded. But before he could say anything more, a nurse walked in.

"You're Mr. Morgan?" she asked. He nodded. "You're wanted on the phone. You can take it at the head nurse's desk down the hall."

"Thanks," Dan said. He turned back to Mrs. Mark. "I'll be in to see you later. We've locked your house. The doctor says you should stay here and rest a day or two. If you want to get in touch with any of your children, just tell the nurse."

"All right, Mr. Morgan," she said. Her smile was more cheerful than it had been when he entered.

Dan left the room and hurried down the hall, his footsteps loud in the hushed atmosphere of the hospital. The head nurse held the phone up to him with a polite smile. He took it and thanked her, then half turned away while he said, "Morgan speaking."

"This is Al, Dan" the voice at the other end said. "Go down to the emergency entrance and wait. The chief is on his way over." The desk sergeant's voice broke. "Hell, Dan, I guess I've got to tell you. The chief had a heart attack. They're taking him in the ambulance."

Dan stiffened in surprise. He

stared at the phone in his hand, then slammed it down. He started to run toward the elevator, then, remembering how slow it was, took to the stairs.

He reached the emergency entrance just as the ambulance pulled in. The coroner got out first. He saw Dan and came over to him. "No talking to him, Dan," he said sternly.

Dan nodded, his eyes on the two white-coated internes sliding the stretcher out of the car. Harris' eyes closed, but just as the stretcher was going past him, Harris opened his eyes and looked up. "Dan!" he whispered. "In my office!"

Dan nodded. The stretcher went past, through the doors.

"MAYBE YOU should've kept out of sight," the coroner said. "He's pretty bad off. Funny, too. I've been his doctor for fifteen years and I know his physical condition perfectly. Why, only two months ago I gave him an electrocardiograph, and his heart was perfect."

"George Mark died of a heart attack," Dan said.

"What's that got to do with it?" the coroner asked sharply.

"I don't know." Dan frowned. "It was the first thing I thought of when Al told me over the phone. Yes, I do know. I keep thinking of things from some other planet or star. They examined a human corpse and brought it back to life, maybe... And all they know about human beings is what they learned from George Mark's corpse. Maybe they learned how he died from examining him."

"That's possible to find out," the coroner admitted. "What's the connection?"

"Harris showed signs of giving George Mark trouble," Dan said. "Maybe whatever is behind this used what it learned about Mark to try to kill him." "I'll keep that in mind," the coroner 'said. "You'll have to do without him for the present. Not even questions. It's possible he may die." He patted Dan's shoulder and pushed through the doors after the stretcher.

Dan ran across the blacktop to where his car was parked. Traffic was light. He reached the city hall in five minutes, driving down the ramp to the basement garage under the police-department end of the building.

Taking the steps to the first floor two at a time, he was standing inside Harris' office a minute later, his back to the closed door while he carefully surveyed the room.

The chief's chair was overturned. A lump rose in his throat at this silent evidence of tragedy.

What had the chief expected himto find here in his office? He advanced into the room slowly, his eyes searching carefully. The desk was bare except for the phone and the empty in-and-out letter baskets.

He went around the desk and searched the floor around the fallen chair. Still nothing.

He opened the center drawer of the desk. There was a piece of paper with a pencil scrawl in the chief's handwriting. It said, "G M at 504 Penrose Hotel."

Dan lifted it up with a fingernail to see under it. There was nothing else of significance in the drawer. He let the paper fall back and closed the drawer. Picking up the phone he dialed the interoffice number of the outside desk.

"Al?" he said. "This is Dan, in Harris' office. Did anyone come in to see him before he had his heart attack?"

"Yes. That George Marks alias George Bancroft. But that was a good" ten minutes before the chief had his attack. How is he?" "Too early to know," Dan said. "But let me get this straight. How do you know when the chief had his attack?"

"He knocked his phone off the desk. Rita got alarmed when he wouldn't respond, and left the board long enough to go take a look."

"Did you see Marks alias Bancroft leave before that?"

"That's what I meant. He left a good ten minutes before that. He wasn't in the chief's office more than five minutes."

"Anybody go in after that?"

"No, Dan."

"O.K." Dan hung up, then lifted the phone again and waited until Rita answered. "This is Dan, Rita. How long would you say it was from the time the chief knocked his phone off the desk until you came to investigate?"

"Gee, I'm not sure. A few minutes. I thought he might be talking to someone in his office, and there were other calls, so I would connect with him and say, 'Yes?', and when he wouldn't answer I would take care of other calls. Maybe five minutes."

"Or maybe ten?"

"Well, it could have been ten, but I don't think it was that long."

"O.K. Thanks, Rita."

"Don't mention it. How is the chief?"

"Too soon to know." Dan hung up and went to the window. He stared out of it for several minutes, a scowl on his face.

DAN GLANCED curiously at the expressionless expanse of the door to 504 while the uniformed bellhop unlocked 506. Behind that impassive door was—what? A corpse come to life? A being from another planet? Something out of hell? The door stared back at him with almost oriental blandness. The bellhop had entered his room. Dan jerked his eyes away from 504 and followed him. A moment later he was alone. He turned on the wall radio and unpacked his bags. When his clothes were put away he opened the case of the portable tape recorder. It was one he had borrowed from the radio technician on the police force. It was equipped with earphones as well as a loudspeaker, and there was a special microphone besides the standard one.

The special mike had been built for snooping. "Just tape it to the wall," the technician had said, "and you can hear anything in the next room just like you were in there. In a hotel it will pick up some other noises—like the elevators for instance—but it's built to reduce those things to a minimum and mostly bring in just noises originating on the other side of the wall."

Dan plugged in the recorder and placed the special mike against the wall. When the set warmed up sounds came through. They sounded to him like water splashing around.

The moved the mike to various spots until the sounds were clear and distinct. A glance at the floor map on the door showed him that he had the mike on the wall of the bathroom of 504.

"So he's still soaking out the stench of the grave," he muttered.

The sounds of bathing kept up for an hour. After they ended Dan moved the microphone over to the wall connecting to the hotel room. Taping the mike to the wall, he put on his hat and coat. At last he heard the unmistakeable sounds of a door being unbolted.

He stepped quickly to his own door. His fingers were slippery on the knob of the bolt. "This is it!" he whispered.

Then in a perfectly natural manner he opened his door and barged out into the hall. His timing had been perfect. He stepped in front of George Mark. The man stopped to avoid running into him.

"Sorry," Dan murmured. "Should watch where I'm going."

Mark regarded him with expressionless eyes, then stepped around him. Dan locked his door quickly and hurried to catch up with him.

"You a stranger in town too?" he asked, cheerfully ignoring the taciturnity of his companion. "Gad, what a lonesome burg. I'm in the diamond business. Stuck here for who knows how long waiting for the owner of the town's chain of jewelry shops to come back from New York. You having lunch? How would you like to have lunch with me? On me, of course. I have an expense account."

Mark blinked his eyes at Dan. For a minute Dan thought he was going to refuse. Then, "All right. Only it will be on me. You're in the diamond business? What do you do? Buy? Or sell?"

"Both," Dan said, relaxing.

The elevator came. Both men were silent as they descended to the lobby.

"Been in the diamond business for ten years," Dan continued as they crossed the lobby to the dining room.

"And before that?" George asked.

"I wonder if this place is a good one to eat?" Dan said hurriedly, as though avoiding the question. "I just got into town. Haven't had a chance to try out anything."

George looked at him thoughtfully. Then the head waiter was leading them to a table. He laid large menus in front of them after they were seated, and departed.

"Ever buy diamonds from private individuals?" George asked. "Unset ones, I mean."

"Of course," Dan said. "Lots of people invest in unset diamonds. Especially those of the larger sizes. A diamond worth ten thousand dollars is a sound investment. Then, when they need the money, they sell it to some reputable agent like me."

"That's interesting," George Mark said. "What did you do before you started dealing in diamonds? I asked you, you remember, but we got sidetracked."

Dan pretended to hesitate. "Not exactly sidetracked," he said, smiling. "But I don't see any reason not to tell you. You're not a customer or client of mine. I don't know what I did. You see, I'm an amnesiac. I can't remember a thing prior to March 3, 1943. The police never were able to find out who I am. So..." Dan shrugged and smiled. "My life began ten years ago."

HE STUDIED George Mark's inexpressive face. He had dangled two different types of bait designed to draw out confidences. It was the type of approach that often works with criminals. The man thinks you have something in common and starts talking.

"That's very interesting," George said. "But don't be too sure I won't be a client of yours. I have a few diamonds myself that I've hung on to as an investment."

The waiter came and took their order. As soon as he left, Dan said disinterestedly, "Maybe later I could look at them. Don't expect a big profit on them, unless you bought them in the early thirties, of course. Lots of people did." He looked over the almost empty dining room, apparently with idle interest. "Care for a drink?" he asked abruptly.

They were on the second drink when Dan said, "By the way, my name's Dan Morgan."

"I'm George Ma-Bancroft. George M. Bankcroft. You know, what you said about being an amnesiac is interesting. How did it feel to suddenly right here in this city. I was getting up

be there and not know where you came from or who you were?"

"Puzzling," Dan said, grinning. "A little terrifying in a way. I was standing on a street corner. I felt like I could just reach out and remember everything. Of course, I couldn't. One thing that came out of it, several other amnesiacs read about me in the paper at the time and wrote me. So I found I wasn't the only one. There're two kinds. Those who can't remember prior to a certain date, and those who have a gap in their life. One minute it's 1940, say, and the next minute it's 1945. They never know what went on during that missing five years. They may have gotten married and raised a family and owned a business. They can't remember a thing. And probably in the life they were leading during those missing years their friends think they vanished." He kept his eyes on the cocktail glass in his fingers.

"And that might happen to you?" George said. "You might walk out of here, for example, and have your past life return to you, and not remember this ten years?"

Dan nodded. The waiter brought their food.

"Doesn't it make you feel insecure at times?" George asked.

"No more than the thought of dying," Dan said. "But what made you think of that?" He smiled disarmingly. "Don't tell me you're an amnesiac yourself!"

"Yes." George blurted it out and seemed to regret it even as he spoke.

"Well, well!" Dan murmured. "Tell me about it."

George's fork clattered onto his plate. He was trembling. There was a stubborn light in his eyes as though he were fighting an internal battle.

"I'm the second kind," he said. "At least, everything points that way. Two days ago it was six years ago. I lived to go to work. Then suddenly I was dirtier than I can ever remember being. My wife was wringing her hands and carrying on. My clothes weren't where they should be. I took a bath, and when I came out of the bathroom she was gone. I went to work and they told me I was dead. That was when I found out the date, and learned six years had gone without my knowing about it."

Dan nodded understandingly. "That's the second type all right. But where do the diamonds come in?"

George looked confused for a second. "I don't know," he said. "I didn't have them yesterday morning, but yesterday afternoon I had them. I sold one to a pawn broker, but still have the other five. To tell you the truth, I'm still pretty confused."

"I can understand that," Dan murmured sympathetically. "I was myself the first few days." He pushed back his plate and lit a cigaret, blowing out the smoke with a speculative gleam in his eyes. "You know," he said, "I'm glad I bumped into vou. Maybe I'm just the man you need to help you. I don't have any ties. Where are these diamonds? Your room? Let's get a bottle and go up to your room so I can look at them."

"Would you?" George said eagerly. "Not so much for the diamonds. I have enough money right now. But I need someone to talk to so I can get my bearings."

"Let's go," Dan said. "Oh, waiter! Our check, please."

**"T**HIS IS your room?" George asked as they came to 506. "Suppose you wait in your room? I'll be with you in a few minutes."

"All right," Dan said. "Give three short raps at the door. I don't open my door to strangers. Not in the diamond business!"

"I may be ten minutes," George

said. He went on to 504.

Dan bolted his door. He went to the tape recorder and turned it on. While it was warming up he adjusted the earphones and loosened the microphone from the wall.

By the time the tubes were warmed up he had the mike pressed against the wall opposite the bathroom of 504. The sound of water running into 'the tub came distinctly through the wall. It stopped finally, and was succeeded by the sounds of someone bathing.

Dan nodded his head and pulled the earphones loose. With almost frantic haste he put all the wires inside the case and put the wire recorder in the closet under his other bags where it wouldn't be noticed.

He went to the phone. He cursed under his breath while he waited for the switchboard girl to answer. At last she did. He gave the unlisted number of the police department. Almost immediately, Al, the desk sergeant, answered.

"This is Dan, Al. Listen carefully. I'm in 506 at the Penrose Hotel. I haven't time to explain. I want you to call me here in half an hour. I want you to call me every half hour until I do more than tell you you have the wrong room. Get it?'If I don't answer shoot some men over here. If I'm dead don't ask questions. Just ge' the guy in 504. Break in there and shoot to kill. Tell the men that's orders."

"O.K, Dan," Al said tonelessly. "I have it on the wire recorder."

"If I don't see you again," Dan said, "give my love to your wife. If you hadn't seen her first I'd have married her myself."

He hung up before Al could wisecrack back at him. He stared at his trembling fingers, then angrily jumped up and began pacing the floor, a cigaret dangling between his lips that he couldn't remember having lighted. It was half smoked. He went to the wall and placed his ear against it, wishing he hadn't put the microphone away. All he could hear was the distant sound of the elevators.

He ground out the cigaret in an ashtray and immediately lighted another. Through the window came the faint continual sound of impatient horns in thick city traffic, and farther away the siren of a firetruck rushing to a fire. His own footsteps were muffled by the thick rug. The hotel with its soundproof walls was silent as a tomb.

Explosively, three short raps came at the door. Dan leaped to open it. His hands were moist with nervous sweat.

But none of this showed on his face as he opened the door. "Come in, George," he said affably.

George nodded and came in. He looked no different than he had ten minutes before. There was nothing to show he had undressed and bathed again, except that the odor of death was almost imperceptible again.

"Here is one of the diamonds," he said, taking his hand out of his pocket and holding it out. There was a cut diamond lying in his palm. It was half an inch across.

Dan took it cautiously. There was no question of its being a diamond. It reflected and refracted the light with almost living force. Dan had seen diamonds much smaller in jewelers' windows with price tags much higher than five thousand.

"Looks good," he said with professional indifference. "Of course, I would have to examine it carefully for flaws, and weigh it. If you care to leave it with me..."

"All right," George said.

"Fine." Dan went over to the writing desk and put the diamond in a drawer. "Have a chair, George. You were going to tell me about your amnesia." "About the diamond," George said hesitantly, "how soon can you let me know what you can offer for it?"

"I'll get to work on that when you leave. Tomorrow morning I can let you know how much I can pay you for it, and if the price is O.K. with you, I can get the money by noon."

GEORGE let his eyes turn away and come to rest on a corner of the room. Dan studied him. His shoulders were broad and square. Rigid, Dan decided. Like those of a man whose body had been shaped by long years of hard work. Or like those of a corpse.

Dan jerked his thoughts away from that, and in the process suddenly realized what had caused it. The death odor was becoming stronger again. He wondered how long it would take for the last of it to go, so that George could stop taking his perpetual baths.

He let his eyes come back to the partially averted face. George's skin was unbelievably smooth. His eyes, even under half-closed lids, were firm and fleshy. There was no pallor to the cheeks. They were just the right shade of pink.

The phone burst into shrill voice, making him jump. He went to answer it. "Hello?" he said, conscious of George's eyes on him.

"Are you all right, Dan?" It was Al's voice.

"You must have the wrong room," Dan said politely. "This is 506." He dropped the receiver back on the hook. A lost feeling rose in him. It would be a half hour before Al called again. A half hour with a man who had been a corpse three days ago, and who had either been with Chief Harris or just left him when his sound heart acted up.

"I wanted to talk to you about amnesia," George said abruptly. "How would it affect a person? I mean, suppose a person had amnesia for years and during those years he learned things he hadn't known before. Then he recovers his former memory, and it seems like yesterday. Would he forget those things he learned while he was an amnesiac?"

"It all depends," Dan said. "Why? What do you know that you didn't when you first lost your memory?"

"For one thing," George said, "I seem to think in a different language. Even now there's a part of me way back that analyzes what I say and seems to translate it into some other language. When I try to get even a word of that language it slips away."

"Maybe you were in South America," Dan suggested.

George didn't seem to hear him. "For another thing," he said, "I was never interested in anything but my job. Now I have to keep fighting urges to do things. Things like playing the piano or singing or writing books or or getting into politics." He looked at Dan without expression, and Dan suddenly realized he hadn't seen any expression on his face except quiet earnestness at any time.

"Maybe that would be a clue to something," Dan said. "What seems to be the thing you most want to do?"

George opened his mouth to speak. Abruptly he closed it and stood up. "I think I'll be going now, Dan. Will you call me tomorrow morning when you are ready to offer me a price for the diamond?"

"Of course!" Dan said, surprised at the abrupt decision.

George went to the door. He turned and said goodnight. For just an instant there was a flash of expression deep in his eyes. It was somehow mocking.

"In room five," Al said. "How's the chief?" "Half an hour ago he was doing all right. Doc says he's out of the running for at least a week. But he won't die."

Dan almost sagged with relief. He hurried on, pushing through the swinging gate and through the door to the inner hallway. In room five Dr. Maurice Holmes of the psychology department, Dr. Hugh Arnold of the science department, Forsythe, and Dr. James Burke of the school of medicine at the university regarded him with interested silence as he came in and went past them to the empty chair at the desk.

"I've something to show you, gentlemen," he said quietly. He took out the diamond and laid it gently on the desk top. There were exclamations of surprise and interest.

"George Mark alias Bancroft gave it to me because he thinks I'm a diamond buyer. Don't look at it too closely. We have every reason to believe a similar diamond caused the death of a pawnbroker. It exploded."

They started asking eager questions. An hour later Dan had told them everything.

"That language business is very significant," Holmes said. "We have been doing practically nothing but discuss this thing. We've come to some conclusions that seem obvious, no matter how far-fetched they might seem to someone not acquainted with the facts." He looked at the others for "Our confirmation. They nodded. main conclusion is that some extraterrestial being of unknown shape and nature has invaded the Earth for some reason known only to it. In some unknown way it has revived George Mark from death. In some unknown fashion it is using him as a front. Not having science even remotely approaching the science it has at its disposal, we have no way of knowing just how it's doing this. Is it in Mr.

Mark's body, using it as a sort of zombie vehicle to ride around in and observe us? Or did it carefully imitate his form? In other words, are we dealing only with the extra-terrestrial?"

"It's pretty obvious that he's George Mark!" Dan said. "I forgot to tell you that I went to the hospital and talked to Mrs. Mark. She said he got sore because his clothes weren't where they were supposed to be."

"All that proves is that whatever came to her house in the shape of her dead husband knew those things," Holmes said patiently. "What I'm driving at, and what we have pretty much agreed on, is that George Mark, or whatever the being that seems to be George Mark is, behaves in a somewhat strange though consistent manner that isn't quite the way the man himself would behave. Take the diamonds. Take that one on the desk. I don't know much about diamonds, but it doesn't look like it's cut right. And I'll bet you if we call in a diamond expert he'll tell us there aren't a dozen diamonds in the world that big. It's almost as if some mind totally unacquainted with us pulled the knowledge out of Mark's dead brain that diamonds are very valuable. And calmly set about manufacturing a half dozen that corresponded to his ideas of the size of a good one."

"I thought of that myself," Dan admitted. "But it's still George Mark himself. I spent a couple of hours with him. And he's still taking baths to keep the smell of death down to a minimum."

"There's a question of motivation, too," Holmes went on. "That's what we, as scientists, are primarily interested in. If it's a being from some other planet, why is it taking this way to contact us or study us? It robs a grave and carelessly leaves a few hundred pounds of elements that are im-

possible according to our own scientific knowledge. It brings the corpse back to life, apparently, and twenty-four hours later permits the revived corpse to go home. It then lets him take a diamond to a broker and sell it for five thousand dollars, and deposit the money in the bank. The diamond explodes, and it's inconceivable that a mind capable of manufacturing a diamond and cutting it in a maximum of forty hours while at the same time bringing a man who was dead six years back to life, wouldn't know that the diamond would be unstable and probably explode.

"It then allows him to be picked up and held overnight for questioning, allows him to return to the police station and do something to the police chief that sends him to the hospital and, to climax it all, allows him to move into a hotel and strike up an acquaintance with a too-convenient stranger who happens to be a diamond broker and an amnesiac."

Holmes saw the startled light in Dan's eyes and smiled. "He then leaves a diamond worth a few hundred thousand dollars in the stranger's possession without a receipt, talks with him about amnesia, and abruptly leaves. Why did he leave? How do you know his hearing isn't so keen he could hear what the desk sergeant said over the phone when he called you? And why doesn't that diamond explode?"

"What Holmes is driving at," Dr. Burke said dryly, "is, is all this clumsiness intentional? If so, why? If not, why is this being going about things this way?"

"What I'm driving at," Holmes said, "is that I think it is intentional. I think there must be definite reasons why it has done everything it has. I think the last thing we can look for in it is clumsiness or stupidity. But we're dealing with an alien intelligence. Maybe we can no more comprehend its true motives than a coyote on a desert can understand what surveyors laying out a highway are doing."

The door opened. The coroner came in. "Good afternoon, gentlemen," he said. "The desk sergeant told me you were all in here. I've found out something that I think will interest you. I've spent two hours going over every square inch of Harris' skin. I found what I expected to find. A small puncture." His eyes caught the flash of the diamond on the desk. "What's that? He was told. He grunted. "I didn't expect to find anything, but I cut down into the puncture and found this!"

He took a small pill bottle out of his pocket and held it up. It was passed around so everybody could look at it. The bottle contained a piece of silver metal no larger than a quarter of an inch of the pointed end of a needle.

**F**RED WITTY went over to the desk and looked at the diamond without picking it up. He turned away from it when Dr. Burke asked him: "Was there any trace of the chemical?"

"No," he said. "It could have been one of several. There are ten or twelve substances that I know of that could cause a heart attack in just the right dose."

"Just the right dose," Dr. Burke said heavily. "That implies a lot."

"I know it," the coroner snapped. "Regardless of implications, the facts are that Harris had a perfect heart. He had a heart attack. I searched his skin, suspecting something other than a plain self-contained heart attack. I found this needle imbedded, and the condition of the wound indicates it was made at the time of the heart attack."

"I'm not disputing the facts," Burke

said. "One of the facts is that 'just the right dose' would have to be tailormade."

"Not if the object was to kill Harris," the coroner said.

"I see what you mean, Fred," Burke said. "Then it could be that his still being alive is accidental."

"Exactly," the coroner said, mollified. "And now we have enough evidence so that we can arrest George Mark alias Bancroft for attempted murder."

"No." It was a chorus of voices.

"I didn't say we should," Fred grinned. "I said we have enough evidence so we can. I agree with the rest of you. We're dealing with something too dangerous and unknown to start barging in with another arrest."

"Could I have that needle for a few hours?" Forsythe asked. "I'd like to look at it under a microscope."

"That's all right with me," the coroner said. "Don't lose it, though. It's the principal evidence right now."

"We have another problem that has to be settled," Dan spoke up. "I've got to set a price on this diamond and be able to back it up with real cash."

"That's right," Holmes said. "We have to make arrangements for that. We can't let Mr. Morgan's success so far be bogged down. But where can we raise that kind of money? It must be worth a hundred thousand dollars!"

Dan shook his head. "I don't think we have to name that kind of a price. Remember, the loan broker only gave him five thousand and something for one like it."

"You're doing a lot of guessing there," Hugh Arnold said, breaking his silence. "For all we know the loan broker gave him fifty or a hundred thousand and he hid all but five thousand, just put that in the bank to establish an identity other than that of George Mark. And there's something else: if we put up real money for this diamond and it explodes on us, there goes our investment."

Holmes cleared his throat importantly. "I have a suggestion, gentlemen. I have considerable money. In spite of what we know, I would be quite willing to put up five or six thousand dollars on this. However, since there's so much risk involved, if I put up that money I think I should be entitled to own the diamond. Provided of course that George Mark accepts a bid of that little."

"Generous of you," Fred Witty murmured. "I'd be willing to put up the same amount under the same conditions. Assuming the explosion of the first diamond was accidental, it's quite probable that this one is stable or it would have exploded at about the same time. And I have five or six thousand dollars I could spare."

Holmes glared at the coroner, then relaxed with a sheepish grin.

"Well," Forsythe said, pocketing the bottle with the needle in it, "I don't have that kind of money so I can't join in the argument. I think I'll run along and get to work on this piece of metal."

"Wait a few minutes," Arnold said. "I have some money, and so does Burke, I'm sure. That's four of us, plus Mr. Morgan as the agent. Let's split this five ways, with four of us putting up the money. If it goes sour none of us will lose too much. I'm willing to go two or three thousand. How about the rest of you?"

There were slow nods of agreement.

"Now we're getting somewhere," Dan said. "Suppose I make him a bid of five thousand, with permission to go up to—how much? Fifteen thousand?" There were nods of agreement. "O.K. As soon as I find out how much he'll accept I'll phone Fred Witty and he'll get in touch with the rest of you. Get your money to Fred, and he can send it over to me." He picked up the diamond. He held it in the open palm of his hand for a minute, letting it move slightly so that it picked up light and threw it out like flashes of brilliant white fire. Then he tossed it into the air and caught it, and put it in his pocket. Not until then did he notice that the others had been watching his actions with almost hypnotic fascination.

**I**<sup>T</sup> WAS raining when he nosed his car out into the street. The sky was a low ceiling of dark clouds that cast a gloom over everything. The rain varied from downpour to widely scattered heavy drops that bounced when they hit.

Traffic was slow. It took fifteen minutes to get from the city hall to the hotel.

"Don't put the car away," Dan told the doorman. "I'll be right down."

He pushed through the swinging doors and started across the lobby. The usual dozen or so people were relaxed in the luxurious chairs scattered over the lobby floor. Piano music came from the balcony. He was halfway across the lobby before he noticed that everyone's eyes were turned upward in the direction of the piano. He followed their gaze and saw a crowd around the piano, a grand piano.

He halted. The man sitting at the keys was George Mark. Dan listened with growing wonder. He was no musician, but he had heard a few concert artists, and the music coming out of the piano was somewhat incredible.

It ended abruptly. George was looking down at him. As Dan nodded a greeting George stood up. The crowd parted with an awed deference. In a moment George came down the stairs.

"That was some playing," Dan said, smiling.

"The piano is interesting," George said. "No one was at it so I sat down and started picking out notes. After a while I got the hang of it and started playing."

"Let's go upstairs," Dan said. "I'm ready to talk business on you-knowwhat. And I'd like to find out more about the piano." He signaled a bellhop. "Go out and tell the doorman to put my car away."

Nothing was said on the elevator to the fifth floor. Dan studied George, who was showing more natural poise now. When they left the elevator George said, "I'll see you in ten minutes or so."

"I can come into your room just as well," Dan said casually.

"No!" George said. "That is, I'd rather come to your room. I won't be long."

They turned the corner in the hall. Dan managed to accidentally come closer to him. The odor of death was unpleasantly strong up close, though not noticeable a foot away.

Fifteen minutes later when George came into the room the odor was gone again. Dan hadn't bothered to bring out the mike and listen. He had been sure George would take another of his baths.

"How much can you give me for the diamond?" he asked.

"How would five thousand do?" Dan said.

"It would be all right," George said indifferently. "But there's no hurry. Suppose you just hang onto the diamond for a few days while I think about it."

"Good!" Dan said. "Now tell me about the piano. Did you know how to play before you had amnesia?"

George shook his head. "Not only that," he said. "I had a distint feeling when I sat down at the piano that I'd never sat at one before. For fifteen minutes I experimented around, and then things began to buzz around in my thoughts, and before I knew it I was putting notes together and making music. Not real music. That came later: I don't know how to explain how I felt with that. It was like I was playing things I knew, and all of a sudden I felt that I had played the piano before. I didn't feel that at first, though. And when I did feel it my fingers ran away with themselves."

"From what I heard you were doing very well," Dan said. "And from the people watching you it must have been terrific. A lot of those people undoubtedly know music. I don't very well."

The phone rang. Dan frowned at it. It rang again.

"Probably a wrong number again," Dan said. He went to it and, remembering what had been said about George's possibly having sharp hearing, placed the receiver tightly against his ear. "Hello?"

"Al," the voice identified itself. "Forsythe wants you to come to the physics building right away. Know how to get there?"

"O.K.," Dan said. "I'll be there in half an hour." He hung up and smiled at George. "A customer," he explained.

"That's all right," George said quickly. "I'm going to do a little exploring later. I'll see you in the morning, perhaps?"

"I'll knock on your door," Dan said.

It took a little more than half an hour. Dan speculated on what Forsythe wanted. It must be something new and startling for him to get Al to call at the hotel.

A watchman was waiting at the entrance to the physics building. He let Dan in and ushered him to a basement laboratory. Forsythe, alone in the laboratory, welcomed Dan with evident relief.

"Take a look at that!" he said, leading Dan over and pointing to a television screen.

"What is it?" Dansasked. The image

on the screen was of part of what might be the side of a ship. There were rectangular plates riveted together, the whole filling the screen as a closeup of the side of a ship would.

"It's the side of that needle shot into the police chief," Forsythe said, his voice vibrant with excitement.

"O<sup>H</sup>," DAN said, disappointment in his voice.

Forsythe stared at him in utter stupefaction, then threw back his head and laughed.

"What's so funny?" Dan asked.

"Just things," Forsythe said. "You're looking at the one bit of evidence that makes sense and you can't see it. Look closer."

Dan leaned down close to the screen. The terrific magnification made the image waver. He started to pull back to where it would be easier to see.

A shrill singing whine rose in his ears. He started to turn to ask Forsythe if something was wrong with the thing. The whine was going higher and higher up the musical scale, increasing in volume as it went. It stopped abruptly, and with its stopping something hot seemed to wash against Dan's side. He was thrown sideways. As he fell he caught a glimpse of Forsythe, his face peppered with small dots, one of his eyes losing shape, a bright smile left on his face as though forgotten.

Hours seemed to hang poised in time. Three isolated things rose clearly into consciousness, one after another. Forsythe, dead, began to fall toward him. Illogically, the video screen collapsed in a maize of broken glass. And Dan found himself lying on the floor on his side.

Then time took up its normal pace. Dan tried to rise. He sank back, weak and trembling. The laboratory started to waver and swirl. Summoning all his strength he called, "Help!"

**H**<sup>E</sup> OPENED his eyes. He was on an operating table. There was white sheeting piled up over his waist so that he couldn't see past it. Masked faces were moving about, or bent in the direction of the concealed part of his body. He recognized the ragged eyebrows and wrinkled forehead of Fred Witty, the coroner, as one of them.

"His eyes are open," a pleasant feminine voice said.

The masked faces turned simultaneously to look at him, eyes crinkling into smiles.

"Don't be alarmed, Danny," thecoroner said from behind his mask. "You're under a gas that allows you to remain conscious. We're picking diamond fragments out of your hip and intestines. You shouldn't have carried it around with you."

Dan didn't reply. He lifted his eyes toward the source of the pleasant female voice. There wasn't much to see except eyes and a smooth expanse of forehead. He smiled at the eyes. They smiled back. He wished their owner would hold his hand, and was startled when her hand reached out. His own hand came into view, held in hers, but he couldn't feel it.

"You'll be aware of this, Dan," the coroner said. "It won't hurt." Scraping sensations came from the vicinity of his hips, and a part of his mind wanted to leap up and scream and blubber. He looked into the eyes hovering above him and felt better.

Suddenly he was afraid he would never see those eyes again. He studied them, memorizing details. The way the eyebrows curved, the pattern of blue and gold and brown and a hundred other colors in the iris.

And with monotonous regularity came the sensation of scrape, jerk, scrape, jerk, scrape, jerk. It was like a rat gnawing at two-by-fours inside a wall.

It stopped. It began again. Dan looked into the eyes.

"Inject morphine," an unhurried male voice said.

The hand belonging with the eyes released his hand. Dan studied the trim shoulders as she turned her back. When she turned around again she had a hypo. It went below his range of vision. After a few seconds it appeared again as she laid it aside.

After a while the operating room faded away. There was nothing left but the nurse's eyes....

**T**HEY FILED clumsily into the room and lined up around the bed. Forsythe was missing. Dan looked at them without moving his head. There was Dr. Maurice Holmes giving him a quick sympathetic but half-scared grin, Dr. Hugh Arnold, Dr. James Burke, and Fred Witty, the coroner, looking ten years older than he had the last time Dan had seen him.

And there were four strangers. Dan's experienced eye told him they were probably government men. F.B.I. or some branch of Secret Service.

Dr. Ranston smiled down at Dan. "Kick them out if you feel like it," he said. "They can come back again." He laid a reassuring hand on Dan's shoulder and left.

"Is Forsythe dead?" Dan asked.

It was Forsythe's boss, Dr. Arnold, who answered. "Yes. He was killed instantly. One of the diamond fragments went through his eye into his brain."

"If you feel strong enough," Dr. Burke said, "we'd like you to tell us what happened. We—" He coughed nervously. "We have come to the conclusion that this thing is a little too big for us. These four men are from the Government. We've told them all we know."

Dan nodded. "That was a good idea. O.K. I'll tell everything I can remember."

Half an hour later he had finished.

"Do you feel strong enough for us to ask questions?" one of the G-men asked sympathetically. When Dan nodded he said, "In thinking back, do you have any idea what it was that Forsythe was referring to? Any slight clue?"

Dan shook his head. "I've tried to think, to answer that question for myself. I've gone over everything that happened in that laboratory a thousand times. Forsythe told me to look closer. He saw something about that magnified needle that evidently made some sort of sense to him that I can't fathom." He shook his head again. "There's something I've wondered about, though. Just before the diamond exploded there was a high singing noise. I think it came from the television outfit..."

"It couldn't have," Hugh Arnold said. "That unit was an electronic microscope. There was no loudspeaker connected to it."

"Are you positive it was before the diamond exploded?" Holmes asked. "Things would have been a little confusing about then."

"I'm sure," Dan said. "I was turning to ask him about it when the explosion took place."

"Could it have come from the diamond?" one of the G-mén asked. "You've all heard of a crystal glass shattering under the vibration from a violin. Maybe it could have been something on that order."

"That's rather farfetched," Dr. Arnold said. "The diamond wouldn't make the sound by itself, and with the crystal glass it was the outside source, the vibration from the violin string, that produced the force necessary to shatter it."

"That's what I had in mind," the G-man said. "Forsythe was about to tell Morgan what it was he saw that he claimed made sense. Before he could tell him, and just when Morgan was standing so that the shattering diamond would do the most damage to Forsythe, the sound began and the diamond exploded. It seems too much of a coincidence to me."

Hugh Arnold shook his head. "The vibration frequency of the diamond would be up in the—" He broke off, a light dawning in his eyes.

"What is it?" the G-man asked.

Arnold looked thoughtful for a moment, then shook his head. "It was a possibility," he said, "but it would make things even more impossible than laying the explosion of the diamond to pure chance."

"Well, tell us anyway," the G-man said patiently. "We have to consider everything, no matter how absurd."

"Crystals are used in ultra-highfrequency radio. In a way it isn't a physical vibration. It's more a vibration of the electric pattern of the crystal. I don't know about diamonds, but it's possible the same thing holds for them. However, since the frequency of a crystal is very critical, two such crystals would have to be matched exactly for a broadcast wave set up by one of them to shatter the other."

"George Mark said he had more of them," Dan spoke up.

"I know," Hugh Arnold said. "But that doesn't tie in with what you found out about him. It would mean that he..." His voice drifted into silence as his forehead wrinkled in thought. "I just thought of something else. This is purely speculation, based on the presumption that science in advance of ours would have discovered it if it's

possible in practice. Any crystal would vibrate to any impressed force. Sound, for example. The crystal would vibrate at a constant frequency, but with varying intensities of vibration. Like a frequency modulation broadcasting station. The strongest amplifier we have at present probably wouldn't pick it up at even a few feet. But what I'm driving at is that with the proper science an ordinary diamond could possibly be used as a concealed microphone-broadcasting unit. In other words, Mr. Morgan, that diamond you so conveniently laid on the desk at the city hall during our conference could have been broadcasting everything we said. It could have been doing the same thing at the university in the laboratory. The being or beings in back of all this could have overheard what Forsythe was saying, and deliberately exploded the diamond to stop him from talking!"

ARNOLD looked around triumphantly. The triumph on his face faded, to be replaced by doubt. "The thing wrong with that is that there's too much wrong with it. For one thing, any circuit we have couldn't handle frequencies that high. They would crawl over everything. There wouldn't be a circuit. Insulation would conduct it as readily as metal."

"What kind of a circuit would handle it—theoretically?" the G-man asked.

Hugh Arnold shrugged. "One small enough to be lost on the head of a pin."

"That's it!" Dan shouted. He started to rise, then fell back.

"What is?" the G-man asked.

"Just a minute," the G-man said. "None of you have one of those diamonds in your pocket, do you? We don't want this overheard."

"Where's George Mark?" Dan

asked.

"He's being watched," the G-man said. "Right now he's at the hotel in his room."

"I know what Forsythe tried to tell me," Dan said. "I should have seen it at once. I did see it, but didn't get the connection. How great is the magnification of that electronic microscope?"

"Two hundred thousand diameters," Dr. Arnold said.

"The rivets on those plates appeared on the screen about a sixteenth of an inch in diameter," Dan said. "Two hundred thousandth of a sixteenth of an inch would be their actual size. And they were in a standard rivet pattern like plates on a ship, or a steam boiler like the one in the basement of the city hall."

He looked around at the ring of faces, some puzzled, some with stunned surprise on them. It was Hugh Arnold who spoke: "That's the one thing we didn't think of," he said in an awed whisper. "Submicroscopic intelligent creatures!"

A stunned silence settled in the room. From it rose one voice after another, clicking things into place.

"That's how a corpse came back to life! It didn't. It's still a corpse, but activated by maybe billions of those creatures!"

"Then it wasn't a drug that caused Harris' heart attack. It was some of those things in a ship no bigger than the pointed end of a needle. From their knowledge of anatomy gained from George Mark they went to the nerves activating the heart and manipulated them!"

Dan was nodding at each statement. "And that's why George has to take baths all the time," he said. "He's still a corpse." A minute later he interrupted the silence again. "And that's why he could pick up playing the piano and do it better than any famous pianist I've ever heard before. Things that small would be fast."

"Fast?" Holmes echoed. "A second of our time would be hours or days to them. I can see them, a nation of billions of individual intelligent submicroscopic beings, studying the vast machine of George Mark's corpse, and transposing its slow, ponderous movements into terms of their own quick ones. Maybe they have music too. Maybe they moved as a unit to bring the music up to our level of frequencies, taking years of their time rate to play a piece they listen to and enjoy in a small fraction of a second!"

"Another thing is understandable now," Hugh Arnold said. "The nonradioactive heavy elements. Whatever the nature of these alien beings, an atom is as big to them as a pebble is to us. They would have science enabling them to pile nuclei together into bigger atoms, and in such a way that they wouldn't be exploding and doing damage to them. When they wanted to move the body out of the grave they all got to work and piled light atoms together to make heavy atoms that take less space."

"Let me get this straight," one of the G-men said. "You're saying that these things are as small as a germ or microbe, and are each as intelligent as a man? I don't quite get it. Why don't they act individually, then? If what you say is true, and there's billions of them animating a corpse, and their time rate is so fast, it takes millions of them acting for a long time to move his little finger, doesn't it? It doesn't make sense!"

"But it does!" Hugh Arnold said. "Remember, they're from outer space. From a distance they probably saw our cities, our ships, our airplanes. They recognized the signs of civilization. Just as Forsythe recognized the signs of civilization when he looked through

the electron microscope at that fine needle. Maybe they spent years of their time trying to study us. But think of the technical problems. The sounds we use to converse with were to them what the seasonal winds are to us. One of us was to them in relative size and speed about the same as the whole earth is to us. In order to get to our level, reduce our infinitely slow motions to sense, they had to become integrated into something on our order. Each of them, in the framework of George Mark's body, is doing his simple assigned task, just as in a global war each soldier or air force pilot or factory worker does his one simple task. All of those tasks, performed at the proper time, integrate into the vast whole. All they did was probably each take one cell of George Mark's body, study it and deduce its function when alive-and perform that function! And probably a staff of a few million experts coordinates the whole thing and reduces it to terms of their own senses and speeds."

"They've killed two men," the Gman said. "What do they plan on doing? Conquer the world and make walking zombies out of all of us?"

"I doubt that," Hugh Arnold said. "Probably they are only studying us. As a scientist I can understand that motive and sympathize with it. But..." He looked at Dan. His expression hardened. "We'll have to get rid of them, and there's only one way."

"What's that?" Dan said. "I've been wondering about that."

"You aren't thinking of a sulfa, are you?" the coroner asked.

"They aren't a germ," Arnold said. "There's only one way to get rid of. them. George Mark will have to be very close to an atom bomb when it goes off. In fact, if he sits on it I wouldn't guarantee more than twenty

per cent of them being destroyed!"

"That makes it simple," the G-man who had done most of the talking said. "All we have to do is get permission to set off an atom bomb, entice George Mark alias Bancroft to the site of the explosion, tell him to have a seat and wait, then blow him up!"

Everyone was grinning in spite of himself.

A knock sounded at the door. Everyone jerked nervously and stared at the door. The knob twisted and it opened.

A nurse stood there. Dan's eyes went to her eyebrows, then turned away in disinterest.

"Is one of you Mr. Leander?" she asked.

"I am," one of the G-men said.

"A Mr. Hanson said to give you a message. The message was that he had left with Mr. Bancroft, and would phone you at the first place they stopped." She smiled and backed out of the doorway.

**(W)**HAT DOES that mean?"

Hugh Arnold asked. "Do you suppose he knows what we've been saying?"

"I hope not," Leander said worriedly. "A shot wouldn't stop him?"

Arnold shook his head. "Would one bomb dropped in Oklahoma cripple the whole United States?"

"Maybe he's coming here," Dan suggested.

Holmes cleared his throat. "The way it appears to me," he said, "we should do nothing to upset him—or them. Our greatest weapon is surprise. Maybe it's our only weapon. As I understand it, those billions of aliens could leave George Mark's corpse and spread out. Be like dust motes in the air. Or infest hundreds of us and multiply like germs. There's probably no limit to what they can do if they declare war on us."

"Holmes is right," Dr. Burke said. "I think you men had better get in touch with Washington and see about arranging an atom bomb explosion somewhere immediately. When it's ready we can try to get George Mark there—to sit on it when it goes off."

There was another knock on the door. The nurse opened it.

"You're wanted on the phone, Mr. Leander. You can take it right down the hall."

Two minutes later he was back. "It was Hanson," he said. "Bancroft is just taking a walk. He evidently isn't going anywhere, and shows no evidence of being alarmed. So what I'd like to suggest is that we adjourn this meeting and give Dan Morgan a chance to rest. Phelps, you stay here with him. Archer, you go down to Chief Harris' room. Green, you stay in the hall by the head nurse's desk in case Hanson calls here again. I'm going to the F.B.I. office here and get in touch with the President. I'm going to try to convince him we should use an atom bomb to kill a corpse."

Dan lifted his head and watched them file out. When there was no one left but the G-man named Phelps he laid his head back and closed his eyes.

"Mind if I smoke, Morgan?"

Dan opened his eyes. "I'd like one myself," he said.

He accepted the cigaret and inhaled deeply, letting the smoke drift out through his nostrils.

"Got you pretty bad in the hip, I understand," Phelps said conversationally.

Dan nodded. "I'll be all right in a few days though."

"Hope so," Phelps said.

There was a long silence.

"You know," Dan said abruptly, "I can't help feeling sorry for George Mark. Of course, I know now that it isn't him. He never did actually come back to life. But it's the same as if he did. They took their places in his brain cells and started doing their individual jobs like those brain cells would have done if he were alive. The result is the same. George Mark's mind was recreated. He went home and his wife ran out. He went to work and they told him he was dead. Right now he's probably puzzling over his amnesia that makes those six years blank. He's no more aware that his thoughts are just the resultant of a few million busy extraterrestrials thanthan I am that my mind is the resultant of the activity of millions of unintelligent brain cells."

"Looking at it that way," Phelps said slowly, "I agree with you. From what I've heard he was a nice guy. Worked in the shipyard, didn't he? I hope he never learns what's going to happen to him."

"I'm quite sure he doesn't know about those two deaths," Dan said. "That was done on the level of the individual aliens, like a commander on a ship would order another ship fired on."

"I can see that, too," Phelps said. "The universe is a damn funny place. if you ask me. One way of looking at it, it isn't right to try to blow up a few billion civilized people just because they killed a couple of people that weren't even people to them. But if we don't, maybe they'll kill all the rest of us. Maybe they'll do that anyway. It makes me itch to even think of them around."

"I wonder what George is thinking about while he's taking his walk?" Dan said thoughtfully. "He probably wonders why I didn't come back to the hotel."

"Yes, he does," Phelps said. "He keeps asking at the desk about you." **T**HE NURSE wheeled in a cart with two trays on it. She smiled brightly at Phelps. "I had orders to bring you your einner here," she said.

Dan was studying her eyebrows.

"What are you looking at me so intently for, Mr. Morgan?" she asked.

"I was looking at your eyebrows," he said, laughing.

"Well," sne said with pretended indignation, "I'm sure they're on straight, since they grew that way."

With a sidelong smile she left the room.

"What's this eyebrow business?" Pheips said as he moved Dan's tray where it would be handy for him.

"Nothing in particular," Dan said. "Raise the bed up for me, will you?"

They ate in silence. After they finished their meal Phelps brought out cigarets again and lit them.

The door opened without warning. Leander strode in. "Rested now, Morgan?" he asked.

Dan nodded. "What did the President say? Or did you get to him?"

"I got to him," Leander said. "How do you feel?"

"You just asked me that," Dan laughed.

The door opened again. Dr. Ranston and two nurses came in.

"Feeling all right, Dan?" he asked.

"Give me a big card so I can write I feel fine on it," Dan laughed. "That's the third time I've been asked that in the last thirty seconds. I'm—" He stopped abruptly, his eyes on one of the two nurses. Her lips curved into a smile. "Hello!" Dan breathed. "You're as nice as I thought you would be!"

"I'm going to check you over," Dr. Ranston was saying.

Dan didn't seem to hear. He reached out his hand. The nurse came to the side of his bed and slipped her fingers into his hands.

"I can feel now," Dan said.

"Think he'll be OK, Dr. Ranston?" Leander asked.

"I think so. We'll take him there in an ambulance. Miss Cranston can hold his hand all the way and I'm sure he'll come through in fine shape."

"Huh?" Dan said, doing a double take. "What's all this?" He turned to the nurse. "Miss Cranston... Do you have a first name?"

She laughed. "Yes! Mabel."

"O.K.," Dan said. "You don't need to tell me where I'm going, doc. Wherever Mabel goes I go."

"So that's what the eyebrow business was about," Phelps said. "He's been embarrassing every nurse that came in here by staring at her eyebrows."

It wasn't until he was in the ambulance and it was gliding smoothly through the street traffic that Dan thought to wonder where he was going.

"Where are we going, Mabel?" he asked.

"I—I'm not sure," she said. "I'll ask Dr. Ranston."

She slid back the window to the front seat of the ambulance and asked him.

"We're there now!" was his answer.

The ambulance slowed down and turned into a driveway. Dan craned his neck to see where they were. Suddenly he caught his breath. The familiar outlines of a small building came into view through the windows of the ambulance.

It was the caretaker's cottage at the cemetery.

**T**HE AMBULANCE came to a smooth stop. Two other cars pulled alongside. Dr. Ranston and the ambulance driver got out and went around to the back and opened it.

While they were lifting the stretch-

er out, Leander got out of the nearest car and came over.

"Bancroft is in there," he said. "He demands to see you. Down on the other level he knows everything. You understand? I don't know what he wants, but it's for your country. The whole world. Those are his terms."

"I see," Dan said quietly.

"Dr. Ranston says you can walk," Leander said. "Afterwards—" He clamped his lips together.

"Where is he?" Dan said, sliding a leg over the edge of the stretcher.

"In the cottage. Alone."

With the help of Dr. Ranston and Mabel Dan sat up, then rose carefully to his feet. He took a careful step then another. His right hip was stiff. Hot fire coursed through him. He caught a glimpse of the cemetery caretaker and his wife through the window of one of the two cars.

Then he fixed his eyes on the door to the cottage and kept them there while he took one careful step after another. A matt of needles rested cruelly over his damp forehead when he reached the door. Nausea nested in his stomach.

He turned the knob and gave a light shove, letting the door continue on by itself. He braced himself against the door frame, his eyes searching the interior as it became revealed. A man sat on a chair across the room, elbows on his knees and head cupped in his hands.

"Hello, George," Dan said quietly.

George looked up. His features lighted up as he jumped to his feet. "Dan!" he said. "Where have you been?"

"I got hurt in a little accident," Dan said. "I was in the hospital when they came and got me. What seems to be the trouble?"

"Let me help you," George said. He started toward Dan, then stopped, a puzzled look on his face. "There it is again," he said. "I guess I can't help you. Something won't let me touch you."

"I can make it all right," Dan said. He lifted one foot over the sill and dragged the other after it. Another step and he was inside. Pity surged up in him. "Tell me what's the trouble, George," he said gently.

"There isn't any trouble any more," George said. His features smoothed out. A quiet smile appeared. "I was afraid. But not with you. Since I recovered my memory you're the only one that's been friends with me."

"Let's go back to the hotel, George."

"No. Later maybe. First I want you to go out there with me. There's something I've got to know—and yet, I won't believe it when I do know. But there's a tombstone out there with my name on it. I've got to see it. Something makes me, but I refused to unless you came along."

"All right, George."

George stepped past him out the door and turned to wait for him. "I'll go slow," he said.

Dan looked past George to where the cars were. White faces were staring in fixed intensity. They blurred. He inched back over the doorsill.

Step by slow step he followed George into the cemetery. He didn't dare look back now because he would have fallen. He lost track of time.

A tent loomed before him.

"Don't come any farther, Dan," George said. "I can go the rest of the way by myself. Stay here."

Dan bit into his lower lip. The pain sharpened his senses and cleared his vision.

He saw George go to the tent and pause, looking back at him with a peaceful smile. Then he had pulled the flap aside and stepped through.

The tent flap fell closed, moving for

a moment, then hanging still.

A tingling sensation coursed up the skin of Dan's arms to the base of his scalp. A strange, nebulous cloud seemed to rise above the tent.

He tried to focus his eyes on it. Round circles of blackness blinded him, but at the borders of sight he could see something that changed its shape constantly. It rose and seemed to hover.

"This is it," Dan thought.

A strange coughing sound, a ghostly wind, brushed his cheek. He staggered forward toward the tent, gripping the tent flap as he started to fall.

From high up a lonely sigh drifted down, that might have been the passing of a silent ship or the cry of a lost soul.

Dan pulled the flap aside and slid to his knees. There was the stone with the legend:

## George O. Mark 1903—1947

And there was the yawning grave. Dan let himself settle to the ground, sliding forward so that his head-was over the edge of the grave. From a vast distance came the sound of chimes striking the hour. There was a form lying at the bottom of the grave, huddled pathetically face down. It seemed to be balanced on the edge of the open box. As he watched, it lost its balance and fell the rest of the way, turning over. Dan stared at the shrunken face and shriveled eyes, then turned his head and, and drew back. It hadn't been George. It was only a corpse that had laid in a grave for years.

He rested for a moment, then pulled himself erect, and looked upward into the sky.

There, far up, moving swiftly toward the horizon, was a luminous circular shape. A flying saucer? It changed shape even as he watched it. "What is it?"

Dan looked down into Mabel's tear-brightened eyes.

"Spaceships," he said. "Millions of them, all flying in formation, and none of them as big as a needle."

He sagged. Arms circled him and kept him from falling. His cheek was pillowed against soft hair. A subtle perfume exuded from it into his nostrils.

## THE END



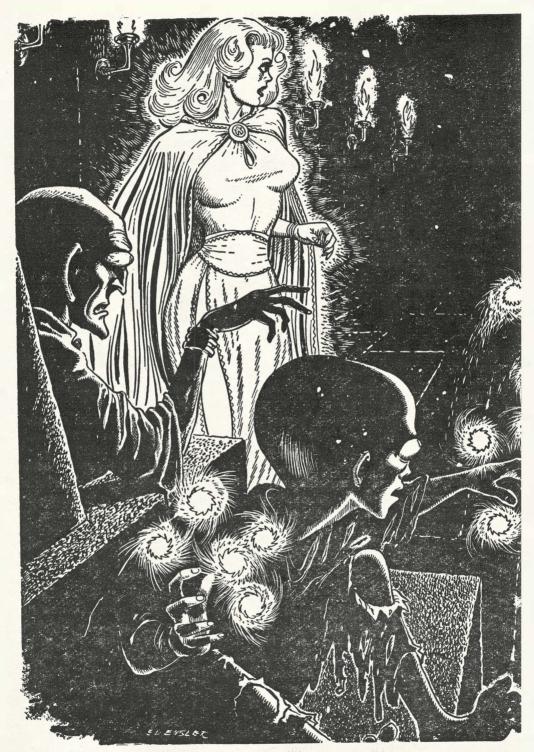
ROCKET TRANSPORT planes are still in the future, but the first big step in their direction has been taken. Unfortunately, because American engine designers lagged behind the British, these latter are instigating most of the new runs employing jet-powered transport planes—huge fifty-passengered De Havilland aircraft powered by four "ghost" turbo-jet engines. Only by considering actual routes is it possible to understand what a tremendous

Only by considering actual routes is it possible to understand what a tremendous revolution in transportation is coming. Among the first of these routes is the Vancouver, Canada, flight to Tokyo. With conventional planes this is a matter of twenty hours or more. The new transports will do it in less than ten hours! This means a speed of better than five hundred miles an hour.

The next route planned is from London to Australia, where the time-saving will be equally phenomenal.

Not only are these flights faster, cheaper and safer, but they point the way to the future use of the projectile-type rocket which is certainly in the offing. Probably rockets will first be used commercially for mail transport, an application ideally suited to the eventual establishment of passenger runs. The rocket run from New York across the Atlantic to London or Paris will be a trip-fantastically enough-of perhaps two hours....Tempus fugit!

by Ralph Cox



"As Cabal's fireballs spiraled lazily towards him, Morgan's body seemed to turn to stone



## By JOHN JAKES

## Morgan had his choice: either spy for his enemies or die for his friends. What if he should combine the worst features of both?

THEY CORNERED him in an alley. There was a portable spot beam on him enclosing him in a circle of yellow light. He was backed against the clay wall, his palms touching the surface, his mouth hanging open. The breath tore in and out of his lungs. His knife was gone somewhere in the dark, lost while he ran.

He was tired of running. He stood with the rough clay scratching his back through the tattered shirt. Ever since they had spotted him in the bar, some six hours before, he had been running. They had fresh reserves to throw into the chase. He was only one man.

Round, deadly disintegrator muzzles were trained on him, he knew, in the gloom of the alley. The light blinded him, and he could see almost nothing. They could shoot him down easily. He wondered why they didn't. Beyond the roofs surrounding the alley, there was noise, and lute music, and voices, filling the town and the steamy Mercurian night of the dark edge of the Twilight Zone.

Why didn't they shoot him? His chest moved up and down spasmodically. The light burned into his eyes with yellow brilliance.

"Morgan," a voice called from the end of the alley.

He didn't answer. He knew the voice belonged to Wolfe. Wolfe had been in on the chase for the whole six hours. He was tired, Morgan knew. His voice said that, and yet there was an edge of determination in it.

"Morgan," the voice said again. "Yes?"

"Do we kill you, or can we talk?"

Cagily, he weighed the situation, scuffing his toes in the dirt. Talk might give him a chance to regather his strength.

"Come on," Morgan said. "We'll talk."

Boots scuffed in the dirt. A figure appeared in the hazy area where the light dwindled off and the dark began. Morgan blinked his eyes. Wolfe's face was tired, his heavy body sagging in the Control Force uniform. A disintegrator rested on his hip, muzzle trained on Morgan's belly.

"Cigarette?" Wolfe asked, his mouth melancholy under the bushy brown mustache.

"I could use one," Morgan said tiredly.

Wolfe tossed it, along with the match. Morgan drew the smoke down into his lungs. From down the alley came small noises in the dirt. The watchers were relaxing a bit. And the strength was creeping back into his empty muscles.

"Well?" Morgan said at last.

Wolfe blew out smoke from his own cigarette and gestured. "It's just this, Morgan. You know we could kill you right now, for that episode at White Pits."

"Those two guards had it coming to them," Morgan said savagely, "whether they were Terrans or not. I couldn't stand by and see the Mercurials treated like that. They may not be human—"

"Stow it," Wolfe said sharply. "You were only working there. Killing two Control Force men is as good as killing yourself. Except in this one instance."

Morgan's eyes narrowed in the light. What was Wolfe driving at?

The big man continued, "We've got you now. We've been hunting you for quite a while, and we could take you to the compound and lock you up. I suppose you realize you'd be a dead man in less than forty-eight hours. But I've put in a petition to have you pardoned. On one condition. And it's been granted."

SLOWLY, carefully, Morgan dropped the cigarette and kicked dirt on top of it. They were laying a trap for him. They were only laying a trap. The night was hot with a smell of sulphur wind, like all the nights on Mercury. The air smelled like a coffin closed too many years.

"What," said Morgan, "is the condition?"

"You know the Control Force has had trouble with the colonials. The people of Mercury don't like us or our government very much, but they're coming to understand us, and we them. Only there's a certain group of them that want to kill us all off, and they can sway the rest." "Yes, I know that," Morgan said a bit irritably. "Uprisings every month or so, a few Terrans killed...what does that mean?"

Wolfe stepped forward. The disintegrator muzzle drooped and his eyes shone with something akin to fear. "We've got agents working for us in all of their important cities, and the other places where they come together. There's something big in the wind, something so big it could wipe out every Earthman on this planet, as well as every chance we might have for understanding. It's an uprising, but a planetary one." He breathed in and out once, slowly. "Can you guess who's behind it?"

"I can guess...." Morgan said carefully.

Wolfe said, "The Fire Magicians."

Morgan nodded. If anyone could unite the natives of Mercury, it would be the Fire Magicians, strange, neverseen sorcerers of the mountains, whose alien science was only whispered about. Not even the natives spoke much of them. There were stories, Morgan knew, of men and women dying, of strange luminous things flapping wings that trailed fire as they flew, of incredible ancient technology that was the same as black sorcery to the Earthmen.

"If anyone can do it," Wolfe went on, "they can. They're the nearest thing to a religion, and what's more, they've got fear on their side." His hand swung up, pointing to the east. "The drums are beating, up in the mountains. Warriors are gathering in the city of Magicians. And we don't know what's going on, because we'd never get within a hundred miles of them."

THE THOUGHTS were clicking ahead in Morgan's mind. His brain leaped out, catching the next idea. "I see. You know I've got a reputation for being a good fighter, and you know they know I'm supposedly a an enemy of yours...."

"Correct," Wolfe replied. "We want you to go up to the mountains, to their city, and find out what's happening. They'll take you in. They can use all the fighting men they can get, if it's as big as the rumor says it is."

Morgan thought for a moment. "And for that I get pardoned?"

Wolfe nodded.

"But suppose I don't get back... alive?"

"That's the risk you take. If you go, you have a chance to live. If you stay here, you don't have one chance in the world."

"How can you be sure that if I head for the mountains I'll go there?"

Wolfe studied him. The brown mustache lifted a bit humorously. "I know you, Morgan. You killed two men, and maybe more, but your word still holds."

Morgan said, "You know me too damn well."

"It would be easy," Wolfe said eagerly. "Ride in, join them, see what's happening, and then ride out. Then we can drink scotch together, Morgan."

"Sure...." The reply was cynical. "If they don't kill me first."

"Do you want to start tonight? We've got a mount tethered at the edge of town."

"I might as well. You can tell your men they can relax now."

Wolfe laughed, deep and hearty. He stuck out his hand and Morgan shook it.

"Like I said," Wolfe told him, eyes shining with an inner sense of comradeship, "you killed two Terrans. But you're a damned good man." Abruptly, he remembered something. "Yes one special thing to notice. The agents said rumors told of some kind of fabulous sign—or omen—whatever it is to signal the beginning of the uprising. Find out what it is, if you can."

"Let's hope it works," Morgan said, thinking of what would happen if it did not. The silent blue Mercurials, waking and rising from their pallets at night in the servant quarters of the Terran homes. Drawing their keen blades across white Terran throats, spilling Terran blood in the streets. The old, alien hatred was still not quite wiped out.

MORGAN put his hand on the shoulder of the Control Force officer. "Get me that mount."

The spot beam went out. They walked in the darkness, through the muggy stale-smelling alleys, until the buildings thinned out, and they walked around a corner of a wall. The beast was tied to a tree, blowing through its huge leathery nostrils.

"Give me a gun," Morgan said. It had all been very rapid, and yet it was the only logical way.

Wolfe took his disintegrator pistol from his belt and handed it over. Morgan clambered up on the back of the beast and turned. "I may be back, and I may not be back at all." He kneed the beast's flanks, getting the feel of the mount. He said, "Cut the rope."

One of the Control Force men stepped forward, yanked his knife free and slashed the tether rope. The beast wheeled and bucked. Morgan fought with it, pulling the reins, kicking it, until it quieted. Then he kicked it again and the great legs began to move. They thudded over the dry ground, steady and powerful.

Far ahead, to the east, were the mountains. Morgan knew where the city lay. Everyone did, though few Terrans ever went there. The mountains were shrouded in the almost eternal blackness that sprang up where the twilight belt ended. They were ominous and forbidding, ragged black teeth clawing at the star-hung sky of space.

Behind him was the town, and the Control Force officers, and Wolfe. The Terraris lay asleep tonight, while the Mercurials fingered their knives and waited. Ahead were the mountains of the nebulous and terrible Fire Magicians. The legs of the beast made a steady rapid thunder. The sulphur wind blew in his nostrils. The town dropped far behind—as existence for him might drop forever out of sight.

The pace of the beast speeded. The wind keened around him and he hung on tightly, smelling the hot wind.

He did not look back even once.

THE WARLORD Kalthar and his sister Riegel sat behind the long table, imperious and haughty. Around the great hall were other men, some Terrans, some Martians, and one or two gray Venusians. They looked hard and strong, and they watched Morgan intently.

Riegel drummed her pale fingers on the table top. Her hair hung down about her naked shoulders in gentle blue whorls, belying the fury that was in her eyes. She surveyed Morgan for the hundredth time.

"Earthmen," she said, "do not customarily come to this city uninvited. They are sent for, as these men were." She gestured around the room to the other mercenaries. On the wall, candles fluttered and threw shadows. Beyond the great windows lay the city, smothered in the eternal hot twilight dark.

"You do owe us an explanation," Kalthar said, his eyes narrow. "We k<sup>n</sup>ow of you, Morgan. This is an assistance."

Morgan shrugged. "I travel a lot, and I know many of your people. I heard stories of the uprising, and I knew you could use men to fight for you."

"Logical," Riegel replied craftily. "What will your reward be?"

"Whatever you're giving these others. You know the Control Force. All the Terran governmentals, in fact, would like to see me dead. I've got no reason to keep them alive."

A slender, straight-bodied man with masses of black curly hair stepped forward. "And you won't either, Morgan. We have the Fire Magicians on our side. And they have promised us that she will reappear...."

"What do you mean?" Morgan asked.

The black-haired man laughed. "The woman known above all women to the Mercurials. The legend, the primary goddess. She has no name other than ...well, literally translated, it would be Our Lady of the Flame."

Kalthar leaned forward, his young face eager and full of a fanatical desire for power. "Once the people know she is with them again, there will be nothing to stop us. Already the war drums are beating...." Morgan became aware of the sound again, the sound he had first heard while riding up through the foothills to the city. A steady, thunderous roar, from mountain peak to mountain peak. He had grown so used to hearing it that it had become unnoticeable.

"The armies will be gathering in a few days," Kalthar went on. "The greatest armies of our people ever known. Tribe joining tribe with one objective—to wipe out the Earthman."

"But that is not all," Riegel said quickly. "We're going to take this planet and make it a world to be proud of, to stand alone with the other planets of the system. Proud. Unafraid. No longer will our people be forced to act as servants." She spat out the last word.

Morgan kept silent. The ideas of equality entertained by the Mercurials

were too complex for debate. Wolfe believed that a mutual understanding and relationship could be worked out, in time, but Riegel, strange and incredibly beautiful in her alien way, believed only in the quick, bright spurt of blood to end the problem.

**B**<sup>UT</sup> HIS problem was not solved. He waited a minute. The candles in the walls blew and flamed, and the shadows moved in the sulphur air. Then he said, "Do I have a place here?"

Riegel's eyes were calculating, sliding over his body. The corner of her lip jumped once, nervously. She glanced at Kalthar. He had a wry, satisfied smile on his harsh young face. He nodded and Riegel turned back to Morgan and said, "Yes."

"Good. I will ride with your army then."

"In a few days," Kalthar finished, "when the drums have gathered all of the tribes."

The black-haired Terran laughed gratingly. "And when the Fire Magicians bring forth Our Lady of the Flame...."

"She will ride at the head of the army," Riegel breathed, "with you and me, Kalthar...and perhaps Morgan...." She laughed once, shortly, and waved her hand. "That's all. You may go out into the city and seek lodging. However, I want to talk more with you. Come to my apartments at the end of the next sleep period."

She rose imperiously, left the great hall, with Kalthar trotting behind her. Morgan knew her reputation. He was sure now that she was the dominant member of the family. Her father had been a great lord of the Mercurials, and had died at the hands of a Control Force patrol whose members had been insanely drunk. Perhaps she, like Wolfe, had her reasons....

Morgan left the hall and walked

down the great wide stairway and out of the building. The streets were thronged, mostly with natives, all of them moving and talking nervously, excitedly. They knew what was coming. The death-smell was carried on the wind, infecting them.

As he walked, Morgan noticed that many of the shops were open. It was nearing the next sleep period, he knew, but men still worked at the wheels, sharpening row after row of long blades and short knives and spear tips, all of them glittering like thousands of infinitely deadly silverfish.

He had an uneasy feeling. He turned once, sharply, looking behind him. He thought he saw a dark flurry, as of a cape moving suddenly in the crowd, but he could not be sure. High above, on the mountain tops, the drums rolled their steady song of war, calling in the tribesmen. His hand holding the pistol butt, Morgan walked on.

The inn he found was small and unpretentious, but it served his purpose. A native boy was sent for his mount, still tied behind the palace building. They had placed him under guard at the gates of the city, and escorted him all the way in.

He drank a flagon of wine and climbed the stairs to his room. From the window in the clay wall, he could see where the street rose. There at the far end, in the half darkness lit only with torches, stood the squat building that housed the Fire Magicians. Its great heavy stone doors were shut tight.

**O**UR LADY of the Flame. She was a legendary figure, right enough. That was the omen, then, the sign. That was the thing Wolfe had instructed him to look for. He would stay one or two more days, seeing the strength of the gathering army, and then ride out. Perhaps there would be a fight, but he could handle it. He had a chance to live after all. His reputation was carrrying him. The dead men at White Pits were talked of much among the Mercurials.

There was a tapping at the door. He turned, dragging out his disintegrator pistol, listening. He heard a sound of faint breathing as he said, "Who is it?"

"Please," a feminine voice whispered, "let me in. I must talk with you."

He edged the door open. It was a native girl, small-bodied and delicate, with immense luminous eyes and an almost sad cast to her features. Her cape was drawn tightly around her, and Morgan decided that the cape was what he had seen flitting in the crowd when he turned.

She looked up at him, seeing the weapon pointed at her. "My name is Elta," she said simply.

She did not seem particularly dangerous. He turned away for a moment and lit the oil lamp. Then he turned back to her. "Where do you come from? You were following me, weren't you?"

Nodding, she said, "I had to follow you, Morgan...that is your name, is it not?" He said it was, and she hurried on: "I know of you. Everyone in the city does. But you must leave. You must take your mount and ride out tonight."

He laughed, easing the hold on his gun. She was so young and frightened, so deadly serious. "You're joking. I've seen Kalthar and Riegel, and joined up to fight with them. I want to see the Earthmen die, Elta."

She shook her head stubbornly. "I know that is not true. You must leave." "I'm not going to," he said.

"But you do not understand me! Kalthar, Riegel—they are only the titular heads of the uprising. Those behind it—" He cut her off. "The Fire Magicians?"

"Yes. They know about you."

"You mean that I'm here?"

"No, no. That you come from a man named Wolfe, an Earthman on the Control Force, with orders to seek out their plans!"

He leaned against the wall, his breathing slow and labored. Elta stared up at him, fearful. "That is why you must leave."

"How do you know?" he asked savagely. "Are you sure?"

SHE WALKED to the window, pointing to where the street rose up to the stone building. "I come from there. I am one of them. With their technology, which is to you as alien as yours is to us, they know of you. I came to you because I have watched you for many days. Yours is a famous name. I wanted to help you because I...from watching you...I..." She stared at the floor, unable to go on.

He put the gun into his belt and put his arms around her. "Elta, thank you. If you know I come from Wolfe, as the Fire Magicians do, you know, as he does, that my word's good. It's something I can't change. Whatever else I've done, I've always kept to my word. I have to stay here."

"Oh." The sob was small and broken. She rested her head on his shoulder for a moment. "I must go back."

"Thank you for coming to me. I'll be watching."

"When they strike, you will have no chance."

Suddenly, he realized the opportunity he had. "Elta, can you tell me anything about what they're planning? You don't seem to care for them too much. Can you tell me anything about ...Our Lady of the Flame?"

She almost cried aloud in terror, and her mouth moved, forming *no* over and over. Jerking the door open,

she hurried into the hall and stood looking at him for a moment, afraid, and pitying him.

"I'm sorry," she whispered. "The sign is on you now...."

And then she closed the door. Footsteps retreated down the hall softly.

He walked to the window. So they knew about him. Somehow, through their strange alien science, they had known all along. They had let him come to the city, playing with him. There, in that stone building, the Fire Magicians knew? He wondered just how long he had.

The streets were quieting. It was the sleep period. The torches flamed and guttered weakly and the voices died. People disappeared indoors.

Sleep would not come to him. He lay on the mat, the pistol on his chest, his fingers curled around the stock, his eyes wide open, staring at the ceiling. He lay for hours that way, listening to the drums rolling from mountain peak to mountain peak, calling in the tribesmen who would begin the tide of death.

A<sup>T</sup> THE end of the sleep period, Morgan again went through the streets to the palace building. Two guards stopped him at the entrance. He stated his business and they escorted him through long, dimly-lit halls to a curtained doorway. Pushing the draperies aside, he strode through.

Riegel was again at a desk, reading from a scroll of something that looked like parchment. She glanced up as he entered, and when she saw who it was a faint smile played around the corners of her lips.

"Come in, Morgan."

"You said you wanted to see me." He stood before her, legs wide apart, relaxed. But his hand stayed near the butt of the disintegrator.

She rose from the desk and began to walk back and forth in a disciplined, martial way. Her eyes roamed over the gold and silver tapestries that hung on the walls of the room.

"We have taken many men into service, Morgan. They have come from many planets, and all of them have been good fighters. In each one of them I've searched for something, but haven't found it. I'm looking for that same thing in you." Now she gazed at him carefully, trying to estimate the effect of her words.

"Just what is it you're looking for," he said.

"The quality is hard to define. Strength, perhaps. Hardness. Even my brother Kalthar doesn't have it. He seems cold and shrewd on the surface, but underneath, in here..." She tapped a finger on her skull. "...he's like **a** child...crying, desperately afraid of the darkness and the terror in the world around him."

Morgan laughed gently. "So is everyone."

"No!" The word was harshly uttered. "I'm not. Once, yes, in the years when my father was alive. But when he was killed by the drunken Earthmen—your brothers—I began to lose my fear. I made myself lose it, because it did not belong to the task I set for myself. I burned out every bit of fear inside me with the thought of what I had to do. Now, today, there's nothing left but purpose. No fear. Only the purpose."

"Terrans and Mercurials are pretty much alike," Morgan told her, "as far as construction goes. If a Terran got rid of all the fear he had, he wouldn't be a human any more. The same goes for you."

HER FACE went empty of expression. Morgan looked into her eyes and saw a nothingness, endless plains of nothing retreating to nowhere. She spoke in a whisper: "I

know. You're right. I still have physical sensations, but not much else." Abruptly her mood changed and she stood erect again.

"That may very well be, but it avoids my basic problem. Kalthar doesn't have the drive that I do. I'm afraid that some time, if things should ever begin to look unfavorable, he might collapse—go to pieces and no longer be useful to me. When the stress becomes acute, he may no longer have the heart or the will to follow the cause."

Morgan took out a cigarette, lit it, blew out the smoke. "I think I see what you're driving at," he said. "What you're looking for in every mercenary that comes along." He paused again. "Someone to...replace Kalthar."

"That is quite correct. I know you could not do it immediately. It would take time to even want to do it. But I think you could, eventually. Your reputation is very strong, Morgan."

He shook his head. "No."

Riegel's eyes widened and then narrowed, dangerously. "Why?" she said softly.

"First, it would mean killing Kalthar. Murdering him. Secretly. Right?"

"I have no qualms about that," she replied evenly.

"Yes, but I do. I've never killed a man except for two reasons. One, I was paid to do it by a military leader. And two, the man was doing something I didn't like."

"The White Pits incident..."

He nodded. "I'll admit it isn't a very pretty record. I don't pretend that it is. But I won't kill a man, even when he's got something I want. And I don't give a damn for Kalthar's job."

She moved close to him now, smelling of a musky scent that was somehow incredibly warm and ancient. Her eyes stared straight into his, while her hands unfastened the chain about her neck. The cloak fell away to her feet.

"Look, Morgan," she breathed. "I am a Mercurial, but our bodies are like the bodies of Earthwomen. This could be yours." She put her hands under her breasts.

Morgan picked up the cloak. "Put this back on. I don't think I could make love to a woman with nothing inside of her but hate."

"You're a stupid sentimentalist, Morgan," she snarled. "I'll warn you of one thing: I have asked other men the same question before. Three of them. All three were Terrans and all three refused. They rode with my army, but they did not come away from the battles. They were slain...."

"I've got a wide back," he said nastily. "There's plenty of room for one of your knives."

Uttering a deep harsh growl, she leaped at him, nails raking at his shoulders, his face, his eyes. He felt something gouge his eyeball, like a fiery needle, and he jerked away, striking her hard with his open palm. She fell and lay naked beside her cloak, suddenly no longer dominant.

"Maybe all of the fear isn't gone," Morgan said.

"I'll drive the knife in, myself...." He laughed.

"LADY," A soft voice murmured. It was like a whirring of faraway wings, a sibilant rustling of foliage. "Lady Riegel...."

Morgan turned. Riegel got to her feet and drew her cloak around her. There was a figure in the curtained doorway. It appeared to be a Mercurial boy of about fourteen or fifteen years. But his skull was tremendously oversized, and his eyes bulged out, round and soft, like big eggs. He was dressed in black rags, and he held his

thin blue hands together as if in supplication.

Morgan recoiled instinctively. He saw something in the boy's eyes that was frightening. A weird combination of childlike cruelty, shyness, and complete depraved obscenity.

"Cabal," Riegel breathed. "What is it?"

"They told me I would find you here. The guards told me that."

"What do you want?" She returned to the desk, not looking at the boy. She seemed to respect him, to listen intently to his every word.

The thin blue hand lifted, pointing at Morgan. "It is in regard to this stranger—"

"What do you want, boy?" Morgan said angrily. "Speak up!"

"I would not talk in harsh tones, sir," Cabal whispered, and Morgan again heard a sound of wings. Cabal seemed to think that he had command of the situation. He had a deep, hidden assurance.

"No," he whispered again, "I would not talk so to one of the almighty."

Turning abruptly, Morgan said to Riegel, "What the hell is he talking about?"

She shook her head contemptuously. "You fool. He is from the Fire Magicians."

"Wha—" Morgan's mouth dropped open in amazement. First a young girl and now this boy, with his popping eyes and frail body. Two representatives of the most powerful single force on the planet of Mercury. It was ridiculous.

"May I speak, Lady Riegel?" Cabal asked.

"Certainly."

"I have come to take this stranger, Morgan, to the house of the Fire Magicians."

"Just a minute-" Morgan cut in.

"You will be silent," Cabal whispered. And, for some terrible reason, Morgan was. He could not move. His mind was filled with horrible shapes and sounds—the dark wings rushing, a smell of death, and a freezing wind that came from somewhere inside of him and made him helpless.

"Explain," Riegel said.

"Yes, Lady Riegel, I will explain. This stranger, this Morgan, who rode into your city and requested that he be allowed to join your forces for the uprising, is a deceiver, a pretender hidden behind a mask. But we, in the house of the Fire Magicians, have traced his days backwards, have watched him, several days ago."

"Where?" Riegel said anxiously. "Where did you watch him, and when?"

"Before he rode into the city. We traced his past back through the time web, and saw him there, and heard his voice while he spoke with a Terran named Wolfe who is a member of the Control Force. This Morgan agreed to seek knowledge among you, in return for a pardon for killing the men at White Pits."

**R**<sup>IEGEL</sup> TURNED on Morgan, her eyes deadly now, the hate boiling up in her. "You filthy traitor!"

He jerked the pistol free and held it pointed at her stomach. "All right. You know. I guess it's time for me to leave."

"Oh, no," Cabal whispered, "you will not leave the city. I am taking you to the house of Fire Magicians, and there you will die, as an example. When we are finished with you, the Terrans shall know how you died."

Morgan waved the gun at Riegel. "You're coming with me...."

But she was laughing, cruelly, triumphantly. She was gazing over his shoulder. He whirled, and Cabal was smiling too, a smile that made Morgan want to scream aloud. The boy's eyes were bulging now, standing out from his head like full hemispheres, and his blue hands moved among the tatters of black rags he wore.

"I won't shoot a boy," Morgan said. "Normally, I mean. But if you try stopping me..."

"Oh," Cabal whispered, "how unclever. How fantastically unclever and blind...."

His hands came up from among the rags *bearing fire*....

In each hand, resting on the skin of the palm, was a globe of flickering red brilliance. Fire, yes, but not ordinary fire. Its radiance lit up the whole room like the inside of a great oven, and the core of the balls glowed with thousands of unnamed colors.

Morgan tried to pull the trigger of the pistol. The muscles on his arms corded and writhed like snakes. He grunted and held his teeth together and tried to pull the trigger. He could not.

"The hour of death," Cabal whispered, "has come...."

Morgan heard Riegel screaming: "Traitor...traitor..."

The hands of Cabal fluttered up, like pale blue birds, balancing the fireballs on his fingertips delicately, like a juggler. And then his arms lashed backward, and forward again, and the fire came at Morgan.

He could not dodge. His whole body was like stone. The brilliance in the room blinded him. The fireballs spiraled, lazily, nearer. Riegel was still screaming the one word, over and over. Morgan could feel the heat.

And then they struck him. There was, strangely, no pain. There was only a sudden cutting off of all sensation, and one single moment of remembered awareness before he plunged into the black pit of nothing. **"W**AKE," a voice kept repeating from the dark echoing chambers of his mind. "Wake, Morgan, wake, open your eyes, use your muscles...."

Finally, with terrible effort, he did as the voice commanded. Sensation slid along his nerves, singing through the wires of his body, carrying its message of feeling. And he was standing up, with his eyes wide open; standing in the middle of a floor of great stone blocks, while torches burned on the walls. The boy Cabal was moving away, taking his hands away, as if he had been supporting him.

Morgan knew instinctively that this was the interior of the house of the Fire Magicians. One great stone room. Along the wall to his left was a large metal frame filled with infinite twists of fine silver wire that glittered in the torchlight. In the wall to his right was a doorway, hung with curtains.

Before him, on a low stone dais, sat an old man, a Mercurial with a bald, oversized skull and eyes similar to those of Cabal. His steady gaze was fixed on Morgan, and his wrinkled mouth was pursed. Cabal stood to the left of the old man, and on his right was the girl Elta, pale, watching Morgan, very much afraid.

"Ah," the old man said, "you have awakened." It was the voice that had pulled him from the darkness.

Morgan said nothing. He waited.

"My name is Swanseig," the old man said. "And you see before you the Fire Magicians."

The knowledge stung Morgan. These three? An old man, a boy, and Elta? These three were the powerful controlling group, the magic name that spread terror and awe among the people? It seemed impossible.

"Questions," whispered Swanseig dryly, "write themselves on your face. I am the last of the Fire Magicians. Cabal is my son. Elta is my adopted daughter. In this building is the last of our machinery." He pointed one thin blue finger at the frame of silver wire. "The time web, with which we can see into anyone's past. A heritage from the Magicians who were once mighty and powerful, and who will be so again."

"The fireball," Morgan thought aloud. "What was it?"

Cabal's hands moved in the air. "Nothing. Everything. A thought, a projection, a playing with your senses." The hands moved, and another fireball appeared, and then four, and then eight, and Cabal spread his hands wide apart, the blinding glow filling the hall, and they were all gone.

"Some kind of hypnotism?" Morgan asked.

**"T**HAT IS a convenient Earth symbol for you to apply," Swanseig agreed. "It is basic, and entirely too elementary to fully grasp the concept of our science, but it approximates the meaning. It is much more powerful than hypnotism. The fireballs rendered you unconscious. Similar projections can cause death."

Elta rose angrily. "Why do you play with him? Tell him."

"That he is going to die?" Cabal's voice whispered in the air. "He knows."

Morgan experimented with his senses. There was a hardness at his belt. The pistol must still be there. He almost started to glance down, but caught himself in time.

"I removed the loads," said Cabal, laughing.

"You're very smart," Morgan snarled.

"We have an end to accomplish," Swanseig replied. "I can remember the times of my youth when the Fire Magicians were almighty."

"The people began to lose faith in superstition when we came," Morgan said. "Yes!" Swanseig answered vengefully. "When you came in your silver rockets and cut up our world and boiled it in test tubes and slaughtered us with your logic."

Anger was rising in Morgan, an anger he knew he should not feel, because he was here for Wolfe, to get a pardon, and that was the only reason. But the Terran roots went deeper, down into the very pit of his being.

"There's understanding now, old man. Two races learning to live together. And you want to kill the Earthmen and end every chance your people have for benefiting from Terran knowldge."

"Don't talk with him, Morgan," Elta pleaded. "You'll drive him to terrible rage."

Old Swanseig laughed gratingly. "I want the Fire Magicians to be born again. When Our Lady of the Flame reappears, and the people rise and your brothers die, then I will mate Elta with my son and produce the new line, springing from my loins, full of the ancient knowledge."

Morgan recoiled inwardly, looking at the girl. "What are you, old man? Some kind of animal...."

"Kalthar and Riegel and I—" Swanseig roared.

"-are insane!" Morgan finished, very softly.

"Kill him now," Cabal breathed, "oh, please, father, kill him now. Let loose the beasts."

"No," Elta breathed.

"Keep quiet!" Swanseig's eyes blazed at her. He turned back to Morgan. "When you came to the city, we traced you back in time. We do that with all important strangers. We saw you talking to the one called Wolfe. You will learn what it costs to ride through those gates."

"Tell me this," Morgan said quickly, stalling for time. "Who is Our Lady of the Flame? Will she reappear, or is it some trick?"

**C**ABAL STRODE to Elta and pulled her roughly to her feet. His hands brushed over her robe and she retreated. A great white aura sprang up, shimmering over her body, transforming her hair and her clothing to sheets of multi-colored fire. She seemed ethereal, yet near and compelling, a woman made out of ice and burning.

Abruptly the aura vanished and Elta sank down on the bench, visibly weakened. She rubbed her eyes, as though she were not fully aware of what she was doing. "I'm sorry," she murmured. "I tried to warn you...."

"We know that also," Swanseig replied. "We know you went to this Morgan, and for that, Elta, you shall be punished. You shall be tortured severely until you learn the lesson of obedience."

"That will be my task," Cabal said quietly.

A growling roar came from Morgan's lips. "You filthy— I don't know what to call you—with your rotten minds—using superstition to start a war that will kill millions! You aren't even worth—"

He began to walk forward. He pulled the gun from his belt, holding the barrel, to use it for a club. Cabal retreated.

"Let loose the beasts!" he screamed. "Now! Let them loose!"

Old Swanseig moved his hands in the air. They whirled and turned, and light sprang up, and the room began to vanish. Morgan walked on. He heard Elta crying out somewhere.

"They're not real, Morgan, they're only in your mind. They can't hurt you unless you're afraid. They're not real. They're only in—" Her voice was cut off, muffled.

The light was blinding. Slowly it diminished to a steady gray luster. He

glanced about. The room was gone he had created in his mind. There He still held the pistol in his hand as he stood in the middle of a wide, empty gray plain. In the distance, far away, where the horizon should have been, spots of fire widened.

They drew closer. He peered until be made out what they were. And then he shrieked.

They were alien beings, great anials, fantastic monsters made of color and heat, with tongues of blue fire, and eyes like lightning, and huge claws like licking yellow flames, and bodies and scales made from every color of fire ever conceived in all the world's tortured minds. They bore down on Morgan and the heat became unbearable. Their visages were terror beyond terror, the ultimate nightmare.

He wanted to turn and run. He wanted to throw himself at them, and be burned instantly, and never have to look at them.

They were almost over him. They breathed blast furnaces upon him, scorching his skin. And then he remembered her screamed words.

The animals were like the fireballs. That must be it. That had to be it! They were created in his mind, from the material of his thoughts. They were in his mind! Slowly, he looked down.

The gun was in his hand.

In his mind, he filled the gun with disintegrator shells. He made them from unreal explosives, unreal fissionable material, unreal cases. He loaded them in his gun and pulled the trigger once, thinking with great effort of their power, and the first of the unreal animals fizzled and blew apart in a million pieces, scattering fire all over the gray sky.

On and on they came, breathing their sulphur-hot breath, and each one swelled up like a balloon and broke into shards of fire when he pulled the trigger and discharged cartridges that

segmed to be thousands of them. He kept shooting, kept pulling the trigger, and still they came.

His arm grew tired with imagined fatigue when he noticed that the landscape was blurring, becoming indistinct. Ragged holes appeared here and there in the sky, and torches burned in gaps dotting the bodies of the fire beasts.

"I must call them in," came the voice of Swanseig from far away.

"No," Cabal pleaded, the sound like a great hurricane sweeping through the air, "no...."

"But I must! He is using our mind energy! Transferring it to form his own pictures, to create illusions of equal actuality."

"No," Cabal's frantic voice sounded again.

So that was it. He had power now, power from their minds. Slowly, deliberately, he fused the holes in the sky and put the fire beasts back together. Then, he drove them off across the plain, very quickly. And then he thought of Cabal, and the boy appeared, down the plain, looking about wildly. He thought of old Swanseig and he was there too, cowering beside his son, the evil strength drained out of him.

**IKE** A hammer beating steel, his mind forged the thoughts. Cabal and Swanseig were crying out now, in terror, but he made them stand still. The fire beasts thundered toward them over the gray plain. The two Mercurials cursed and prayed in their own language. The beasts towered over them, trampling them with bonfires and electrical storms. Thin belllike screams echoed in the gray distances.

Cabal and Swanseig were caught. Morgan started to close his eyes. And the fire beasts burned them and tore them apart.

He clamped his eyes tight shut, so that darkness dropped a curtain over the scene. He felt the pain in his head now, and after a minute he opened his eyes.

Elta stood, hands pressed to her mouth. The torches guttered and blew wildly in a cold wind that swept from somewhere through the hall.

Swanseig and his son lay across one another, egg-eyes almost rupturing from their heads in soft horror, paleblue ichor dripping down out of their ears. They were dead.

Morgan shook his head dazedly. "1 don't quite understand...."

"Like you were hypnotized," Elta whispered. "Their own power was turned upon them, and it held them, and when the time came to die, they—" She choked, and then she was close to him, her head buried against his chest, sobbing.

He stroked her hair for a few moments, keeping her eyes away from the dead ones. And then he said, "We'd better go."

Her eyes were puzzled. "Where? I have no place...."

His smile was not a successful one, but his voice was strangely gentle. "With me, Elta." Morgan bent and kissed her lips, finding them warm and not at all alien. Her hands went around him, holding deep into his shoulders, holding on against the fear that shook her body. Finally, she pulled away.

"No," she whispered, "I can't." "Why?"

"Three sleep periods from now, Our Lady of the Flame is to appear on the gates of the city. The tribes will be gathered and ready. She will speak to them, and tell them that the time to strike has come. I know how to operate the devices on this gown. I can make the light shine, I will appear." "But why?" he persisted. "We could get away now, out of the city, and they'd never find us."

"THE UPRISING would still come," she said intently, gripping his arms. "Don't you see that? Even if we ran away, my people would still turn on yours. I can stop that. I want to stop it. Ever since Swanseig told me of the plan, I've been sick with the thought of what I would have to do. And now I've got a chance to stop them, to give your people and mine more years for undestanding to grow. I must stay."

Morgan turned away for a moment. There was a chance they might never get away at all, then. Which was the way?

Morgan looked at her steadily.

"I'll stay with you," he said. "We'll do it together."

He kissed her again and she said, "We have three sleep periods to wait." Then she led him through the curtained doorway and up a winding stair to the roof of the building. From the parapet they could see the whole city, spread out down the hill below them, aglow with torchlight, streets thronged with people. The air was warm and sultry. In the mountains, the drums beat.

There was food on the roof, and a straw mat, and a jar of wine. He took off his tunic and let the air cool the perspiration on his body.

The stars moved overhead like cold ice jewels on a velvet cloth. Morgan watched them, and then turned on the mat where he lay. Elta was beside him, her eyes on his. Her mouth made a small sound, forming soft words. He bent over her.

After that, they did not look at the stars for a long time.

THE WARRIORS gathered.

The tribes came to the city,

drawn by the rolling of the drums in the black mountains. They came in blue hordes, atop their mounts, with swords and spears and bows. They came in long processions, bearing torches, long ropes of fire that stretched away through the foothills.

Morgan watched them through three sleep periods, gathering outside the south gate, making their fire camps. There were singing, loud chants in the alien tongue, and men dancing in strange rhythms, and a smell of coming blood in the sulphur air.

The whole panorama was spread out before them, as Morgan stood hour after hour with his arm around Elta. The palace building was a maze of activity, with messengers running in and out. Once they saw Kalthar and Riegel riding through the streets, accompanied by a blowing of trumpets and a beating of hollow drums.

Children thronged the streets, playing with artificial swords, sticking each other and screaming "Earthman!" at one another. Old women chattered in the back alleys, and the whole city breathed deeply and lifted itself from lethargy and grew alert for the coming slaughter.

A tense, expectant air hung over the city. The drums began to get on Morgan's nerves, beating and beating, up in the mountains. Finally, when they had slept three times, and he was waking up to the eternal muggy dark and the sound of the drums, she was there.

"We must go," she whispered. "To the gates."

"I can't go like this," he said, indicating his clothing.

"No. They'd recognize you. Come downstairs."

She found him a black cloak, like Terran monks wore. He tied the cord around his waist and pulled the cowl up over his head. She surveyed him critically. "Your face is shadowed," she told him.

He smiled grimly. Through a slit in the side, he held the pistol, reloaded with the cartridges Elta had found in the dead Cabal's chamber.

Elta moved toward the door, but he caught her arm.

"Wait, Elta. We may not come out of this."

She came close to him and Morgan kissed her and touched her hair. "I can remember three days," she breathed, "if no more...."

Morgan backed away. "We've got something to do," he said evenly. "We'd better go."

THEY MOVED through the streets, secretly, furtively, while the city awoke and began its raucous clamor. Somehow the word had spread, and the crowds were in the streets, pushing and shoving turgidly toward the south gates.

Elta and Morgan stopped in a dim doorway to watch the Mercurials hurrying past. The gates were only a few feet away, and the Mercurials rushed through to join the armies outside. Morgan glanced quickly down the street. "There's no one coming right now. They must be out of sight around that bend."

He seized her arm and they ran across, into another doorway, and upstair. o the parapet. There was a native guard at the top, holding a primitive bow, with an iron-headed arrow ready.

Morgan tried to push past him. "Hold," the guard ordered. Morgan brought his fist up, knocking the man against the wall. As the guard staggered away, Morgan realized that his cowl had fallen down. The guard was staring at him.

"I know you," he mumbled, "I am sure I know—"

Terror filled his eyes, and he

screamed. The scream ended abruptly. Morgan turned, startled.

Elta pulled the small silver dagger from the guard's chest, and he slid down the wall, tongue lolling out of his mouth. Morgan picked up the guard's bow.

"Nothing must stop us," Elta said fiercely. "Nothing!"

And then she touched her robe, made motions in the air, and the light sprang up. Morgan squinted, dazzled at the brilliance for a moment. He heard Elta saying "Come," and he followed her out onto the parapet.

Down below, on the sloping sides of the mountain, the people stopped talking. Their voices died away by hundreds and thousands, and their heads turned, upwards, over their shoulders, eyes filled with the white glow.

"Our Lady of the Flame...." It was whispered over and over in countless blue throats.

Elta raised her white-hot hands. The Mercurials quieted.

"Listen to me, my people," she said. Her voice was soft, yet it carried great distances through the still hot air. Morgan watched, amazed at the simplicity of it.

"Fortune is not with this uprising. I am not with it, and my spirit is not with you. The drums have called you, but the Fire Magicians send you home. Take your belongings, go back to your villages and your towns. Live with the Earthmen. Understand them, as they are trying to understand you. Make no wars, but dwell together in peace. Return. Take up your things. Take up your things and go. Now."

MOVING HER hands in benediction, she turned away. The Mercurials stirred again, whispering, wondering.

"It was so easy...." Morgan

breathed.

"They believe in the legend and in the Fire Magicians more than anything else. But now the legend will die, and they will begin to believe in themselves."

"Can we leave the city now?" he asked.

Elta pointed down the mountain. "They are leaving. So can we. I will make the people leave this city, too, because it has the taint of Swanseig and Cabal on it. Once the city is gone, we can live in peace."

Down the hillside, the throngs gathered up their bundles, led their mounts away, back to the plains and the houses from which they had come. They paid no attention to their swords, or to the fact that their torches were dying. The fear they held of the Fire Magicians was enough. It drove them.

As Morgan moved toward the stairs, a clattering came from below. He tensed. "It sounds like mounts." He and Elta moved to the head of the stairs, Morgan holding the bow ready.

Kalthar and Riegel stood at the bottom of the steps, armed with spears. The young man was confused, some of the craft gone from his expression. But Riegel's eyes burned with anger.

"The Fire Magicians are dead, Elta. Oh, I know who you are. We went to the house. I learned of what you did only moments ago."

"It's all over," Morgan said. "They're going home, and all the blood frenzy you can stir up won't get them back, Riegel. You'll never have your empire."

Cursing, she threw the spear up the stairs. It missed Morgan, striking Elta's shoulder and quivering. She moaned faintly and fell. Kalthar was running up the stairs, sword in hand. Morgan fitted an arrow to the bow and let it fly. Kalthar stopped, staggered, and fell backwards, hands constricting around the shaft in his stomach.

Riegel dodged his falling body and came on, knife in hand. "You're second, Morgan," she said, her voice rising, her body shaking wildly. "But first that one—Elta—" She moved toward the fallen girl, knife upraised.

Morgan put out his arm and held her.

Riegel looked at him. Deliberately, coldly, she drew the knife along his arm and watched the blood come out in a bright red line.

"Now you'll never have anything," Morgan breathed, and pushed her down the stairs.

She collapsed in a tangled heap, trying to get up. The hate burned through Morgan. Riegel flung the dagger. It flew by his head, clattering against the wall as she struggled to get up.

Very calmly, he fitted an arrow, drew the bow with all his strength, and let it fly. There was an invisible whir and Riegel doubled over, the shaft quivering in her left breast. She tried to pull it out. She whimpered while the blue ichor filled her mouth and ran over. She died on the bottom stair, quivering only once.

He gathered up Elta's body and started down the stairs. Guards thronged the entranceway, peering. They saw that he carried Our Lady of the Flame, evidently not noticing the spear piercing her shoulder. They saw Riegel dead, and Kalthar, and the terrible look on Morgan's face, and drew back.

Up the hill through the city he went, carrying her, while the people retreated in doorways; hiding themselves. He walked on and on, feeling infinitely tired, and yet full of anger that she might die. To the house of the Fire Magicians, and through the doors, while the blue people watched and

breathed fearfully.

The great stone doors closed and the city was silent.

Up in the black mountains, the drums rolled slowly, like a sound of death.

**T**HERE WERE many hours, one stretching after another, while she lay in a pale sleep of insensibility, with his crude dressings on her skin. And then she awoke, and slept, and woke again the second time. She smiled then. And he knew she would be well.

There was one more trip into the city. Our Lady of the Flame appeared on the balcony of the palace building and spoke to the people who listened with awed faces, thinking that a goddess was with them.

After that, the people gathered their things and moved out of the city. In three hours they were gone. The drums in the mountains were silent. Hot wind lifted dust in the streets, and the torches flickered, and only Morgan and Elta saw them.

They went to the gates on their mounts. Morgan had told her of the pardon waiting for him. She smiled.

"Together, the two of us..."

A strange sense of peace filled him. The people of the city were out on the plain now, seeking new homes, away from the evil that had filled them. They moved under the stars, searching for understanding.

Elta lifted the arrow. On its tip was a small silver ball.

"At least," she smiled wanly, "when I was with Swanseig and Cabal, they taught me to make chemical fire that will destroy even buildings and walls. This will be the last sign, Morgan." "Let me do it," he said.

Elta handed him the bow. He fitted the arrow and drew the string back. The shaft shot up into the dark sky and fell down among the buildings and (Concluded on page 162)



**I**'VE READ somewhere that there is a sign over the doorway of some large research lab that reads, "Everything, when understood, is simple." One of my basic convictions is that when the day comes that science has gotten to the basic workings of the universe they will have found those basic laws to be far simpler than anything yet concocted in the way of theory about it. Simple and beautiful.

Most of you over the age of sixteen have made your acquaintance with Euclidean Geometry. In that subject you learned how a maze of complexity can stem from a very few basic statements. It will, I feel sure, be the same way with final science. There will be perhaps a half dozen basic assertions stated precisely, and from them by pure deductive steps will arise the vastly complex workings of reality as we observe it.

That isn't so of human affairs and creative work to any real extent. A f'rinstance is the writing game. Science fiction in particular. What is a good conception of what a stf story should contain? There is no one answer to that. From the editorial standpoint there are as many answers as there are editors. From the standpoint of the guys and gals that write the stories there are as many answers as there are writers. And these conceptions must meet with compromise all along the line.

An editor recently told me that one of the troubles with stories today is that most writers are slanting their stories toward possible sale to the two self-styled adult stf magazines. That editor wasn't Howard Browne or L.E. Shaffer. It was an editor who depends for the most part on unsolicited material, and that material to a large extent was tried at the two "adult" markets and rejected before he got a chance to read it. But it brings out one thing that is to a large extent wrong with stf today. Too much of it follows the formula of a brave new world of the future stemming from the obvious of today. The goal in those stories is to be intellectually prophetic. To emulate H.G. Wells on the higher level of modern technology.

From the "escapist" angle the reader must escape into the laboratory and become a scientist surrounded by electronic things and influenced by them. Those stories, in a way, portray a glorified future made wonderful by its distance from the present, in the same way that the post knight-errant stories glorified an era that was past. And the modern Western glorifies an era that is past.

What do I mean by "glorify"? To get at that I would have to try to analyze what a hero is and what a villain is. I think that really goes to the root of all the problems about characterization in any story.

I've discussed this problem with every editor I ever knew. There are many schools of thought. Should a hero be all good and a villain all bad? The answer to that takes in far more than mere opinion. It takes in reader reaction as well. And it generally goes deeper than mere story telling. In wars the enemy must be painted as all black. In politics it's the same way. No one is allowed to make an error in judgement and repent, and the hero is the one who triumphs. To bring out what I mean there, I wonder how George Washington would be painted today if England had won? Probably as a blackguard. A man who tried to break up the Empire and was shot as a traitor when he was caught and his fellow traitors were beaten.

One school of thought, and it's a very preponderant one, says that the hero should be all white because the reader identifies himself with him, and the villain should be all black so that the reader has no qualms of conscience about destroying him at the end. The issues in that sense should be kept clear and simple. If the hero took a slightly unethical procedure to triumph rather than going to the bitter end by purely ethical means of triumphing, the reader would think less of him. To that school of thought a story in which there were no heroes, but a couple of villains only, would be out of bounds.

The mystery story probably has had a lot of influence on that subject. It's quite obvious that if one character has actually committed a murder he or she is a villain to be found out and punished. And all who didn't commit murder are either heros or props.

And in general the formula insists that the hero be made obvious from the start, and all who oppose him become villains. Yet we have all read stories in which by a simple shift of viewpoint the hero is really a bigoted villian who wins. He's opinionated and refuses to compromise. His superior skill makes him triumph over a dozen villains at once.

In the old-style drama where the banker threatens to foreclose on the old man unless the daughter marries him, and the hero in some way gets the money to pay off the mortgage, then marries the gal, who's the villain? To me, in some of those stories, it seems the banker is a lonely man who really loves the gal, but has no sense of proportion. The drama takes place in some small town where the gal is probably the only eligible female within a hundred miles. The banker is the only man with money in the same area. He loans money on a bad risk because he likes the gal. When it comes time to pay off his love clouds the issues. If it weren't for the girl he would automatically foreclose the mortgage as is done in the best of banking practice-and now it's required by law for him to do so! With that type of story I pause to wonder how often the banker did get the daughter in real life-and make her happy and be a good husband. In a story, though, I realize such an ending wouldn't go. Why? Because of reader reaction. The average reader is never in a position to lend large sums. The average reader is the average human-who hates to borrow money and subconsciously resents those in a position to loan him some. I do myself. Especially the loan-shark type who charges huge interest without a qualm of conscience.

The whole question of villain versus hero probably goes down to the basic human desire to be a hero and not to be a villain. And reader-injection into the story. From my own experience with myself I feel terrible if I am in doubt about the correctness of my own actions and motives, and just as terrible if someone else thinks me wrong unless I'm sure I'm right. But right and wrong is so complex a thing that I doubt if anyone can invariably determine which is which. The English pirates of old stole from the Spanish and made them walk the plank-and thought themselves right. The Spanish pirates did the same to

the English. The early settlers moved in on the Indians and made friends with them if there was no trouble and slaughtered them if there was.

In human affairs everything is far from simple when understood. In that field things are simple only from the black-and-white viewpoint. The rightand-wrong, good and bad, and no other way.

That is why, even in science fiction, realism which is the modern trend must compromise with the symbolisms of black and white in characterization. But it's also the reason why so many stories you read are obvious from the first word and forgotten the day after they are read. Am I right?

\*

Mari and I are in Chicago on a short visit at this writing. We've attended the initial meeting of the Chicon II committee, and it appears that next Labor Day is going to mark the biggest convention we've ever had. For one thing, they are going to try to get Hugo Gernsback to be there. In case you were just born yesterday and hadn't heard, he's the father of present-day science fiction, having started the first and finest of all science fiction magazines, Amazing Stories. If he agrees to come you will get to see him and hear from his own lips the details of that historical event.

In addition there will probably be more writers and editors at this convention than any in a long time. Even to begin to list them would take too much space.

The accommodations they have lined up tentatively include a large hall, and several fair sized rooms for special meetings of fan groups such as NFFF, the Little Monsters, etc. Incidentally, I'm an honorary member of NFFF, and in the mail this month is a letter from Lynn A. Hickman which says, "You can be sure you are welcomed as a little monster (although if I remember you, big monster would be more appropriate). Mari is also welcomed as an honorary member if she would care to be so."

Thanks, Lynn. We both accept. (In the brackets above he meant my size, of course. Don't believe what anyone says to the contrary.)

The Little Monsters of America, TLMA, has two main projects. They have a fanzine, and they are interested in starting local fan clubs in as many cities as they can. They've formed **a** chapter in New York which has nine members at present, and are engaged in starting chapters in Atlanta, Ga., Ft. Wayne, Ind., Newport News, Va., and Miami, Fla.

Lynn has bought a new multilith machine, and TLMA should become a top fanzine. His address is Lynn A. Hickman, 408 W. Bell St., Statesville, N. C.

Now for a few letters. David A. Bates, 840 Asylum Ave., Hartford, Conn., wishes to announce he's starting a fanzine. He hopes to have the first issue out by the time you read this. It will be between ten and twenty pages and cost ten cents. He wants fiction, poetry, and articles.

Jeff Taylor, 933 W. Latham, Phoenix, Arizona, writes to enthusiastically agree with me about the other-worldly appearance of some of the landscape in his part of the country, and to mention that he publishes a fanzine, THE PHOENIX, "something new in fanzines." 10c per copy. This is a nice little fanzine.

If Jeff and John S. Davis, 931 E. Navajo Rd., Tucson, Ariz., aren't acquainted they should be. John dropped me a line after reading in this column I might be in Tucson. At this writing it seems more probable Mari and I will be near San Francisco this winter, but you may be sure we'll drop in to see you, John, if we go to Tucson again.

Mike Tealby, editor of WONDER, wrote to ask me if he could reprint something I had in the last issue of Spacewarp. So I want to say here that anything of mine that has appeared in any fanzine can be reprinted by any fan in his zine without asking my permission. My fan articles have been different from my pro writing. They're short, and perhaps some of them are my best writing. At any rate, I can do that sort of thing only when I'm in the right mood for it. So if you're a fan editor and want to put something of mine in your zine, you'll have to be content with reprinting something unless you catch me in person, and in the right spirit of levity. I might as well review Mike's zine while I have it in front of me.

WONDER: USA fans may get this by sending one copy of any prozine for a 3 issue sub.; Mike Tealby, 8 Burfield Ave., Loughbodough, Letcs., England. Assistant editor Kon Deacon. There was a delay in this issue (vol. 3, no. 1), because Mike was ill.

Cedric Walker authors part 2 of his serial, "Happy Holiday", in which Frank Makin and his wife are taking a holiday exploring the dead cities of Mars, which takes the theme of a story of mine, "The Old Martians" appearing in the first issue of a new prozine. Mike himself authors an article on Spaceships and Smokescreens. And John Allen discusses one of the extraordinary things that have been happening in England lately. This time it's a vibrating hum whose source can't be located.

WONDER is a wonderful little fanzine. You'll like it, and you can get it for just the cost of mailing this copy of AMAZING to Mike when you've finished reading it. Three issues of WONDER. Plus the knowledge that some British fan will get it who wouldn't otherwise....

COSMAG STF DIGEST: vol. 2, no. 1;

25c; Ian T. Macauley, 57 East Park Lane, Atlanta, Georgia. This Readers Digest of fandom is getting to be really something! It's gone into the reduced size that has proven so popular to fans. Photo offset, which means a full size page is photographed and reduced to four by six inches.

The contents is entirely reprint and is the best of fan stuff in all fanzines over the past year, so that you fans who would like to see some really good fan writing can get it. In addition the zine has combined with Cosmag. Last issue was called just plain Science Fiction Digest, if you remember.

In the reprints they have in this issue, "Planet of the Chase", by Peter Ridley, "Why Artists Go But Grey", by Hannes Bok, "The Poet", by Lin Carter, and "Slant Tells All," by Walter Willis, which is one of the most terrific "exposures" I've ever read.

You really should get this particular issue, so be sure and ask for vol. 2, no. 1 when you send for it.

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NEW SCOPE: 5c; Lawrence Ray Campbell, 43 Tremont St., Malden 48, Mass. This newszine is climbing up fast at present and it looks like it will climb to the top of the heap.

Most important in this issue is probably the announcement by Rick Sneary that Young Fandom will be revived. That was a club devoted to the interest of teen-age fans all over the country. If you are interested in it write to Rick Sneary, and be sure and include a self-addressed and stamped envelope. How would you like to get a hundred letters that demanded answers plus outlay of postage? Rick's address is 2962 Santa Ana St., Southgate, Calif. Mari and I were at Rick's one evening not long ago. I beat him at chess wih his own chessmen, and then Con Pederson beat me, but it was no triumph because he could have beaten me with one move for the last twenty moves and didn't see it. Of course neither did I until he made the move. Then Rick beat Mari and Stan Woolston at monopoly.

I could give you a quick resume of the news in NEWSCOPE, but then you wouldn't need to buy the mag to get it, so you'll have to send for the latest issue to find out what's going on.

\* \* 2

FANVARIETY: 10c; Max Keasler, 420 S. 11th, Poplar Bluff, Mo. A letter from Max says that on reflection he realizes that that issue I was forced to complain about not long ago was in bad taste. And the current issue shows that Max and his friends can and do put out a top-quality fanzine. It would be better for all fans to remember that their publication is for the public, no matter how private they think it. But everyone can make a mistake, and if we condemned him forever because of it we would all be condemned forever.

This is one of those fanzines that has real fan art. Bems and stuff. And plenty of fiction and articles and fan humor. The contents page lists such names as David English, Harry Warner Jr., R. J. Banks. Don J. Nardizzi does a nice short story, "It can Happen!"

If you're new to fandom and would like to see a definitely representative fanzine, this is it.

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FANTASY ADVERTISER: 20c: a bimonthly stf review, 1745 Kenneth Road, Glendale 1, Calif. A photo-offset zine, which means perfect reproduction of words and illustrations. The cover picture is "New Horizons" by Morris Scott Dollens. In black and white, it would make a good cover for Amazing if it were in color. There is an article inside by Dollens, "Evolution of STF Art" with more reproductions to back his assertion that stf is as important as stf literature, and I agree with him. So did Hugo Gernsback and so do the publishers of Amazing and Fantasticwhich is one of the reasons why these zines maintain their position as top zines in the field.

As the name implies, Fantasy Advertiser devotes itself largely to advertisements. There is a large assortment. Almost anything in the way of back-issue magazines, out-of-print fantasy books, and even whole collections can be found advertised for sale or trade. And if you have any type of stf or fantasy you want to get rid of, placing an ad will ensure a market for it, because FA has a large circulation, growing all the time.

Arthur J. Cox and Leiland Sapiro are perparing a history of science fiction. One chapter of it appears in this issue of FA. This is somewhat along the line of what I was discussing at the beginning of the CLUB HOUSE, though treated in a more impersonal manner by two good critics.

One of the major departments of the zine is its book reviews, which are farmed out to several people who really read the book and take pains to write a comprehensive review. This is what you would probably call an adult fanzine. Actually it is aimed more at the general reading public than at just stf fans.

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FANTASY-TIMES: 10c; James V. Taurasi, 137-03 32nd Ave., Flushing 54, New York. A newszin $\mathcal{E}$ , brought out twice a month, with coverage of all the major publishers by personal contact, so that its subscribers can know what is going to happen before it happens.

This issue announces the forthcoming appearance of a new science-fiction magazine that is, to say the least, mysterious. I myself have a story in the first issue and I don't know the name of the zine or who publishes it! Its editor is Paul Fairman, who has written top stf stories.

Besides news on the prozines before it happens, F-T keeps you informed on movies and radio-tv events of interest to stf fans. Want to know what stories have been bought by Hollywood? Want to know what books are coming out? Then send for FANTASY-TIMES.

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FAN-VET: "devoted to the interests of the fantasy fan in the U.S. armed forces," and sent free to them. Not sent to anyone else. James V. Taurasi, 137-03 32nd Ave., Flushing 54, N.Y.. Assisted by Ray Van Houten. This group, besides publishing this one-page zine for veterans, sends them bundles of magazines at the front in Korea or wherever they are. It's performing a worth-while service. And it's being done only by donations from those interested in keeping the work going. If you're interested in it, write to Taurasi. If you're at the front when you read this, and would like some magazines, drop him a card and make known your wants.

SLUDGE: price, a U.S. stf promag or two shillings; Bob Foster, 2 Spring Gardens, Southwick, Brighton, Sussex. Which is in England, making this another British fanzine. This is a printed fanzine. I've seen that done. Typeset by hand and printed on one of those machines that tries to grab your hand and crush it each time you put in a fresh sheet of paper. Stan Woolston has one. I've seen it work. It makes as good a printing job as you can get on a prozine, though, so it's worth the trouble.

The summer issue is number 2 for Bob. It has 26 pages, with the lead story by Thennek Thims, a name that by some strange coincidence might be Kenneth Smith which is probably a pen name for Thaddeaux Inkhblotteur or somebody. No? The more common name Alan Hunter authors the best story in the issue, "The Door", which it's a good thing Howard Browne didn't see first or Alan would have gotten some money for his work. It's terrific.

A letter came with the zine. Bob says in the letter that he has read stf for 23 years, but it wasn't until he was in the *Amazing Stories* and saw a review of OPERATION FANTAST, Ken Slater's fanzine, and wrote Ken that he got started in fan doings, and now he has his own fanzine. That's the kind of thing I like most, to hear from someone who has found out how much fun fandom can be by reading the CLUB HOUSE. It makes me "glad all over" as little Annie Rooney says.

. Bob says he's a bricklayer by trade, and jots his editorials for his zines on the bricks he lays. He's working on a new power station that will take, 16,000,000 bricks. He hasn't covered them all yet.

A really nice zine. Bob's done a good job. All you have to do to get it is send him this magazine when you finish it.

ABORTIONS: 10c; Ken Kreuger, 11 Pearl Place, Buffalo 2, New York. Regalength paper, mimeographed, 20 pages. Quite a bit of fan artwork with a cover by Neil Graham. A couple of short stories by Raymond Clancey should promise good reading. Ken's got hold of a typewriter that types italics, and has had some fun making part of the zine italicized.

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CANADIAN FANDOM: no price listed, and this issue has a limited printing of 104 copies, but if you'd like to get one make your desire known and maybe they'll reprint it. The Derelicts, 1398 Mount Pleasant Road, Toronto 12, Ontario.

This issue contains one outstanding thing, "Cinventionally Yours", which is a collection of impressions of the convention held at Cincinnati in 1949. One page is by me. I was asked to write it there, and often wondered what became of it. Now it has come out. There are dozens more, written by those who were at the convention, along with reproductions of their autographs.

If you live in Canada and are interested in contacting Canadian fans, write the Derelicts. I understand there are quite a few actifans in Canada.

OPERATION FANTAST HAND-BOOK: 75c; Miss Mavis Pickles, 41 Compton St., Dudley Hill, Bradford, Yorks., England. This is a monumental undertaking, begun by Ken Slater, and intended to contain the address of every fan all over the world, and a lot of pertinent data that fans will need about people and addresses. Book sellers, for example. It's going to come out again in a revised form and brought up to date, but it will take the help of a lot of people, including you if you are an actifan. They want paid ads in it too so that the cost can be kept down.

"Preparation of the 1952 Handbook will commence in December, and if you are interested in obtaining advertising space please drop us a card now. If you wish to ensure correct entry in the Directory, which will be free of charge, please send us details in December. We will do our best to include all data of interest to science-fantasy enthusiasts, but without full information it is possible YOU will be overlooked."

That's all the fanzines for this time. The reason there aren't more is that Mari and I took a jaunt from California to Chicago, and some of them haven't caught up with us. Right now we are at Amherst, Wisconsin, saying hello to Ray Palmer and Dick Shaver, having come up from saying hello to Bill Hamling, Earl Korshak, Bea Mahaffey, and L.E. Shaffer who was in Chicago on vacation. Tomorrow we leave for the west again, hoping to escape before ol' man winter traps us.

By next month we should be settled for the winter in some nice mild climate spot, maybe not far from San Francisco. But all correspondence should be sent c/o the CLUB HOUSE, Ziff-Davis, and it will be forwarded to us promptly wherever we are.

-Rog Phillips



NEW YORK might have had many a monument to the Second World War in the form of smashed and shattered buildings if the German rocket scientists had been able to tame a certain chemical. But because they could not tame it New York has no war scars

The chemical the Germans were trying to conquer is a familiar one, one with a biting, pungent smell which is detectible wherever there has been an electrical discharge, particularly around D.C. electric motors and lightning discharges. The chemical is that close relative of oxygen known as ozone. Ozone, Oh-three in the chemists' shorthand, is in many respects identical with ordinary oxygen. It is however, much more active—and that's saying something, because ordinary oxygen—Oh-two—is no slouch when it comes to activity, either.

Scientists have taken an especial interest in ozone because it promises great things as a rocket fuel, packing much more energy in a concentrated package than ordinary oxygen. Liquid ozone is a future rocket fuel and liquid oxygen is baby stuff compared with it.

Ozone, especially in the liquid form, has an annoying characteristic, however. It blows up. Just like that. It blows up without provocation and under strange circumstances. For a long time scientists didn't know why—the Germans never did find out —but at last the answer has been found. It must be absolutely pure. The slightest contaminant in the form of dirt, organic matter, or the like, sets it off with a terrific bang.

Ordinary oxygen can be made into ozone by bombarding it with a stream of highspeed electrons. This method produces ozone of absolute purity, safe to handle and perfect for rocket fuel. Right now plans are under way to produce it in quantity, and it will make itself felt by the effect it has on rocket development. You may be sure that the next altitude records will be broken by ozone-fueled rockets!

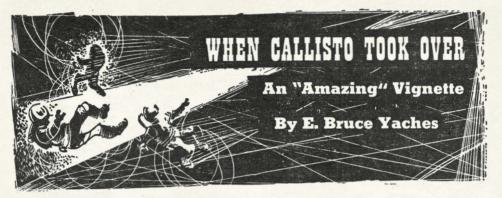
S WHERE YOU 2 By Omar Booth 2

NATURAL GAS, an almost inexhaustible resource, is piped all over the country through steel pipelines as easily as it's piped from one house to another. But the demand for natural gas fluctuates. In winter cities need lots of it. In summer very little is used. The thousand-mile pipelines from Texas and the Southwest simply aren't big enough to convey all the gas that's needed during the long cold Northern winters. Has that stopped the use of natural gas?

No, the "planetary engineers" have already conquered that one. They make use of Mother Earth herself as a storage plant. The gas is pumped in vast quantities into wells in the Earth at the points where it is to be used. Beneath the ground, hundreds and thousands of feet down, there are natural domes and cavities in which millions of cubic feet of gas are taken from a hole in the ground in Texas and shoved back into a hole in the ground in Chicago or New, York. If this isn't planetary engineering, what is?

Then, during the winter, the stored gas can be withdrawn from the ground when the demand is high and the pipelines can't keep up with it. Through pipelines and underground storage facilities of the natural kind, natural resources like gas (and even oil) can be shuttled around the country as though it were a small room.

If some means of storing electricity could be found, this country would effectively double its power-producing capacities. If electricity could be stored like gas or oil, then the generators could work at peak at all times instead of being forced to respond only to the given load. That miracle is a long way off, but when engineers can actually engage in planetary engineering, nothing at all should be considered impossible!



'M NOT so young that I can pass the rocket pilots' physical, nor am I so old that I can't appreciate a pretty pair of legs or enjoy the savor of a good wine, but more and more I find myself reflecting on the way we Terrans, as a whole, are accepting our new role in the scheme of things. The young and the very young will grow up to it, I suppose, but there'll be a shell of old-timers who can't, won't, understand. Even the dreadful memory of the Punitive Wars ("wars?" -I laugh when I use the word) hasn't fully impressed them. But, as stubborn as I was-and I fought in those affairs-I've come to realize that Terrans are a bad second in the Solar System and that's the way it is, and there's nothing we can do about it.

I wasn't on the first Callistan Expedition that uncovered the fact, but I've spoken with men who were. Try to picture them, cocky, arrogant and filled with the devil's own confidence. Hadn't they conquered the Inner Planets, hadn't they put the civilization of Man on Mars, hadn't they even sent ships to Pluto? The Atomic-Drive gave us limitless power and that made us the king-pins of the universe.

That was all before the Callistans....

The Callistan Expedition was supposed to be strictly routine. It was to have been a case of conventional exploration of the satellite, the establishment of a planetographic station and a pulse-beacon for astrogation, a classification of the usual "inferior" life-forms, and that's all. Who was to suspect that the Callistans existed! After all, nowhere in the Solar System had life of any degree higher than class three been found—and humans were class one!

The Expedition ship—I think it was called the "Magellan"—put down on Callisto—right smack down on an endless plane of metal! The crew was taken from the ship by what we now know as planes and beams and cones of forces whose very nature we can't fathom, examined by the humanoid Callistans, and returned to the ship—three were killed in the process and the vessel was hurled with fantastic effortlessness back into space. We know the mental reaction of the Callistans; after all, we had had the same attitude our-

selves— "What are these inferior creatures doing? Why do they annoy us?"

Unfortunately Commander Purcell must have been a very stupid man. When he hurled three atomics against what looked like a Callistan city, he took the first step, really, in destroying a quarter of the Earth—the Punitive Wars. The Callistans vaporized his vessel from the void, and pulsed an incredibly powerful warning right across the enormous traverses of space to Terran receptor facilities. "Do not ever again interfere with Callisto" was the gist of the message. Proud Terrans of course couldn't permit

Proud Terrans of course couldn't permit that and so we were sent to punish the Callistans. What irony, what absurdity! I was with the fleet. I saw its destruction by forces and means entirely beyond my ken—and I am a first-rate physicist, as you know. All that saved our vessel was distance and prompt and abrupt speed in departing the vicinity.

Many of us remember the horror of the Callistans' answer to this invasion of their Solar privacy. They destroyed a dozen of the major cities on Earth with some device akin to a hydrogen bomb, but of infinitely greater potency.

And that's where we stand now. For-tunately the idiotic "war party" has died out and men are accepting their lesser role in the Solar System—actually un-changed, since no further contact at all has been made with the Callistans-and our ships still ply the interplanetary ways. But no man can ever get out of his mind the unquestioned knowledge that he is second rate in the scheme of things. Our System is inhabited by the Callistans, who shun intercourse of any kind with us and who would probably prefer to traffic with pieces of rock just as soon as with thinking human beings! I know Man will rise above his bitterness and continue to progress. The psychologists report no significant changes in human drive or ability, but the blow to pride has been severe. And what a challenge it is to think of what goes on behind the metal-walled planet, the Jovian satellite housing the masters of the universe, the isolating Callistans! Will men ever be able to penetrate it?



SPACE MEDICINE, edited by John P. Marbarger, University of Illinois Press (\$3.00).

Subtitled "The human factor in flights beyond the Earth", this trim little volume is actually the beautifully printed result of a symposium held under U. of Ill. auspices in Chicago on March 3, 1950. As such it represents a singularly important milestone to all science-fiction folk, be they writers, editors, fans or mere readers. It means that leaders in the so-called ivied and cloistered halls of higher learning in this country are beginning not only to take the possibility of space-flight seriously but to consider it imminent.

Each of the six speeches included in the volume is magnificently and lucidly illustrated with diagrams, drawings or photographs as demanded by its subject matter and the whole volume bears the university press stamp of craftsmanship that large professional publishers can seldom afford to give us.

Following a brief foreword by Physiology Professor Andrew C. Ivy, Vice-President in Charge of Chicago Professional Colleges at the University of Illinois, which sponsored the symposium, Major General Harry G. Armstrong, Surgeon General for the U.S. Air Force, informs us that the USAF School of Aviation Medicine actually has a department studying the problems of space medicine.

Wernher von Braun, one of the German experts we "took ove: ' after World War Two and a V-2 pioneer, discusses the future of multistage rockets and artificial satellites at considerable length and interest. Hubertus Strughold, a bossman in General Armstrong's Department of Space Medicine, then gives us a preview of what life under Extraterrestrial conditions may mean to us; Heinz Haber of the same institution connects human reactions with conditions imposed astrophysically; Medical Corps Colonel Paul A. Campbell considers the problems of keeping one's balance without the aid of gravity; and Konrad Buettner, again of the Department of Space Medicine at Randolph Field, digs into the effect of what he calls bioclimatology ("the science of the effects of extraordinary climates on man") to manned rocket flight, a subject that involves radiation problems as well as the still-unsolved enigma of building a true rocket that can be safely run by a human crew.

All in all an extraordinarily interesting little volume, one which should on its many merits be widely read in science fiction as well as medical and USAF circles. The U. of Ill. Press, by the way, is located at Urbana, Illinois.

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THE PUPPET MASTERS by Robert

A. Heinlein, Doubleday, New York (\$2.75).

New novels by this master of the stf field have been increasingly sparse since his adoption first by the slick magazines, then by Hollywood. Outside of last year's novella, *The Man Who Stole the Moon*, which provided the title for a collection of his shorter efforts, and an occasional hard-cover reprint of some of his older novels, we have had little new Heinlein to enjoy of late.

In The Puppet Masters Mr. Heinlein has come up with a straightforward invasion-of-Earth thriller on the lines of a number of Murray Leinster classics and has done it superbly well. His invaders, from Titan, a moon of Saturn, arrive in flying saucers and are slug-like little objects with a telepathic group mind among their own kind. Once one of them has established itself with a slave by burrowing into the back and brain of a human being, it is almost impossible to dislodge or kill it without destroying its human helot as well.

A special secret service department of the government, run by a Chesterfieldian (G.K., not Lord) Old Man, at times also reminiscent of Carter Dickson's Sir Henry Merivale, first gets onto the threat following the first reported landing near Des Moines, then proceeds to have the devil's own time convincing the authorities that anything is wrong. It seems the little devils from Titan are extremely hard to detect, thanks largely to their telepathic control.

This obtuseness on the part of officialdom, plus a certain orthodoxy in the swashbuckling hero, who turns out to be the Old Man's son, and a like Hollywood-type routineness of equally swashbuckling heroine, seemed to us the only drawbacks in an otherwise thoroughly exciting hunk of story telling.

However, the book is a lot of fun all the way.

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FOUNDATION by Isaac Asimov, Gnome Press, New York (\$2.75).

This, Isaac Asimov's fifth volume, is to us his best thus far, even though it is actually a series of loosely connected tales, most of which appeared a number of years ago in magazine form. It endeavors to follow the growth of human civilization through the stars through critical tales of critically important persons at critical moments in human galactic history. And for us it succeeds.

The first tale gives us a dramatic prediction of the fall of galactic empire through a group known as Psychohistorians, who specialize in scientific prophecy under the leadership of one Hari Seldon. He succeeds by a ruse in planting on a planet at the rim of the universe a group who will be able, ofttimes against their will, to shorten a forthcoming "time of troubles" to a mere 1,000 years.

The remaining stories and novelets in the volume narrate how well Seldon's prophecies worked out in time long yet to come. This is Asimov very close to his best.

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BULLARD OF THE SPACE PA-TROL by Malcolm Jameson, World Publishing, Cleveland & New York (\$2.50).

This book, straight space-stuff, escapes the space-opera stigma through a set of well-above-average characterizations and a general feeling of caretaking that is unusual in tales of this type. Then too, Mr. Jameson is (or rather was, alas, for he passed away several years ago) one of those minor plotting geniuses who can create an intricate story line, yet tell it with such simple directness that it leaves the reader happily unaware of its being plotted at all. The best analogy we can think of is Charley Gehringer or the late Hal Chase, two big-league infielders who could make the most difficult plays look so easy they left the spectators yawning. Mr. Bullard and Mr. Jameson, however, forestall any reader yarns with plenty of suspense and action, well integrated and highly credible all the way.

The stories begin with Bullard as an idealistically aggressive young space-

ship lieutenant, fresh from an interplanetary tramp ship, and carry him through to an exalted desk job so important that in time of war he has to move through the most circuitous channels to see that justice is done to sons of his old shipmates. About all we can do further is to suggest you get Bullard and read it. It will not solve the problems of human society but it will give you two or three of the pleasantest hours you are apt to find in science fiction in any given long time. Furthermore, the stories for the most part display a pseudo-scientific ingenuity reminiscent of George O. Smith.

THE END



EVEN THOUGH no one's been to the Moon-yet-the plans for establishing living quarters are pretty well advanced. One British journal went so far as to describe in detail the interior furnishings of the "pilots' lounge room"! That's going perhaps a bit too far, but serious technicians established the basic ideas around which structures will be built when Man finally plants his foot on the cold satellite.

Dismiss from your mind the familiar s-fist's idea of the "lunar dome." That's simply a fiction for which no known material can be used—and it's unlikely that any such material will be discovered for a long time to come. Glass is too heavy and fragile plastic materials are simply too fragile. Besides, why the dome? Men will go down into "Lunearth", not up!

Covering the face of the Moon is probably a fairly thin layer of punice dust, a poorly conducting material, reduced to powder from countless ages of expansion and contraction beneath the fierce heat of the Sun and the merciless cold of vacuity. But this dust lies over Lunar rock, itself probably pumice, and a substance into which men can tunnel easily.

We can visualize the second and third colonizing expeditions to the Moon. When they land it will be with adequate<sup>\*</sup> tools and apparatus with which to bore into soft rock. That offers no problem whatsoever. Even if it turned out that the Moon were made of solid granite, we'd still be able to penetrate it with ease. Naturally there are problems. The "construction" men

would be working under one-sixth gravity —a terrific advantage here, but they would be working *in vacuo* and under conditions requiring that their suits be heated. Still this could be done without much trouble. Think of the tremendously more difficult operations which have been conducted on Earth, undersea operations.

Galleries and tunnels would be bored into the Lunar rock. They would be baffled and partitioned and airlocked so that there would be no chance of all the installations' being ruined should a fault occur to release the air later put into them. If necessary they would be painted or lined with materials to block their porosity although probably the rock they're made of won't be porous. Because they are such well-insulated chambers heating facilities would be at a minimum, and of course the air supply would be taken care of through hydroponic installations. As time went on and men expanded their operations, the galleries would extend themselves into a vast honeycomb of chambers, a full city beneath the surface of the Moon.

Here and there structures would protrude above the surface. They would be entry and exit locks, astronomical observing domes, etc. The architectural style, of course, would be governed solely by expediency. Fuctionalism would be the keyword, and it would be a mighty long time before anyone suggested "Colonial" or "Victorian" styling for their quaintness! The City on the Moon would use Lunar architectural styling—simplicity itself!



WIND TUNNELS for testing aircraft, guided missiles and rockets are a dime a dozen nowadays. Usually they're vast chambers into which models or the full-sized things are placed and then subjected to high-speed blasts of air from fans or compressors perfectly simulating highspeed flight through air.

Naturally in rocket worl: you don't hear of a "wind tunnel" for space or vacuum! A rocket operating in space, no matter at what speed, is unconcerned with aerodynamic cleanness of line. A rocket shaped like a warped brick would fly the void just as effectively as a stream-lined projectile.

But there is an intermediate region in which missiles and rockets will fly. This region is a high near-vacuum existing in the range of from twenty-five to three hundred miles or so above the Earth's surface. Below that you have regular-butthinning air and above that you have the almost perfect vacuum of space.

To test missiles and rockets in this region and to discover the behavior of aerodynamic surfaces at high speeds in these near-vacuums, a wind-tunnel of sorts has been built. Actually it is what a physicist would call a molecular beam tube. It duplicates space at the level mentioned, and conditions in that space are peculiar. Because it is almost a vacuum, the air is extremely rarefied and consequently the molecules travel large distances between collisions. Their mean free path is great.

To simulate this condition, an evacuated tube is used, one end of which contains a small furnace in which a gas may be heated. The heated gas emerges through minute slits into the vacuum chamber in the form of a beam of molecules at high velocity, depending upon the temperature used. The result is a rapidly travelling stream of, say, nitrogen molecules, rushing through the chamber and impinging upon the aerodynamic surface to be tested. Instruments give an exact picture of what is occurring.

Future transoceanic rockets and jet aircraft will be particularly interested in data acquired from these tests because they concern the high-altitude regions of the atmosphere through which such vehicles will travel. Skin-friction effects will be accurately measured, and this is important because already technicians find difficulty in keeping the passengers of high-speed jets cool! While the molecular chamber is a far cry from the conventional wind tunnel, its main purpose isn't so radically different at that!



ONE OF the most important applications of "robotics" occurs in the field of fire protection. Lying quiescent for months or years or even decades, firedetecting mechanisms are true robots, designed faithfully, if silently, to serve their human masters. In fact, it is in fire-fighting and sensing mechanisms that robotics has got one of its biggest boosts, because such apparatus must duplicate human or almost human sensitivity to the symptoms of fire. Humans sense fire by feel (warmth against the skin, etc.), by sight (obvious flame and smoke) and by smell (burned gases, and the like). So do the robots!

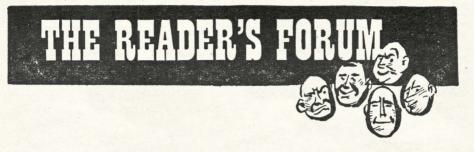
The heat-sensing faculty is the one most easily duplicated in a robot designed to guard against fire—thermostat may expand under the heat or a fusible plug melt and thus set off alarms. Probably these are the commonest of fire-detecting gadgets and, because of their innate simplicity, they are the most widely used.

The sight-sensing robots are of course variants of the photo-electric cell, capable of clearly imitating human sight. Darkening smoke or particles of dust or bright flame may interfere or reinforce a beam of light and so cause the cell to react electrically. These protection gadgets, too, are used extensively.

Less well known, but coming into increasing use, are the "smellers". Those robots locate the presence of inflammable vapors or burnt gases by the use of a sensitive catalyst, usually platinum, which reacts with the gases or vapors and completes their combustion, causing a rise in temperature and a setting off of the attached alarm. The catalytic reaction which occurs is really quite close in behavior to the human mechanism of scent.

In all robots of this type reliability is the prime requisite. They may not surpass human beings in delicacy of sense, but for perpetual guardianship—without sleeping on the job—mechanical "feelers, seers, and smellers" have it all over their human counterparts!

Even a mechanical nose-knows!



WHO EDITS THE READER'S FORUM?

Dear Howard:

Or is Rog back again? If so, stick around, chum—we'll tilt a few windmills. If Browne's handling the Forum this time —Mr. Browne, I am mad atcha! I am angered. Mortified. Here, you get Wilcox back..and you hook him for only a measly little 25,000 words! Why? I remember Don's stories really wound up and cut loose at their best when he had plenty of room to swing in! Okay, so just give us a bad Wilcox—but give us a Wilcox!

L/CPL Bran McMahon says the readers are more interested in the illustrations than the stories—and a British Sergeant is over there chewing out the editor; it's Lance Corporal, sir, not Corporal! There's a difference, y'know—so we will discuss illustrations. Ed Valigursky made me sit. up with interest. His illo for "The Hatchetman" was reminiscent of a good Krupa. Give him a load of assignments, will you? I'm interested in seeing what the lad has.

But that Finlay for Rog's yarn was, in my opinion—which may not be too far wrong—possibly the best piece of stf artwork that's appeared in the last 10 years. If Rog doesn't have the original, see that he gets it—he'll probably find himself in possession of a fifty-dollar collector's item. And to be the guy who wrote the story it illustrated...how can he be so lucky? All that, and Mari Wolf too—doggone it, I wish I were a superman.

Mrs. John R. Campbell, Jr., came forth with some of the very arguments I've used, though in a more leg-pulling sense, in other columns. Somehow, though, I can't work up a lather over whether stf mags should or should not have sexy covers. Personally, I've seen some stf mags I wouldn't have bought, except that I liked the unclad babe on the cover—and there is them against sexy covers who've been claiming there's no such animal who could still read stf. I read it. Might even say I write it, only I'm too lazy to argue.

But I'll take Alton Maddox's suggestion—"a companion mag reprinting some of the book-length novels of the past" a step further: how about a companion mag to feature some of the book-length novels we authors would like to write?

Now, where's Rog Phillips-come out,

come out, wherever you are! Rog, old woodwork, what's the idea in The Clubhouse, saying life retreats from areas of the Earth where conditions are tough—without clarifying it? Recent surveys have brought out ample proof that there's more life swarming around on, and under, the Arctic ice-cap than there is in the New York metropolitan area and Los Angeles County besides! And it seems mostly because Man hadn't stuck his inquisitive nose very far into the Aretic 'til just recently.

Also, that's in spite of the fact reported by Fish & Wildlife that there are more deer in New York State this season than there were when the Indians had it! How? Why? Lop-sided conservation—and a fool Game Law which allows hunters to shoot only bucks, not does. There aren't sufficient predators, i.e., wolves. Naturally, a wolf would rather chew on a nice fat cow or sheep than bother to run down a deer-so the wolves just had to go. And now the doe-herds are so big, they're eating themselves (and sheep and cattle) out of grazing range. The answer? Either quick death from a high-powered bullet until their numbers are cut down enough so there's grazing land for all, or just sit still and let 'em starve slowly to death by the thousands.

Farming traditions of centuries will cause cries of anguish, but it'll be a relief when we can produce all our food in tubes and tanks, and turn the countryside '.~k over to the Old Lady who knows hore about running it than we do. And give or take a couple million years, maybe Man will still be here, living in cities that float in the sky, with gaze turned upward where ships roam among the stars—while on the ground, a big, tough grizzly bear will sit before a cave with a stone axe across his knee, feeding kindling to a blazing fire....

Don't underestimate life, fella. A century from now, spaceships will rise from the Earth on antigravity devices! Yours,

Joe Gibson 24 Kensington Avenue Jersey City 4, New Jersey

We're still trying to find out how Rog Phillips got his big fat name at the top of the "Reader's Forum" in the December issue. The printer swears it wasn't there when the book went to press, we know perfectly well it wasn't on the makeup that went out of this office, and our proofreader is going to resign the next time we accuse her of letting such an error get past her blue pencil. One thing we do know: as long as Rog sticks to writing science fiction and fantasy-fine; but when he starts using such principles to mess up our magazines.... Well, a word to the wise is worth two in the bush. Or something. -Ed.

### STRANGER IN TOWN

Dear Mr. Browne:

At first I must confess: the first good influence I received of your magazine it was the cover. That picture, many-coloured and attractive, excited my imagination.

I am a student, I know little the Eng-lish language, but yet I bought one exem-plar of AMAZING STORIES and put me to translate it. The job it was very tiresome but compensative, for its stories they were very good.

Science-fiction is my dear kind friend and I met it in your review! I cannot refrain my admiration and I write for you. The wonderful Bill Scott's adventures in "Paradise of Derelict Sea" were formidable. I am then a fan of AMAZING STORIES.

A question: Where AMAZING STORIES

are sold in Brasil, chiefly in Porto Alegre? I proffer this letter for to offer my friendship for American girls and boys-fifteen to eighteen years of age. That what to desire to keep up a correspondence with me about several matters, as country, literature, music, moving pictures, school-life, etc. Write me! I am seventeen years old.

Thank you for your attention. Athos Eichler Cardoso Rua Cel. Bordini, 179 Porto Alegre-R.G. do Sul, Brasil

We recommend Reader Cardoso to those of our readers who would like to receive interesting letters from away south of the border. Certainly none can complain that his writing style lacks color! —Ed.

### ST. LOUIS FANS PLEASE NOTE

### Dear Editor:

I am a very new SF fan but a very rabid one. Since I am the only regular purchaser of the magazines at the local stand, it has been quite difficult to find anyone else with the same interests. To be truthful I have had no success at all.

Would it be possible, for I am anxious to find an organization or person with whom I can exchange views, information, and magazines, to give me the address of either of the above located here in St. Louis?

W. K. Prow 4387 West Pine Blvd. St. Louis 8, Missouri

### NEW METHOD OF GETTING LETTERS!

Dear HB:

Just finished reading AS for September. Quite good!! "A World He Never Made" was teriff!

I was thinking the other day that AS must get plenty of letters from fans which are not printed and just thrown in the waste-paper basket. I have a club that would like to read some letters from the fans to AS and would be willing to pay the postage. Could you send us a couple of dozen? We really would appreciate it. I know editors have plenty of work to do, but it wouldn't hurt to use up 5 minutes of grabbing up some letters and wrapping them. Please address them to me, your loyal fan,

William St. John **5** Ayers Place Oceanside, New York

Sorry, Bill, but we don't have the right to pass on to you letters written directly to us. The contents of a letter, we under-stand, remain the property of its writer and cannot be made public without his permission, express or implied. Letters sent to the Reader's Forum can be printed there by us, but in no other medium without the consent of the authors. -Ed.

### YOUR VOTE IS COUNTED

Dear Editor:

I want to cast my vote for long stories, book-length novels. I am sick and tired of all the short stories printed in AS and FA during the last few months.

Say, why don't you start a companion mag, and reprint some of the old Amazing stories, the book-length ones. Say, "After 10,000 Years", printed in Amazing 1929. I would like to place my cry for some back issues of Amazing Stories. Maybe

some good readers have some cheap. Please try to print this letter for me.

> Alton Maddox Garner, Texas

We're afraid the kind of magazine you describe would have a limited market. Science-fiction stories of twenty years ago are, with some exceptions, pretty wearisome reading. -Ed.

### ABOUT ARLINE

Dear Mr. Browne:

Great guns! Gobs of gab from gracious and gorgeous Gingold!

Your zine is one of the first mags I ever read when I picked up the ever-growing science-fiction trail. It has been a pleasant path, thanks to your mag.

I picked up my Oct. ish today and turned

(naturally) first to the *Reader's Forum*. Whang! What do I see? What else!? Arline ole keed so much space you get! You're getting paid mebbe?

Seriously, tho, I like your mag, and I agree with Arline about "We, the Machine". Great. I liked it much!

William Wesley Miller VR-1 N. A. S. Patuxent River, Maryland

While we're not paying Arline, she happens to be one of our favorite correspondents. There's a sort of breathless quality to what she has to say that endears her to us -Ed.

### CAPSULE COMMENT

Dear Sir:

The story "Cube Sinister" is very interesting (Oct. '51 AMAZING STORIES).

James E. Stokes, M-Sgt. U.S. Air Force 2607 Calhoun Street Bellevue, Nebraska

Yes.

### **PULLMAN OR ROOMETTE?**

Dear Sirs:

Heh!! To R. C. Johnson of Fort Wayne, Indiana, I say—"Shake, Pal!!!" What he (or she)' said about family and friends thinking he (or she) is a little crazy for Jiking stf, I can only sigh and sigh again cause I have the same trouble. All my neighbors, friends, and even FAMILY seem to think that anyone who is interested in Rockets, Planets and SF is to be pitied! Just the other day I was letting off steam about the latest White Sands Rocket and all of a sudden I realized my listener had that "Oh, you poor girl" look in her eye. I asked her if she didn't think we'd ever reach the moon and do you know what she said? She said if it was meant for us to get to the moon we'd have been born with the proper kind of bodies. NUTS!!! How can you argue with people like that? My only answer to her was "Just wait—you'll see".

And about being on that first rocket to Mars or anywhere—are you selling tickets vet?

> Mrs. C. M. Cooper Route 2 Cle Elum, Washington

There's a familiar ring to your listener's words, Mrs. Cooper.... Oh yes, the first mention of man's being able to get about in an airplane was met with the retort: "If the Lord had intended for us to fly, we'd have been born with wings!" —Ed.

### TRIPLE L SOUNDS OFF!

Dear Editor:

This has gone on long enough! It's time I spoke up.

Will someone (perhaps Reader Wyszkowski?) please tell me just *why* they insist on hard covers, fine paper, etc.? Why in the world anyone would want to collect and save past issues of *any* fiction magazine is beyond me.

I think that AS is the best mag on the market...but after reading it one time it goes into the trash can. I certainly wouldn't want to read the same stories over and over again.

As for the bashful, shy, timid souls who are afraid to expose AS's sexy (?) covers to their friends, I suggest a little psychoanalytical treatment. I also urge them to stay out of high-class art galleries.... They might suffer extreme shock.

Leonard Lee Lamascus 1515 West 101st Street Los Angeles 47, California

### ACCORDING TO COVINGTON

Dear Editor:

-Ed.

A long stf novel by Edwin James! Now I've seen everything! And the ghosty guy does right well out of his usual medium, too. Would put many of the old (and new) masters of "your type of story" to shame. I was a little worried about your sanity, or mine, or his, or somebody's there at first, when it looked as if the whole novel were going to be narrative, but it soon straightened up and flew right. Very right!

Hey, wait! I may have the wrong guy! I just remembered that the famed English horror story writer is Edwin James (I think). Doesn't Edwin Benson also write ghost and ghoulie stories? These blamed authors whom I used to read long ago, but haven't recently, have a way of popping up and confusing me terribly. But, even at the expense of being confused, let's have more of them. The stories are usually good. "A World He Never Made" was no ex-

"A World He Never Made" was no exception. It wasn't especially different, nor did it have any ultra-new gimmicks in it. I guess the intrigue of such great ancient civilizations or the fantasy and cosmic scale of the story aroused my interest or something. Anyway... Oh, well, I won't say it was good again.

The best story in the mag, however, was William McGivern's "Some Wolves Can't Kill". Animals with the intelligence and insight and the power of reasoning possessed by man have always fascinated me. Would like to see more stories of this nature.

Gene Hunter almost ruined the romance in his story by portraying the dame so well as unscrupulous wench at first. I knew that she was supposed to be a sympathetic character, but, at times, I didn't see how I was going to like her. Glad she turned out all right in the end, poor woman. Hunter just did pull her out of the gutter.

I don't like naked damsels on the cover either. But, after the fourteen-year deluge of them we had on another mag some time ago, I shouldn't think most of the readers would mind them so much. In comparison, they aren't so bad. We've won a great victory in helping to clean up these other mags. Let's wait a little longer before we run Amazing in the hole. But not too long.

If you do keep your promise, though, Mr. Browne, and give us variety, I for one won't grumble.

Thanks for increasing the size of the letter column.

Can't think of a way to end this letter, so 'bye.

Tom Covington, "T" Division Submarine, Administration Mare Island, California

We'll let you in on something: the reason Gene Hunter's story sold to us was in his handling of the "dame's" characterization. Few (make that "no") people are all "black" or all "white" but usually have a generous helping of both. An old and very familiar saying puts it this way: "There's so much bad in the best of us and so much good in the worst of us that it ill behooves any of us to speak ill of the rest of us." Or—"Watch your language, Mac; that's a lady you're talkin' to!" —Ed. -Ed.

WANT TO BREAK IN TO PICTURES?

Sirs:

I have been trying to locate an old-time\_dime novel titled "Automobile Lillian, the Daring Girl Bandit of Arizona", which was published by the now folded Royal Publishing Company of South Norwalk, Connecticut, about 1908, and thus far I have exhausted all the usual book sources with no apparent success.

However, it did occur to me that perhaps some of your very special readers might offer a clue or two which could lead to this most elusive of all source books on our American cowgirl and her unique regalia which has since become standard female apparel for western wear. I do hope so.

Thank you and good success always.

Chet L. Swital, RKO-Pathe 415 North Beverly Drive Beverly Hills, California

### APOLOGY FROM MALAYA

Dear Editor:

It is a very long time since I wrote to you and I am now taking this opportunity, through the medium of the Amazing Stories magazine to thank you as well as the various friends and stf magazine donors who so kindly responded to my letter in . the Fantastic Adventures of June 1949.

I have not replied to many of the letters. I hope they will pardon me for the ill-mannered silence.

Reason for my not acknowledging re-ceipt of letters and magazines was due to the Kelantan flood of December 1950 which washed away most of my belongings; at this time of the year too I was in Singapore and as such nothing much could

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be salvaged. As a result most of the letters and magazines were washed away.

I hope that my friends will understand and will write to me as soon as they read this letter.

As a footnote may I add that stf magazines are still welcomed-they helping to while away my dull hours. Yours faithfully,

T. Retnaraja, c/o S. k. t. Raja Surveys., Kota Bharu, Kelantan Malaya

If a better alibi for not writing letters to your friends comes along, we'd like to hear it! \_\_\_\_\_\_Ed -Ed.

### MY WORD!

Dear Mr. Browne:

I have been reading AS and other s-f mags for quite a number of years, and I am sorry to say that I have to agree with Michael Skinner about the quality of the stories going down. I haven't read a really GOOD story in quite a number of months. Masterpieces like "The Brain", which appeared in AS some years ago, just don't appear to be around any more. Could it be that quality is being sacrificed to quantity? If so, I would prefer seeing better, and fewer, stories.

I do not think that the October issue was up to par. "The Perfect Hideout" and "Old Spacemen Never Die" both used wornout, hackneyed plots. I think science fiction can do without blood-and-thunder pirate stories which, in addition to being immature, are low in science and high in fiction. "Death's Derelict" and "Cube Sinister" were good. The former had a new twist to it. "Forty Days Has September" I rate as only fair. The old "one man saving Earth in the nick of time" plot is a bit too fantastic to be really credible.

As far as covers go, I think they should be subdued and conservative. Lurid, sexy, and Buck Rogerish covers definitely de-tract from the dignity of the magazine and help keep away potential science-fiction fans. Such covers would only attract the comic-book and sex-magazine type of

# **RAT RACE**

A STRONOMERS have been able to make a large-scale generalization about the speed of stars and their age, a fact which is causing considerable puzzlement. Roughly speaking, stars can be classed into two broad types: the very bright stars, believed to be quite young in the evolutionary process, and the dark and invisible stars, known to be old as evolution itself. These two classifications have another property. Invariably the bright stars are moving through space at high velocities hundreds and hundreds of miles

mind, who would probably not enjoy or appreciate good sf.

If this letter is published, I am probably letting myself in for some sharp attacks from the fans, but nevertheless the above is my frank and true opinions which I wanted to get off my chest.

Walter Rosenbaum 2335 - 85th Street Brooklyn 14, New York

Wanta talk it over with our friend here, fans? In a nice gentlemanly way, of course. (Put down that rock, Joe!) Mr. Rosenbaum is obviously sincere, although just as obviously— (No, Joe! You could go to the chair for a thing like that!) Look, Mr. R., suppose we talk this thing over later, after Joe's had a chance to cool off? You see, he likes stories that are high in fiction and low in science; he thinks being subdued and conservative and dignified is fine for-for-well, like we said, maybe you'd better come back quite a little later, hunh? -Ed.

### WHAT TRIMMED EDGES?

Dear Ed:

I took my courage in one hand and my pencil and paper in the other and wrote this letter. First of all, a little about myself. I'm 15 years old, been an stf fan for 3 years, AS fan for 2 years. I see you finally got trimmed edges and covers that aren't sexy. Hurrah! Now to rate the stories.

"Forty Days Has September"—excellent. "The Time Machine"—fair.

"Death's Derelict"-excellent.

"Cube Sinister"-good.

I liked all the features. Tell that Edward Joseph McEvoy if he doesn't like AS the way it is he doesn't have to buy it. I heard unless you have your letter typewritten it probably wouldn't be published, but I've got my fingers crossed. My favorite letter -Arline Gingold's. I agree with her on all points. My compliments on a wonderful magazine.

> Jim Kemmerling 906 Chrysler Street Kalamazoo, Michigan

a second. No exceptions have been noted to this astronomical rule of thumb.

What causes this peculiar situation where young stars engage in rat races and dissipate their energies at a furious rate while old stars are virtually stationary? The only explanation of the situatoion must be looked for in the conditions that formed them. The gigantic speeds of the young stars are unquestionably a property of the fundamental stellar matter (the "ylem") that formed them. Man hasn't been observing long enough to detect the decline of speed with age but it is almost a certainty. A few million more years will tell the tale. by Dale Lord



WHEN THE Wright brothers managed to get their baling-wire and orangebox crate in the air for a few minutes, they felt as though they had conquered the third dimension—the air. But theirs was not really a conquering, though it was the first step. Even today, with all the high-speed airplanes, jets and rockets, none of these flying vehicles may be said to have conquered the air. Rather they have conquered two-dimensional space, since they enable people to go quickly from one place—on the ground—to another—also on the ground! And that's not conquering the third dimension, not by a long shot.

Beating the third dimension means staying there, floating around in the air as in just another "place". The only vehicle to achieve these ends is the helicopter. It may seem like whipping a dead horse to belabor the importance to the future of the helicopter, but actually too few people have had their imaginations seized by this device; too few recognize that, in the helicopter, Man has at last built an apparatus which is truly capable of beating the third dimension of the air. Men can go up into the air and stay in one place—with a helicopter!

It sounds 'i' a trivial distinction at first: what does it matter that a bananashaped vehicle with a propellor or two twirling horizontally overhead is capable of rising vertically, moving forward or remaining in one place? Is this so remarkable? And the answer is of course a resounding "yes!" For the helicopter changes the whole concept of air. Air is no longer a medium through which you move to go from one place to another in a hurry. Rather it is itself just another "place".

Eventually, when the helicopter has been perfected, cheapened, and made utterly reliable and simple to operate (and these goals are being accomplished right now), the lives of many will be changed. Distances, both horizontally and vertically, will have no meaning. Cities will take on an appearance governed by the use of the helicopter. Perhaps skyscraper construction may once more have some significance. Traffic jams will be relieved. As for the military applications, these have already been amply demonstrated.

The generations which once tinkered with their brand-new automobiles back in the twenties will see a revival of the same spirit, though it won't be a model "T" with which their children and grandchildren will toy—it'll be a slick helicopter!



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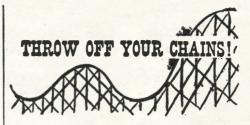
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Aris information is required from taily, weekly newspapers only,) Sworn to and subscribed before me this lst day of October, 1951, [SEAL] Helene Bullock, Notary Public,

(My commission Expires March 30, 1953.)



NTIL A rocket actually gets into empty space and far beyond the rapidly decreasing force of gravity, that immutable chain will always be with us. On the other hand, scientists who are concerned with the building of rockets eventually destined to carry men, would like to know something about the behavior of the human body not subjected to the acceleration of gravity. At last they've finally decided to go to work conducting experiments in a situation which can effectively eliminate gravity-a diving airplane!

Any child recalls the thrill received when a roller-coaster plunges downward and for a brief instant his body is in "free fall" simulating momentarily the conditions which would exist in a gravity-less rocket. Carrying this idea to its logical conclusion scientists are preparing to conduct experiments in an airplane diving Earthward. You might expect that gravity-less conditions could be obtained in a freely falling airplane. The only drawback to this naturally is the fact that a terminal vel-ocity is reached because of air resistance.

It is obvious, therefore, that a plane's motors can be used to accelerate at the gravitational rate, that is, thirty-two feet per second, per second. Consequently anyone in such a plane is operating in ef-fective free fall. The consequences of this upon the human body are the subject of this investigation. How does the system behave without gravity? Unfortunately the free-fall condition can be constructed for only a relatively limited time, a time governed by the pilot's nerve and the strength of the airplane! But even this short period should be enough to furnish a considerable amount of valuable information.

The liberal use of rockets on the con-ventional aircraft could help permit dives from tremendous heights, thus stretching the length of time in the state of free fall. Ingenious variations of this method will undoubtedly prove fruitful. Of course when rockets actually do get into space the free-fall laboratory problem will be solved. Then it will be possible to learn all about gravity-less conditions. But until then, the makeshift crudity of a diving airplane will have to suffice. And if you want a taste of free fall, pick out the steepest roller-coaster at your nearest amusement park—you'll get a real feel of rocket flight! By Jon Barry



**I**<sup>F</sup> YOU'VE ever whirled a pail full of water overhead at the end of a rope (without spilling it!) you can attest to the power of centrifugal force. The familiar cream separator of the milk dairy uses this force in a practical way to differentiate between milk and cream. More significantly, centrifugal force can be used as a sort of artificial "gravity" to duplicate the effects of powerful gravitational fields unattainable in other ways (until we get to Jupiter, that is). The Air Force, for example, tests pilots by putting them in a huge centrifuge, essentially a chair fastened to the end of a rapidly spinning beam, and subjecting them to an enormous number of "G's" to test their reactions.

This phenomenon of artificial gravity which can be found in a centrifuge is now being widely used in chemical and physical research, particularly in the study of large organic molecules and in the strength testing of metals. In the former case, an "ultra-centrifuge" is used: this is a small cylinder of metal about six inches in diameter, spun at a terrific speed by an electric motor, a blast of air or an oil turbine. G's up to *four hundred thousand* have been attained. The actual limitation in rotational speed is governed simply by the strength of the rotor, which naturally flies apart after a few such whirls! That of course suggests the metal-testing.

It is impossible to consider all of the various types of centrifuges used and the researches for which they have been devised. The fastest spinning ultra-centrifuge so far built is an incredible thing. It is a tiny ball of metal less than a tenthousandth of an inch in diameter, spun by a rapidly rotating electric field. It has been spun at a speed of forty-eight million revolutions per minute! This is the equivalent of generating five hundred million G's—under such a gravity field a drop of water would weigh more than a huge locomotive. The scientist who designed this ultra-centrifuge, a man by the name of Beam, is presently working on a sixtymillion-rpm job, which amounts to one million revolutions per second!

Scientists operating ultra-centrifuges, almost like atomic scientists, work from behind the barriers of steel and concrete walls because, when the rotors fly apart and they frequently do—it is like being in the midst of an artillery bombardment. They willingly endure these potential dangers, however, because the ultra-centrifuge is one of the tools which are going to supply the answer to that fundamental question, "What is the nature of life?"



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HELIUM 3 and Helium 4 are two very rare isotopes of fairly familiar Helium gas. They are produced as a radiation product of decaying radioactive hydrogen gas. They occur in extremely dilute concentrations of only one or two parts per million of hydrogen gas. But these things are not what makes the gases curious. What makes them unique in the study of physical science is the fact that no matter how low a temperature you treat them with, they remain liquids—they refuse to solidify!—unless pressure is used.

Every known liquid turns into a solid if the temperature is reduced low enough -except Helium 3 and Helium 4; these elements behave perversely, requiring the application of hundreds of pounds per square inch of pressure in spite of having their temperatures reduced to a fraction of a degree above absolute zero (which is 459.6 degrees below zero Fahrenheit!). Such behavior is inexplicable in terms of modern physical knowledge, which accounts for the importance of this piece of research work.

In fact, studies of this sort have led to an examination of the definition of absolute zero.

It has thus been thought, on the basis of kinetic theory, that absolute zero could not be attained because it was assumed that that was the point at which all mole-cular motion ceased. That is true, of course, but modern atomic physics now considers the internal structure of the atom. Absolute zero cannot necessarily af-fect the interior of the atom and its various energy levels and quantum states. The behavior of Helium 3 and Helium 4 definitely indicates the truth of this observation.

Low temperature research-by that we refer to temperatures within a fraction of a degree of absolute zero—is one of the most important fields in modern science, for it is almost a certainty that from studies in this region are going to come the clues which will enable us to discern the true nature of the interior of the atom -the nucleus.

The problem of determining when absolute zero has been reached has been turned over to the electronics experts who use electrical means for ascertaining such low energy levels. The temperatures themselves are attained by the forced evaportaion of liquid helium which takes up heat in the process. If you think any kind of refrig-erator is cold, take a peek into a bottle of boiling liquid helium!

# A HORSE ON YOU!

**W** E SEE electric motors usually in the fractional horsepower form, as they're known to the trade. One-third, one-half, maybe even one-horsepower electric motors are manufactured by the millions. They constitute nine-tenths of all motors made. Bigger motors, of course, are used by the tens of thousands in industry. Motors of the hundreds and even thousands of horsepower are not uncommon.

But occasionally you run into a whopper. The biggest and most powerful electric motors ever built were recently constructed for a gigantic wind tunnel for designing rockets and jets, and these motors, four of them, are huge. They are each *forty-five-thousand-horsepower* A. C. induction motors, the same in principle as those which drive an electric fan, except that these babies weigh one hundred and fortyfive tons apiece and occupy the space of a good-sized room. They spin at seven hundred and twenty revolutions per minute. To supply them with juice takes the output of an entire power plant big enough to satisfy a city.

As an exercise in imagination, translate electric motors into their equivalent number of horses, and you see a real fantasy! That's true even of a tiny one-half horsepower job. Imagine forty-five thousand of them! The only thing more powerful is the rocket engine of a V-2, which works at the rate of a half-million horserower—but only for minutes. Motors go on indefinitely!

### THE OBSERVATORY By The Editor (continued from page 3)

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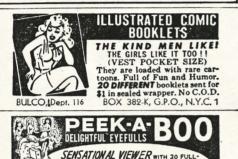
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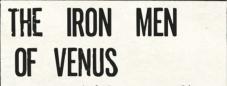
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ND we're off! Into the glittering land A of Make Believe where no child cries for bread; where the sword of D'artagnan and the guns of the Lone Ranger are at the beck and call of lost causes, where there is only the law: Anyone found guilty of smuggling a fact through these magic portals will be shot at sunrise with a dreadful gun that goes off in a cloud of purple smoke and leaves nothing but the varlet's wristwatch ticking away as though nothing had happened. -HR



(concluded from page 47)

monster. He could not go on spreading death and ruin. "For the sake of those innocent people I'm looking down upon, for the sake of the country I love, I must end it ...."

"Lanny was a good boy," Dynamo said. "We're going to miss him."

"He was a swell kid; one of my favorite brothers," Joe said.

THE END



(concluded from page 139)

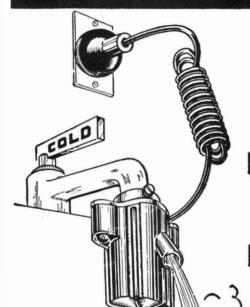
was gone. In a few moments, redness, yellowness, fire began to grow, somewhere in the city.

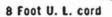
Together they rode down the mountain. At the bottom, where the plain began, they turned and sat for an hour, close together, watching while the city burned to pieces.

THE END

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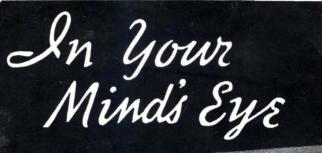
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