

MASTER OF TELEPATHY *by* EANDO BINDER

SEE  
BACK  
COVER

# AMAZING

## STORIES

### GHOST *of* MARS

*by* FESTUS  
PRAGNEL



DECEMBER  
NOW 20¢

KISS *of* DEATH *by* NEIL R. JONES

# Thousands turn to Listerine as science proves it CURES DANDRUFF

*Clinical evidence that Listerine Antiseptic kills queer Pityrosporum ovale germ, that causes dandruff, starts wave of home treatments . . . letters pour in telling of rapid, complete cures*

Ever since the amazing dandruff cures accomplished with Listerine became a matter of clinical record, thousands of dandruff sufferers throughout the country have swung over to Listerine for quick, effective relief. Many of them write to us, fervently praising Listerine for what it has done for them.

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"Have been using Listerine for only two weeks. Already feel wonderfully relieved from the horrible itchy feeling."

"Two weeks after first using it my dandruff was gone."

"Tried Listerine for 21 days and can find no trace of dandruff now."

"Tried everything possible, until one day I used Listerine. The itching stopped at once. My hair has stopped falling out."



**Kills the Germ**

In the sensational research that established the Pityrosporum ovale germ as the cause of dandruff, it was positively proved that Listerine kills the germ.

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LAMBERT PHARMACAL COMPANY, St. Louis, Mo.

*Cut this out*

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THAT'S HIS I'VE MADE THIS WHEN IN SPARE TIME

THANKS!



I HAVE A GOOD FULL TIME RADIO JOB NOW—A BRIGHT FUTURE AHEAD IN RADIO

OR BILL IT'S WONDERFUL YOU'VE GONE AHEAD SO FAST IN RADIO

**HERE'S PROOF THAT MY TRAINING PAYS**



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After  
Twenty  
Lessons

\$10  
a Week  
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DECEMBER  
1938

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Cover painting by Robert Fuqua depicting a scene in *Ghost of Mars*  
Illustrations by Robert Fuqua and Julian S. Krupa

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AMAZING  
STORIES  
December 1938

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Volume XII  
Number 7

# The Observatory

By THE Editor



WHEN Festus Pragnell sent us his manuscript for "Ghost of Mars" it added a bit more to our respect for the brand of science fiction our English cousins are turning out across the water. There's something real, some vivid touch that makes these English-written stories convincing, exemplified in each. And in presenting this latest yarn, we feel that we are giving you a lot of pleasant entertainment and convincing imagination. And because it is so real, we have made it the subject of our cover painting this month (and we think you'll like that too—to judge from what you've already said about Robert Fuqua, the artist).

In continuing our policy of bringing the old favorites back, we present Earl Vincent. "Prince Dera Returns" reminds us greatly of the "old days" and somehow it has a familiar and pleasant ring to it.

"Master of Telepathy" by Eando Binder is another of those convincing and excellently handled stories we've come to expect in connection with the name Binder. And who can say that somewhere, sometime, there may not exist a man who suddenly finds himself in the position of the hero of this story. Personally, I'm afraid the appearance of such a one would make me thankful I have never kept a diary. I'd hate to have it so easily read.

Sometimes we think that science fiction has become just a trifle too mechanical. That is, there is not enough variety. Too many scientific machines, and not enough other scientific factors. Almost every story deals with some amazing invention. And thus, in bringing you "Kiss of Death," by Neil R. Jones, we present a story without machinery for once, a story of surgery. And we warn you, don't fall in love with the beautiful Kobers. She's not exactly healthy to have around.

Since we've been having so many "purgas" lately, it doesn't seem out of place to have a different sort of purge. So, "Purge of the Dead" by Arthur R. Toffe (who made a hit with his first story) and Leo A. Schmitt in collaboration, is a story with a lot of interest. And you'll have to admit that radio will play a very great part in the politics of the future, tied up with persuasive voices . . . where have we heard that before?

Benson Herbert, who also hails from the British Isles, presents a thrilling adventure yarn about a Stellar Policeman, who is called upon to chase the

most daring and most malevolent pirate of the space lanes. Having a snobbish and high-spirited woman with him doesn't make his job any easier.

Lastly, Morris J. Steele, another newcomer, gives us a short glimpse of the future in a penal institution in Antarctica. Mugs Moran, daring stratosphere mail robber, who's broken out of jail more times than One Eyed Connelly has crashed the gate at Madison Square Garden, breaks out again, but . . .

THE title of most faithful science fiction fan might be given to Mark Reinsberg, of Chicago, who never fails to call on your editor to give his opinion of each issue as it appears.

ONCE more man plans to descend into the depths of the ocean in an effort to solve many of its secrets. This time it is Professor Auguste Piccard who will make the descent in a new type diving sphere. Although he doesn't plan to go as far down as he once went up (into the stratosphere) he fully expects to beat Beebe's record of 3028 feet by as much as six times! Wow!

The feature that makes the attempt especially interesting is the fact that whereas Beebe was lowered via a cable, Piccard will just drop down with the aid of a lot of steel balls clinging to the base of his sphere by electro-magnetism. When he wants to come up, he'll just reduce the magnetic power and drop off a couple hundred pounds of steel balls, and up he'll come (we hope).

Evidently Piccard is less afraid of his device not working than he is of menace from monstrous denizens of the deep, for he has included a shocking apparatus to discourage the amours of too affectionate squids and sea monsters.

RECENTLY your editor was visited by Eando Binder, who writes plenty—and good; Julius Schwartz, a man who has a lot to do with science fiction behind the scenes, being the agent of a lot of the best science fiction authors; author Mortimer Weisinger, who also edits a New York science fiction magazine; and brother Edward, who claims only to be a reader of science fiction, which makes him welcome.

Eando Binder went into a huddle with us, and we can promise you he'll turn out some fine stories for us in the near future.

(Continued on page 54)

## Mr. Mattingly & Mr. Moore track down a great whiskey value

"Oh, Mr. Mattingly,  
Oh, Mr. Mattingly,  
Here's a mystery—and you're  
a first-rate sleuth!"



"Why is M & M so mellow,  
Yet so hearty, too, old fellow?  
You know the clue—  
now let's tell folks the truth!"



"Why, Mr. Moore,  
Why, Mr. Moore,  
This case is sewed up  
tight—as good as won!"



"It's because folks realize  
That the flavor they so prize  
Comes from old-time slow-distill-  
ing—the way we've always done!"



You're on the trail of a real whis-  
key value when some friend tips  
you off to Mattingly & Moore!

For M & M is ALL whiskey—  
every drop distilled by the slow,  
old-fashioned method. What's  
more, M & M is a blend of straight

whiskies—and that's the kind of  
whiskey that's *top* with any man!

Ask for M & M at your favor-  
ite bar—or package store—today.  
You'll say it's just about the  
grandest whiskey you ever tasted  
—and you'll like its low price!

# Mattingly & Moore

**Long on Quality — Short on Price!**

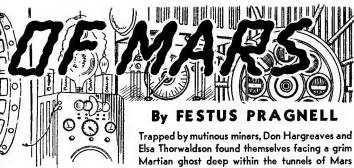
*A blend of straight whiskies—100% straight whiskies—99 proof.  
Frankfort Distillers, Incorporated, Louisville and Baltimore.*





Without warning, Professor Winton appeared, apparently seated inside the sphere





## By FESTUS PRAGNELL

Trapped by mutinous miners, Don Hargreaves and Elsa Thorwaldson found themselves facing a grim Martian ghost deep within the tunnels of Mars

### CHAPTER I Spectres

**T**O Don Hargreaves the squat buildings of Martian Metals were not a pleasant sight. Their crude, square shapes were coated with a layer of black dust, as was the surrounding landscape for about a mile in every direction.

They pained him with their distressful ugliness and filth after the smoothly rounded beauty of the ancient and long deserted Martian city nearby. Yet it was here that fabulous riches in rare metals were won for wealthy shareholders back on Earth, and where hundreds of toiling workers labored to earn enough to give their families a taste of the better things of life.

If those workers returned! For the accident rate was high. He had access to the figures and he knew, as few did, how very high that rate was. But every man that died meant one fewer to transport all those millions of miles back to their home planet, or to feed on the way. Death was profitable to Martian Metals.

It had been with extreme distaste that he had accepted the unwelcome assignment to escort heartless, unfeeling Elsa Thorwaldson about the ruins of the

ancient Martian city near the mines, and now, walking beside her space-suited figure, he resented his duty even more. Just a mention of the legend of Martian ghosts had made her laugh him to scorn. Even now she continued to titter into her helmet radio.

The sound of her laugh grated on his nerves. It seemed to him not at all good taste to laugh in the presence of the tragedy of the departed life of Mars.

She had, he reflected, something of the hard, mercenary outlook of her father, resident manager of the Martian Metals Company. He had spoken to her father about the hard conditions of the mines, and of the lack of safety precautions, and had been told abruptly that the high cost of transport from Earth to Mars made better things impossible. He had spoken, too, of what seemed to him to be the unwisdom of the new policy of employing so much low-grade labor from such places as Java, Burmah, Siam and Borneo. White men were so few here, and help was millions of miles away.

At this, also, both father and daughter scoffed.

It distressed him to find one so beautiful, so elegant as Elsa Thorwaldson to be so lacking in human feelings.

"You talk of ghosts," she said suddenly, "and yet you want me to go into this old city. I don't want to walk among a lot of graveyards."

"Shall we visit the mines instead?" he asked, somewhat stiffly.

"Yes, do. I've had enough of this."

HE led the way. To Elsa, still unaccustomed to Martian gravity, it was a difficult walk. The fur suits, helmets and air tanks weighed heavily, yet even with these loads she still felt oddly light in the feeble grip of Mars. Every step carried her about twice as far as she expected it to.

It was treacherous going. It was late in the afternoon, and shadows of inky blackness lay everywhere. At first it had been thrilling to feel with one's foot where there appeared to be nothing and find solid rock; but now she ignored the black spaces, treading firmly in them.

So that when she came to a real hole she put her foot squarely in it. Luckily Hargreaves, whose eyes were accustomed to the conditions, and who knew holes from shadows, was nearby and caught her. Not that the fall was likely to be dangerous, but there was always the possibility of cracking a face-plate and letting the air out.

They walked along a regular lane through the dust, where the vehicles ran, so as not to stir up the filthy dust with their feet.

Through the soles of their boots they could feel the steady "Thump, thump, thump!" of the explosions that drove the power-generating station. It was this vibration that loosened stones in the roofs of the mine passages, causing them to fall on the miners beneath. A silencer to damp down the vibrations could be quite easily constructed, yet Thorwaldson said it was not practicable.

The exhaust gas was like a black fog

round the power station, gradually spreading out and settling down to form more black dust, making a great round spot on Mars, a spot just visible in the telescopes of Earth.

"Isn't it repulsive-looking, after the smooth but strong beauty of the Martian city?" he said to the girl.

Her reply was unexpected.

"It's the best we can do. You ought to have been a Martian. You like Martian things so much more than you do the things of Earth. I like to see these works. They look homely, like so many places back in our own world that you despise so much. That weird city gives me the creeps."

"You think I ought to be a Martian?" he repeated.

"Well, nothing on Earth is good enough for you, is it? You grumble about everything. Workers are underpaid and overworked, according to you, machines are ugly, factories are ugly, towns are ugly. You expect too much. We do the best we can. Perhaps you would have been happier among the Martians. Perhaps they managed these things better than we do."

"I'll bet they did," he murmured, bitterly.

Then, remembering that she was his employer's daughter, he went on: "Even in these prosaic surroundings there are said to be ghosts. Ghostly Martians are said to haunt the mines."

"Ghosts in the mines?"

"Yes. Numbers of men claim to have seen them, or rather him, for it appears to be the same ghost popping up every time anybody goes into a certain tunnel."

In obvious disbelief she asked to hear more.

"When the men were boring this particular tunnel they came up against a wall of the dark green metal that the Martians used for building purposes.

When this wall was broken through the workers found themselves in a large round tunnel running at a sharp angle to their own and lined throughout with the same green metal."

"A Martian tunnel?"

"Yes. It was undoubtedly Martian work. A water main probably, when the city was populated. You can imagine how startled the men were to find themselves in this vast, dim place, a place where, to their excited imaginations, almost anything might occur."

"Did the ghost appear then?"

"He was standing about thirty feet away from them, with his dog."

"A Martian dog? What was it like?"

"That's the weak point in the story. Everybody agrees that the dog was there, but they all differ as to what it looked like. One says it was like a greyhound and as tall as its ghostly master. Another says it was similar to a bulldog and about the same size. Others cannot describe it at all, but say their eyes were on this ghostly Martian, so that they took little notice of the dog."

"What did the ghost do?" she demanded, impatiently.

"I haven't finished describing him yet. The men say he was dressed in pale blue clothes with a metal belt and fittings, and that from the clothes came a pale blue radiance that filled the tunnel with ghostly light. On his forehead was another light that directed its beam on the men and their boring machine."

"He appeared, they say, suddenly, without any sound or warning. It was as though he had been there all the while they were breaking in, and turned his lights on when he was ready to reveal himself."

"About the next stage in the story everybody is agreed. This ghostly Martian raised his long left arm, pointed at the men, and said to the ghostly dog by his side the one word, 'Seize!'"

"And then what?"

"They did not stop to see. They ran, leaving the boring machine behind."

"A pretty story," she admitted acidly, "but there's one flaw in it. You say they could see the Martian's face, so that presumably he had no voice-amplifier. How could they hear what he said?"

"In some of our deeper workings there is enough air for voices to be heard fairly well. The tunnels have acoustic properties, too, magnifying sound. If the Martian spoke loudly, and with his huge lungs I should imagine he could speak very loudly if he chose, the men would hear him all right. But there is a flaw in the story all the same. It's this. How could a Martian have known the English word, 'Seize'? I expect if we knew more we should find that he was actually saying some Martian word whose meaning we do not know."

He was interrupted by a gust of mocking laughter, the same laughter as had irritated him some while before.

"Why, upon my word! So you actually believe in this silly ghost? You really believe that a ghost of a dead Martian walks the tunnels?"

Within his helmet he blushed hotly.

"A large number of men have seen him. They all agree as to the details, too. I noticed particularly that they all said that the ghost raised his left arm, not his right. And it is since that date that Professor Winterton announced his opinion that the Martians were a left-handed race."

"Anybody can see the ghost any time they like, according to the miners. All one has to do is to walk into the haunted tunnel and go a little way along it. Every time anyone does that he appears, clothed in light, with his dog, and points at you, saying, 'Seize!' It is as though there was something sacred to the Martians in that tunnel, and as though he was a ghostly sentry keep-

ing guard over it, driving away any vandals who might disturb whatever it is."

"And has nobody had the courage to stay long enough for this dog to seize him?" Her tone was scornful.

"So far as is known, no."

"What do you mean, 'So far as is known'?"

"Professor Winterton announced his intention of investigating the ghost mystery, alone. Next day he disappeared, and has never been seen since. Several miners and other people have disappeared, too."

"Fanciful nonsense," she snorted. "I'm going to look into this ghost business myself. And you are going to take me."

"But you can't go down into the deep part of the mine!"

"Why not?"

"Your father would not approve. The dangers. Falling stones. You might be crushed."

"My father says these dangers you speak of are much exaggerated. You are afraid of the ghost. Cowardly custard! Come along, or I'll go alone, and you will get into trouble for leaving me."

He reflected that perhaps it would only be poetic justice on her father if her undeniably beautiful but self-willed body was crushed as so many fathers of families had been, down there in the dismal darkness.

## CHAPTER II

### The Haunted Tunnel

THE cage shot down the shaft, passing stopping-places where passages ran off, following the ore-bearing veins that ran in chance-arranged streaks through the igneous rock.

Unthinkably long ago there had been great upsurgings of deeper, molten rock breaking through the crust and forcing

itself into cracks in the higher layers here. Upon that fact the whole great organization of Martian Metals rested.\*

After a long descent, they reached the bottom with a jolt.

It was possible to open their face-plates down here. The air was dense, and they could breathe in fair comfort. The density was about the same as one finds on the tops of high mountains on Earth. But they had to be careful, for the high oxygen content of the atmosphere was apt to bring on a delusive feeling of well-being, leading to over-exertion and collapse.

Elsa raised her face-plate. Her face, so revealed, was freshly colored, well rounded, and sparkling with health and vitality. The harsh glare of the artificial lights showed up her health and boundless self-confidence better than even sunlight did.

A wonderful woman, thought Donald.

Ore-bearing trucks clattered through the gloom, on wide caterpillar tracks. It had not been worth the expense to smooth the floors of the passages enough for wheels to run on them. Besides which the fallen slabs of rock made the way very rough. The heavy trucks clattered and lurched with a din that, even in the comparatively thin air, battered painfully on the eardrums: their single headlights glared ahead balefully, making him think of so many army tanks advancing to battle. The sudden crashes as they lurched over

\* Here on Mars, probably due to the lesser gravity, many metals rare on Earth are found in veins and ores near the surface, and in the dead sea beds. Cerium, Praseodymium, Ithium, Ytterbium and many more. Some of these are essential to the manufacture of the powerful modern explosives and with the exhaustion of Earth's coal and oil resources these explosives have become the chief sources of power, forcing the prices of the rare metals to such high figures that it becomes profitable to send men all the way to Mars and to construct these great mining and refining works to exploit the planet's resources.—Author.

obstacles, magnified by the tunnel walls, sounded like the roar of exploding shells.

Walking was hard work on the rough floors, and they had a long way to go. Donald looked round for a truck to take them. He approached a knot of dark-skinned men who looked at him with furtive hatred.

"A passenger truck for Miss Thorwaldson and myself," he ordered, trying to sound imperious.

Nobody moved.

"We get truck when foreman he tells us," said one of the men, grinning maliciously. There seemed to be some hidden meaning to his words.

Donald thought again of how unwise it was to employ so many low-paid Asiatics in the mines. The whites were few here, and the sharp discipline they kept up rested in the end on nothing but bluff. These men ought to be working, not lounging against the wall in this manner.

He went into the checker's office.

"What's wrong here? I asked for a truck for myself and Miss Thorwaldson, and those fellows refused to get one."

The clerk looked from him to the lady.

"Miss Thorwaldson here? Is it safe?"

"She insisted on coming."

"Oh! Well, I don't know what's wrong with the men, but they have been unusually surly and ill-tempered all through the shift. We've been looking for the foreman, but we can't find him. And they say they won't work until he comes to tell them what to do. It is beginning to look as though an accident has happened to him."

Donald repeated his request for a truck in which to show Miss Thorwaldson round the mine.

The checker grimaced.

"Wants to look round the mine? I should have thought one glance would have been enough. I'll fix you up."

He rang bells. Presently a laborer appeared.

THEY followed the heavily muscled workman. Two Burmese stood in their way and were insolently slow in moving to let them pass. Hargreaves saw the knotted muscles and set jaw of the miner, and knew that only the presence of the lady had saved those two slight, dark-skinned men from being knocked down. He saw, also, the gleaming eyes of the other Asiatics, and their hands resting on what might have been knives or might have been firearms in their pockets, and was relieved when they got past without trouble.

The truck lurched and rattled away, its radio-beam "feeler" reaching out and picking up power from the central power-station at the top of the shaft. He thought of the terrible noise there must have been here when each truck ran on its own explosive engine. Now the power-beams attracted the power silently, reaching upward unerringly through miles of rock.

The tunnel walls were grey-green in the light of the headlamp, streaked with veins of many colors seldom seen in the rocks of Earth. Here and there a beautiful crystal gleamed at them in its stony setting.

"Are those diamonds in the walls?" she asked in his ear. "How lovely!"

"Those are not diamonds," he answered. "Those are mere worthless crystals. But diamonds are found here, and topaz and many precious stones. They form a valuable by-product of the mine. Only the highest and most flawless are worth the cost of transporting back to Earth."

"Stringent precautions are taken to prevent the miners secreting them back.

Stones thrown away here may be worth a small fortune on Earth. For all our care some of the men get away with it. Extraordinary tricks they get up to smuggle diamonds. They even cut themselves and press diamonds into the wounds. But the X-ray examination usually finds them. One man swallowed a diamond so large that it lodged in his intestines and killed him."

The driver spoke, his powerful below carrying easily above the racket made by the vehicle in its blundering progress.

"Is there anywhere in particular that ye want to go? These tunnels are all pretty much alike. There ain't much to show ye."

"The lady wants to see tunnel 57."

The truck came to an abrupt halt. The sudden silence was startling.

"Did ye say tunnel 57?"

"Yes."

The powerful man looked scared. "Faith and hegorrah, ye can't go there."

"Why not?"

"Why not? But ye know why not, Mr. Hargreaves. Tunnel 57 is closed."

"But the lady wants to go there. She wants to see the ghost for herself."

"Oh, does she?" His color was slowly coming back. "Then she's got more pluck than I have. Ask her, does she know that several men have gone into tunnel 57 and never come back?"

But Elsa Thorwaldson only laughed, stridently.

"I'm not scared of those silly stories. Are you going to take us into the tunnel or not? What's the delay?"

Donald thought now that bravery of hers wasn't real, that in an emergency it wouldn't be so evident. She wasn't brave, she was bold.

The driver wiped the moisture from his forehead. It was warm in the mine.

"Faith, I'll take ye to the tunnel.

But not into it. Devil an inch will I go inside that place. Ye'll have to walk the little way that it is to where the ghost is said to appear."

**T**WENTY minutes of bumping journey brought them to the entrance of the mysterious passage. Elsa Thorwaldson got out.

"Here we are, Sir Launcelot. Are you coming? Or are you afraid, and must I raise this Martian spectre alone?"

He got down beside her.

"Don't you think you are running into needless danger?" he asked. "There is something in here that we do not understand. The men of Mars might have left traps for invaders in their tunnels, pitfalls and all that sort of thing. Those traps may still be working, in spite of the lapse of time. The apparition may be an automatic television camera that throws a warning picture on a prepared screen as a warning that the trap is there. And where men have vanished—"

"Other men are too cowardly to find out why," she concluded.

**T**HE passage narrowed rapidly to the width of a swath cut by a single boring-machine. He pointed out the jagged edges of the dark-green metal that had been broken through.

"That is the lining of the Martian water-main, or whatever it is, that has been broken into. Beyond that we find ourselves in a tunnel much larger than this, round, and lined throughout with this same unknown alloy. Are you going in?"

For answer she leaped down the slight drop into the Martian tunnel. He followed.

Under their feet was a collection of stones and rubble that the miners had made in breaking through. Beyond the

heap the tunnel was smooth and shone green in the light of their lamps.

"Here we are, and no ghost to be seen," she said. "Let's take a walk."

The green walls echoed her words, which seemed to rustle away through the silent place, dying away at last in conspiratorial whispers.

Seeing that there was no turning her back, he went with her. He imagined that he had heard a heavy step not far away, such as a man ten foot tall might make. He also thought he caught a chinking and scraping as of metal on metal, but he said nothing to her about this.

They went perhaps a hundred yards.

"Are you satisfied now?" he asked.

She grunted, not quite so sure of herself as she had been. This place was certainly eerie, with the solid blackness stretching before them, the echoing sound of their feet, and the odd gleams of light that came from unexpected angles in the walls, reflections of their own lamps, of course, but uncomfortably like watching eyes.

And then, abruptly, the darkness swept aside.

A pale blue light flooded the tunnel in front of them. And in the middle of the light stood a man, a man so tall that his head reached halfway to the roof of the big tunnel. His face was partly inhuman by reason of the great breadth of the nose and the size of the ears. Beside him was a vague, uncertain shape.

Slowly the giant raised his left arm.

"Seize!" commanded a deep, powerful voice.

They realized, with a shock, that the heap of rubble marking the way back into the mine was a long way off.

### CHAPTER III

#### Mutiny

**N**OW that the crisis had come Donald Hargreaves felt icily calm. His

pulse seemed no faster, and his breath came no more quickly than it usually did in this rather thin air. He was proud of himself, and felt about six foot tall instead of his actual height of something under five foot six.\*

He was aware that Elsa Thorwaldson had given a wail of terror and was clinging almost painfully to his arm. Her courage seemed to have evaporated. He supposed that his presence gave her a feeling of protection, and that she would sooner hold onto him than leave him to run for safety.

That, too, gave him a feeling of confidence.

For a moment or so he thought of picking her up and carrying her back, but he realized how absurd this would be, seeing that she weighed more than he. Their progress would be slow.

The ghostly Martian made no move. After speaking his one word he merely lowered his arm to his side once more and waited.

Donald's eyes were on the vague shape by his side. It was from this that he expected the danger to come if the creature, whatever it was, tried to carry out its master's orders and seize them.

It was a curious sort of creature, more suggestive of a sea-beast than of a creature that walked on land and breathed air. It had two round shells, rather like greatly enlarged oyster shells, and from between the edges of the shells stuck, or rather, hung out, a number of long tentacles with claws at the ends. It made him think, incongruously, of a clumsy eater consuming macaroni, with the ends hanging untidily out of his mouth.

The creature made no move. He had a feeling that as long as he stood quite still looking at it the beast would also

\* Martian Metals preferred small men to big men, as they weighed less and ate less, so that it cost much less to transport them and provisions for them through space.—Author.

remain motionless. He thought of what he had read of the power of the human eye over dumb beasts. Perhaps it worked on Mars also, even on the ghosts of what took the place of dogs on Mars. He tried to hypnotize the beast with his eyes, so that it would remain exactly where it was, in spite of its master's order.

The plan certainly seemed to work. Apart from waving two of its tentacles as though enquiring about something it was as still as a statue.

But the ghostly Martian, in the aura of pale blue light that radiated from his clothes, was not still for long. Once again he raised his great left arm, and once again he gave the order, "Seize!"

Elsa screamed and ran.

Donald stayed where he was. Even if the queer beast leaped at him, as he thought every instant it must, he would stand between it and her. It must take the thing a little while to destroy him, and in that time she might escape.

But nothing happened.

He listened to her running steps. Now she was at the heap of fallen stones. She was scrambling over them, for he heard the stones rolling under her feet.

She was back in the mine. He drew a deeper breath, for now he felt, though he had no reason to think so, that she was safe.

The ghostly Martian was frowning at him as though impatient or puzzled. He spoke again, this time without pointing.

"Go!"

AND at this word a great amazement and relief came over Donald Hargreaves. All his tension drained away, and he felt comfortable and at ease once more.

For he knew now that this giant was not a ghost. He was living flesh and blood. And he was giving a quite definite and understandable order. He was

telling him to go back where he came from. Donald Hargreaves, it seemed, was not wanted in the Martian tunnel.

He did not stop to wonder how this could be, but thought only about the immediate circumstances.

The Martian was obviously a powerful man, and there was also the strange creature by his side to be considered. Donald had no weapon of any sort to defend himself with if either of them should become violent. If this Martian said, "Go!" then plainly it was his wisest policy to do as he was told before anything unpleasant happened.

But he was not sure whether Elsa had reached safety yet. A Martian who was flesh and blood, and not an astral being from the realm of dreams, might follow an unprotected female into the mines. He still felt that it was his duty to guard her retreat.

He played for time.

"Do you want me to go? Don't you encourage visitors to this subterranean abode of yours?" he asked, with what he meant to be a pleasant smile.

The Martian spoke two more words.

"No savvy," he said.

The words came awkwardly, with a queer intonation. And at those words something else became clear to Donald. He understood how the Martian had learned to speak a few words of English. By some means, perhaps concealed microphones and a sort of telescope that could see through rocks, he had in some way been watching and listening to the miners. Certain words were usually followed by certain actions, and thus he would learn the meaning of those words. When one said, "Go!" for instance, he would notice that the one spoken to usually went away: after "No savvy" the original remark was usually repeated. The miners always said, "No savvy" when there was anything they did not understand. And, "Seize," why,



of course, what the giant was trying to say was, "Cease!" meaning cease work, or stop. The last foreman in the mines had always said that when telling the men to finish a job, never, "Knock off!" or, "That'll do," as the new man did.

"Cease." Why, it was perfectly clear now. He meant, "Stop exploring this tunnel."

"Must I go?" he asked.

"Yess," said the Martian, sibilantly. "You must go. Not safe here. Danger. Go."

"Thanks for warning me," said Donald, thinking that Elsa must by now be out of harm's way. Being uneasy about turning his unprotected back upon the weird being whose clawed tentacles hung so untidily out of its hivalve shell, he walked backward to the mine, leaving the light-clotbed Martian alone in the tunnel his ancestors had made, where visitors from another world were so inhospitably received.

**W**ITHOUT haste, he made his way along tunnel 57. He hoped Elsa had not tripped on this rough floor and fallen and hurt herself in her headlong flight.

What a story he would have to tell! And how mistaken the scientists all were! They all thought the Martians were a completely vanished race, long ago dead, and here they were, or at least one of them was, living underground like trogo—trogo—what was the word?—troglodytes.

And with domestic animals like—What could he say they were like? Like hermit crabs. Yes, that was the nearest he could get to it. Like hermit crabs in oyster shells, but about as large as a full grown man.

Professor Winterton would be surprised when he heard. But Professor Winterton was gone. What had happened to Professor Winterton, he won-

dered, suddenly. Could he have met the Martian and ignored his warning to go back? And had one of the dangers the Martian spoke of got him?

With a prickly sensation at the back of his neck he wondered if his own escape had been narrower than he thought it to be.

He heard running steps. Was it the Martian? Or his crustacean companion?

No, it was somebody coming the other way. A miner. No, it was Elsa. What could have made her run this way, toward the very danger she had fled? He must warn her again about exerting herself so much in the thin but oxygen-laden air. It was asking for trouble.

Elsa saw him, and screamed in terror.

"Donald! Donald!"

Something had frightened her very badly, something even worse than a ghost. Always before she had called him Hargreaves. He felt like a father comforting a terrified child.

"Oh, Donald, something awful has happened. The Irishman is dead."

"The Irishman?"

"The big miner who brought us here in the truck. He is lying dead beside his machine in a pool of blood. The power is off, and the truck will not move. Nor will the light go on. And I heard men shouting in the distance, excited shouts, and shooting."

He stood quite still, letting facts sink into his brain. A dead man—shouting and firing. That meant that the Asiatics among the workmen had mutined. Exactly what he had feared for some time.

"Stay here," he told her. "I'll go and see."

"And leave me here?"

She was too scared to be left alone.

They went together to the end of the passage. The truck stood in front of the entrance, the dead driver nearby where

he had apparently been smoking a cigarette. A huge hole had been blown in his chest by an explosive bullet.

Clearly, nothing could be done for him.

His brain still reeling from the shock of the tragedy, he tried to pull himself together and think calmly of what was the best thing to do. How were they to get back to the main shaft that led to the surface? The passages and tunnels of the mine were a hopeless maze to him. Before they had gone far without a guide they would be completely lost. The only thing was to stay where they were until help came. But would help come? How long would they have to wait? Nobody but the dead driver knew where they were. Meanwhile their friends were probably needing help, but he was unable to get to them to help them.

"Do I hear men's voices?" the girl beside him asked nervously.

He listened.

Yes, there were voices, coming toward them. A number of men speaking rapidly in some language that was strange to him.

Elsa ran into the haunted tunnel.

A moment or so later four men appeared round a bend in the walls. They were Asiatics. As soon as they saw him they fired, the explosive bullet striking the wall and bringing down a shower of stones.

He ran into the tunnel where Elsa hid. They would be afraid to follow them into its haunted reaches, he reasoned.

And so it proved. The Asiatics stopped at the entrance and argued. Donald and Elsa, hidden behind a bend in the walls, could hear them plainly.

They seemed to reach a decision. There came a series of curious noises, then a loud crash.

"What's that?" demanded Elsa.

"How should I know? It sounds as though they have overturned the truck."

They were not left long in doubt. A voice came shouting along the tunnel.

"Listen! Do you hear me, you skulking white man? You've got away from us for a time, but you'll stay in there until your bones rot or the ghost gets you. We've turned the truck over on its side, so that it completely blocks your way out. And now we are piling heavy stones on it so that a dozen men could not move it from your side. Good-bye, and pleasant dreams! Most of your friends are dead, and you won't be long in joining them!"

After a long wait Donald went to the entrance to see what they had done. The truck was lying on its side, completely blocking the passage. It was hopeless to think of getting out.

"Oh, what can we do?" moaned Elsa feebly.

Donald's brain had been working rapidly. He had resolved on a plan, a desperate plan but the only possible one so far as he could see.

"This tunnel, Miss Hargreaves, has two ends, this end and the end that leads into the Martian tunnel where we met the giant. In any other passage of the mine we might be trapped; here we are not. The other end is open. We must go the other way."

"Oh! Do you mean to go back to where we saw that awful ghost? I can't do that."

"Why not, Miss Thorwaldson? It is the only way. Nobody knows we are here except the dead men and those who shut us in here. If things were normal I doubt if anybody would think to look for us here, since we told nobody where we were going. And with these Asiatics walking about shooting everybody it seems pretty obvious that no search party will come for us for a long while.

Even if the mutiny was crushed everybody's hands would be full. If we wait we shall be left here a lot longer than we can hold out.

"Now there is just the possibility that there may be a way to the surface through the Martian tunnel. Did you notice how fresh the air was inside that tunnel? It is fairly certain in my mind that it communicates with the surface somewhere. In my opinion it is an old water-main, and if so it almost certainly goes to the city, and we should be able to get out through the city. I know it is very deep for a water-main, but they probably had to go deep for their water when the seas dried up.

"Besides, we cannot possibly stay here long: our lights will not last for more than an hour or so, and we do not want to be feeling our way about in darkness. And then again your father and the others probably need our help: it is our duty to get out to them if we possibly can. As for the ghost: perhaps we can dodge him."

After much persuasion, Elsa Thorwaldson was at last convinced that he was right, and that his plan was the only possible one for them.

They went back along the tunnel once more. The first time she had gone boldly and he had hung back uncertainly: now he went ahead with firm step, and she came hesitatingly behind.

#### CHAPTER IV

##### A Strange Journey

DONALD HARGREAVES was certain in his own mind that the tunnel was originally a water-main supplying the ancient city with water from some deep reservoir. If so, it was almost certain to run to the City of the Desert without branches. He tried to imagine what a water-works would be like on an almost airless planet. Pumps

would be of little use with no air-pressure to work them: he imagined a large underground reservoir out of which water was dipped up in large buckets. He hoped there would be steps or a ladder or some means whereby they could climb out of the reservoir.

But those troubles were a long way ahead. The immediate difficulty was to find their way to the city, and to avoid the giant Martian who guarded the tunnel. His chief fear was that the tunnel might prove not to be straight but to wind and branch in a series of wandering caverns in which they might become lost. Or to have caved in, despite its tough metal lining.

He had a great fear that their lights would not last, and that presently they would find themselves wandering hopelessly in total darkness. He urged Elsa to walk rapidly.

Was it possible to evade the Martian guardian? Though he had confidently declared that they could, at the back of his mind he did not believe it. He felt oddly certain that the giant would appear, exactly as he had done every time before.

Which, indeed, he did.

His procedure was exactly the same as before. One moment there was perfect darkness ahead of them: the next moment the tunnel was flooded with light, and in the middle of the light stood the ten-foot giant, the weird combination of sea-beast and land-creature again beside him.

Elsa gasped.

This time the giant did not raise his arm or say, "Cease!" What he said was, "You again?"

Elsa seemed to calm herself, and to forget her fear in bewilderment.

Donald found it difficult to know what to say. How could he explain to this strange being that their own kind had turned on them, and that as a con-

sequence there was no safety for them among their own people? The giant was obviously but little acquainted with the English language. Also, it was impossible to judge how he would take the news.

"Yes, us again," he said, feeling rather foolish.

"I said, 'Go!'" said the giant, speaking with difficulty but calmly. "Don't you savvy? Go. Danger here."

Elsa beside him was breathless with amazement at this conversation with a ghost.

"Danger *there*," answered Donald, pointing back with his arm. "Can't go."

"No savvy," repeated the giant obstinately. "Danger here. Go."

"Can't go," repeated Donald, agitatedly. "Tunnel blocked. Can't get back."

To his surprise the giant understood this at once. Apparently he had often heard miners talking of falls from the roofs and obstructions of tunnels.

"Tunnel blocked?" he asked. "Roof fall? Obstruction?"

Donald nodded. Now they were getting somewhere.

"Good," said the Martian. "Roof fall. Obstruct tunnel. You can't go. I savvy. I remove obstruction. I clear tunnel. Then you go."

He flexed a mighty arm. Donald understood what he was offering to do: to walk into tunnel 57, remove the stones that he understood were in the way, and leave them free to return to their own kind.

It was a generous offer. Plainly the Martian was willing to help them to a certain extent. Those huge arms and mighty torso obviously had the strength of many men, in spite of the slender hips and legs. But even so he would not be strong enough to move the heavy truck, weighted as it was with stones. And even if he did their problems would

not be solved.

"Oh, thanks awfully. That's good of you. But you couldn't do it. Obstruction too big. Stones too heavy. You could not move them."

"I get power," was the reply. "I get machines. Our machines can move anything. Bore another tunnel if necessary."

When the Martian was talking about mining he could be almost fluent. Donald decided to try to tell this unexpectedly friendly giant all their troubles.

"Thanks a whole heap. But we can't go out. Bad men kill. They shoot. Danger."

"No savvy," was the response.

Having said which, the Martian proceeded to behave in a curious manner. He raised his arm, his right arm, to his face, and proceeded to make a long, curious noise at it, whistling, grunting and hooting for about a minute without stopping.\*

And, faintly, Don could hear the arm replying. What was happening was that the giant was carrying on a telephonic conversation with another of his kind by means of some instrument on his arm.

"I savvy," said the giant at last, when he lowered his arm. "Danger. Men shoot. Kill."

He raised an arm, pointed one finger as though it was a revolver. "Crack!" he said. And then, "Boom!"

It was an exact imitation of the sound of shooting, followed by the roar of an explosive bullet.

"I savvy. Follow me."

Something touched Donald's leg, and he jumped convulsively. The hermit-

\*Due no doubt to the different structure of their brains from ours, Martians can talk and listen to each other at the same time. They do not speak, wait for a reply and then speak again. They go straight on without a pause, two or three or even four of them at the same time keeping up a continuous stream of sound.—Author.

crab-dog, forgotten all this while, had crawled up to him without being noticed, and was feeling inquisitively at the fur that covered his legs. It was exactly like being sniffed at by a friendly dog.

Soon a glass ball came rolling along the tunnel, a hollow sphere some fifteen feet in diameter inside which a square compartment with seats for passengers hung on an axle, keeping always the right way up.

The Martian beckoned to them to get in. After a little time spent in overcoming Elsa's fears and persuading her to trust herself in the curious vehicle, they all climbed in with the help of the Martian. The seats were much too big for Elsa and himself, and their feet dangled far above the floor. The strange creature nestled contentedly by its master's feet.

THE sphere set off, rolling through the green-lined tunnel with rapidly mounting speed. Donald found himself wondering whether there were many more such round vehicles running through these tunnels, and how collisions were avoided. There was no room for two such spheres to pass each other, and they raced round bends at great speed. He decided that a system of one-way traffic must be the rule.

They turned off at many forks, until it would have been impossible for them to find their way back alone. He felt glad they had not been left to wander these confusing tunnels by themselves, for they would have been lost in the maze very quickly, to say nothing of the chance of being crushed by a speeding sphere.

Now and again the giant Martian would raise his right arm in front of him and make a long series of noises at it without stopping for breath. And now Don plainly heard the instrument on

the arm replying in a similar manner. The driver was conversing with another of his kind away somewhere in the tunnels.

At last the sphere ran off the road into a short but wide side tunnel where a number of other such spheres stood idle.

The driver got out, and they jumped down, too.

They went through a hole into a large, green-lined compartment where three other giants similar to the one who had driven them here sat on seats and looked at them with a sort of sadness but without surprise.

No light came from the pale-blue clothes of these Martians, there were no lamps, but the whole of the flat white ceiling glowed luminously, filling the place with light. Their guide must have pressed a switch or something on his person, for the light shining from his own clothing went out.

A babble of noise broke out, all four Martians talking rapidly in their non-stop, breathless manner, yet each paying full attention to the others. Donald knew that his companion and himself were being thoroughly discussed.

Presently the noise stopped save for an occasional remark. One Martian went to an instrument on the wall and began playing with wires which he plugged into what looked like a complicated telephone keyboard. He then tapped at the keys of something rather like a typewriter keyboard, except that there were hundreds of keys.

The Martians looked at them expectantly. Nothing seemed to happen.

"See," said their guide, pointing to a green sphere about eighteen inches in diameter resting on a short pedestal. But though they looked very carefully there was nothing to see.

"Sorry," said the Martian at the keyboard. "My mistake. Your eye and

ear different to ours. Wave length not right."

AND then, suddenly without warning, Professor Winterton appeared apparently inside the green sphere, sitting on a seat and frowning.

#### CHAPTER V

Professor Winterton

"IS that you, Professor?" asked Donald, nervously.

"Why, of course it's me," answered the white-haired scientist, with a smile. "Can't you see it's me? Actually, of course, I am miles away from you, down in the bowels of the planet, and you are talking to my image, or projection, just as I am talking to yours."

"Are you all right? How did you get there? Are you there of your own free will, or are you held captive?"

"I am here of my own free will, or at least I came here of my own free will. I could not go back to where you are now. But that's not the fault of the Martians. It's due to the composition of the air down here. There is a lot of krypton in it. That krypton is gradually dissolved into the blood if one stays here for long: it does no harm so long as one remains here, but if I tried to return to the surface or to Earth the krypton would form into bubbles in my blood, stopping my arteries and causing death.\* Once a man comes here

there is no return, Hargreaves. That is why I can never go back to Earth.

"Sometimes I wish I could return; sometimes I feel I would like to see again the blue sky, the stars and the sun and moon as I saw them from Earth, for though I can see the sky and the sun and stars in the television any time I choose (they've got wonderful telescopes here, by the way) they look very different from Mars.

"But on the whole I think it was worth it, coming here. There is such a wonderful lot to be learned. Such a lot of astronomical knowledge, knowledge of other worlds. I never dreamed it was possible. I only wish there was a first-class physicist here, and a biologist and a chemist. They'd be staggered at what a lot there is to be learned.

"I might add that the natives are troubled with the krypton difficulty also, although not so much as we people from Earth. Their blood does not part with the krypton so readily, but even they have to be careful."

"Professor!" It was Elsa Thorwaldson's urgent voice. "We are in danger. My father is in danger, perhaps dead. Some revolutionaries are making trouble in the mine. They are shooting everybody. Can you help us?"

The Professor's delicately moulded face looked troubled.

"Don't distress yourself about that, Miss Thorwaldson. We know all about it. A number of Martians and myself were watching in the television machines through nearly all the trouble."

"Is it over yet? Is my father safe? What's happened?" demanded the girl, impatiently.

"Don't distress yourself, young lady. Your father is unharmed at the moment, but he is confined to the big house, as are a lot of other people. There are really very few dead: the revolt was a complete surprise, so complete that

\* This is similar to the "bends" which divers get if they come up out of the water too quickly. Nitrogen is dissolved into the blood under pressure, and when the pressure is removed suddenly it is given up again, forming bubbles. The Krypton on Mars behaves in the same way. Krypton is a gaseous element (also found in Earth's atmosphere, in a minute proportion of one part in twenty million) and appears to be very similar to argon, helium, etc. Its molecules are made up of single atoms, and its atomic weight is 83.9. Krypton samples have been liquefied and even solidified. The solid melted at  $-169^{\circ}$  C. and the liquid boiled at  $-152^{\circ}$  C. Its critical temperature (i. e., the highest temperature at which it can be liquefied) is  $-62.5^{\circ}$  C.—Ed.

there was practically no resistance, and the mutineers gained control of everything that mattered with practically no fighting. Most of the white men are prisoners. And, by the way, this is not a revolt by dissatisfied workmen or anything like that: it is a planned attack by the Asiatics on the white men, and seems to have been carried through on secret orders from the Asiatic Federation.

"The Federation of Asiatic peoples wants control of the mines so as to corner the world's supply of explosives and war-materials: they want to build up the armaments of Asia, to make Asia strong and end their exploitation by the whites. That is how they put it, which sounds as though an outbreak of war between white and yellow men will be the final outcome of this," he concluded, sadly.

"But what are we going to do about it?" cried Elsa.

"Do? We must be patient, young lady. We cannot give orders to the Martians. Until they have considered the matter and decided on their attitude we must wait while the Supreme Council makes up its mind as to what can or cannot be done. Remember, young lady, this quarrel is no concern of Mars. They have no reason to favor either white or yellow man if the two sections of mankind should fight. They understood that a cowardly attack was being made on the white people here, and also I have made it clear to them that the Asiatics plan a disastrous war against the white nations.

"I think, in fact I know, that they are humanitarian enough to be pained by the idea of great numbers of people being slaughtered. Even an alien people on a planet many millions of miles away; but if they decide that they cannot interfere, well, we shall just have to put up with it, however painful the

idea may be to us."

"And if they decide to help us?" demanded Elsa, still more eagerly, "what can they do?"

The Professor sighed.

"I understand and appreciate your anxiety for your father, but really, how can you expect me to know that? I haven't been here so awfully long, you know. My tongue is very slow and clumsy at that awfully difficult language of theirs, and they gabble it so rapidly. I really know very little about them as yet. They are a very peaceful people. I can't see them fighting the Asiatics, who comprise about two-thirds of mankind, over a quarrel that is not theirs. All the justice in this question is not on the side of the whites, and they know it." These last remarks the Professor made half to himself.

Elsa looked angry. Her personal fears of the Martians were forgotten, and she seemed to find it hard to realize that here, for once, she could not give orders.

"TELL me about the Martians," said Donald quietly. "How do they live?"

The Professor brightened.

"Just what I was about to do. The inside of Mars is astonishing, Hargreaves. It is full of holes like one great sponge. I understand now why the specific gravity of Mars is so much less than that of Earth.

"You know, Donald, that as the molten, or semi-molten, interior of a planet cools it shrinks. Some geologists think that earthquakes and mountain ranges are caused by that process. But in time the crust of the globe becomes so thick and strong that it refuses to cave in. Then tremendous holes are formed underground by the retreating magma. The oceans drain away to fill the great empty spaces. That is what

happened on Mars, and on the Moon. As the holes become bigger and more numerous air, too, is sucked into the holes, until at last the whole surface of the planet or whatever it is becomes barren, airless and lifeless. No doubt a similar fate is in store for our own beautiful Earth, in some far-off age."

It took a little while for this stupendous new conception to sink into Donald's mind.

"Then the air and water do not seep away gradually into space?"

"No. It disappears underground. These deeper strata are amazingly strong and solid when they cool. There are caverns here many hundreds of miles in extent. I'll show you some."

The image of the Professor vanished, to be replaced by vast views of weird underground landscapes. There were great oceans, waveless and smooth as polished glass, white clouds drifting against lofty roofs, fields of blue grass and long-legged, big-chested cattle. There were great cities built of what seemed to be colored glass, vehicles of many strange designs and ships that ploughed the waters of smooth oceans and rivers.

All was lit by a pale, phosphorescent glow that came from the rocks themselves, and the homes and persons of men were lit by the same pale blue glow that shone from the ceiling of the rocky room they sat in, the cold light so long unsuccessfully sought by scientists and industrialists of Earth.

"Let me tell you the story of Mars, briefly," went on the Professor's voice, while they watched these astonishing views. "Those were sad days on Mars when the great oceans began to shrink. The process began quite suddenly, when some point of natural equilibrium was past, no doubt. The Martians can name the very year when it started, when the average level of the oceans

dropped by an eighth of an inch, and nobody was able to account for it. Next year it was just over a quarter of an inch, then an eighth again, and half an inch the following year.

"There were some tremendous earthquakes and tidal waves, due to the waters meeting highly heated strata and turning into steam.

"Century after century it went on, the slow, inexorable drying-up of the planet, and none of their scientists was able to explain it. The waters shrank and shrank. They extended their harbors and docks to lower levels, following the retreating waters. They built vast systems of pumping works and canals to water their fertile lands, but gradually the dwindling seas beat all their efforts. Nearly all Mars became barren desert.

"It puzzled them. The seas were not evaporating for the salt content did not increase. The waters were soaking away somewhere, but they did not know where.

"It seemed that Martian mankind was doomed.

"The great city near where you now are was for a long time thought to be the very last stand of human life on Mars. Their world, that had so long befriended them, had become a great thirsty sponge, sucking away their means of life. It had become hostile.

"Then these great caverns were found, and they knew where the water had gone. They found it was possible to grow food and rear cattle in these caverns, and the human race of Mars took on a new lease of life. Slowly the air followed the waters, and mankind and all the life of Mars followed the oceans, the air and the food plants underground into the caverns, leaving the surface of a once fertile planet barren and lifeless, staring blankly up at the stars. Except for some of the



smaller creatures and minor plants.

"There was some trouble at the finish, some fighting and a terrible pestilence. It was difficult to establish human life in completely subterranean conditions. But in time science and the determination of the race to live won. After great hardships they adapted themselves successfully to the new order of affairs. They could not live in the open now, even if the air came back. Sunlight would blind them."

"And you, Professor, are you happy?"

"Oh, I'm all right. Perfectly all right. There are eight of us here. We are all quite contented. They look after us, and we are much better off than we'd be on Earth. You'd be better off here than back on Earth, Donald. Earth has nothing to offer you but a low-paid job, insecurity and a poor home: Mars offers everything. You are a young man, and you'd find the Martian women very attractive, when you got used to their size and a certain elasticity of features. And games, pictures, music.

"I mention this because the choice will in all likelihood be put before you as it was put before me: to return to Earth or to remain here. Or possibly you will have no option at all. Possibly you have already absorbed so much krypton into your systems that it will be impossible for you to go back."

"But the mutineers, the Asiatics," exclaimed Elsa.

"We must await the decision of the Council."

## CHAPTER VI

### The Promise

AS Professor Winterton went on with his description gradually the view became clear to Donald. He understood how many millions of tall Martians lived underground, hidden from

the prying telescopes of Earth, and that, huddled up as they were, they were quite content.

It seemed to him that if he lived in that way for long he would find being so shut up intolerable; but no such idea seemed to bother the Martians or the small group of Earthmen who had gone there voluntarily. Possibly in those vaster caverns, with white clouds floating high above one, one did not feel shut up at all. He could not quite get his mind used to the idea.

The professor spoke, too, of tremendous, unforeseen falls of great masses of rock from the roofs. Of destructive tidal waves when such falls occurred over the seas. Of earthquakes, and sudden gushes of flame or suffocating gas from cracks in the floors. Of great snakes and nightmare monsters that rushed out of the dark labyrinths of small, unexplored caverns. Life in the interior of Mars was apparently much more exciting than on the surface of Earth.

All the while the Professor was talking the four Martians sat watching and making not a sound. Elsa yawned from time to time, and shifted uneasily. She was bored. All she wanted was to know what was going to be done about the conspirators, and about getting her back to her father. The Martian women, she thought, looked dowdy. There was not the daring variety about the color and form of their clothing that she liked to see. Instead of beautifully-dressed people living in dull, drab homes, here were simply-dressed people living in beautiful homes. It was as though houses mattered more than persons. She did not like it.

Food was brought to them, ordinary-looking food, but queerly flavored.

"Switching off now," announced the Professor. "We've had a pleasant chat and I'm tired. Let my people know I'm

all right if you ever go back. I'll ring you up as soon as there is any news."

Elsa snorted.

"What a man! It sounded just as though he was trying to persuade us to live the rest of our lives in these hurrows, like moles."

"It might not be so bad," he murmured, thinking of slums and unemployed queues.

She snorted again, and sat silent, trying to show her disgust. Hargreaves let her show it.

Presently she said, "Now listen, Hargreaves. The Professor said he was going to ring us up again on this queer telephone and television thing. Next time you mustn't allow him to do all the talking. Explain to him that we've got to do something about the Asiatics. The rebels can't be allowed to steal our mine like this. I've got to get back, too."

"Why should I?" he asked, not liking her abrupt orders.

"Why? Do you ask me why? When my father is your employer, providing your food and keep?"

"Perhaps I may be independent of your father from now on."

"What do you mean?"

"Did you hear the Professor say that we would be allowed to remain in Mars if we chose? If we stay in Mars, both of us, we need not trouble about your father any more."

"What are you talking about? I shall refuse to stay on Mars. I shall insist that we return, both of us."

But her confidence was fading.

"You can insist, you can order," he said. "But remember this: to the Martians we are not the boss' daughter and an employee. We are simply a man and a woman. We go or we stay, together. I am the man, and the Professor made it clear that it is I who will be expected to make the decisions. If I say we go,

then, if it is possible, we go. If I decide to stay, we stay."

He said it only to tease her. He knew of no reason why Elsa Thorwaldson could not return, even if he stayed. But to her it seemed quite possible. She had paid but little attention to the Professor's words. She could not understand why the women of Mars dressed with so little display if theirs was not a down-trodden position.

Her mind worked rapidly.

"You want to stay on Mars with me as your woman?"

Donald was startled, and blushed.

"I hadn't thought of that."

Which was quite true, but to her his blush was proof. She had seen his admiration of her robust beauty in his eyes many times.

She smiled at him. He was not accustomed to women, and this broad, super-charming smile took his breath away. He was not so much dazzled as startled.

In an artificially-lighted dance hall, among painted faces (male and female), it would have been perfect. Here in a cavern on Mars, under a blue-shining ceiling with a tall Martian looking on (three had gone out on some mysterious errand), it looked excessive.

"Confess!" she invited him. "You were thinking of it. You do find me attractive."

He had a sense of drowning. Then she *wanted* him to say yes.

"Nobody can deny your beauty, Miss Thorwaldson," he said.

She thought him very stiff. Actually, he was frightened.

"You are so small," she said, "so pale and delicate-looking. I've often thought I'd like to mother you."

He looked uncomfortable.

"At least, I thought so until last night," she declared. "Then you were so brave and strong. Altogether differ-

ent from what I expected. When you stayed so bravely in that tunnel, and faced the ghost that everybody else feared."

"Was I?"

"Oh, you were wonderful!"

Her wavy black hair, her lively brown eyes, her red cheeks and lips, were irresistible. He kissed her. Though she was holding herself out to be kissed as plainly as she could, yet he thought he was being very daring.

"I love you!" he blurted out, throwing his arms round her.

"My darling," she answered.

And neither of them took the least notice of the tall Martian sitting on his seat, staring past them, taking not the least interest in either of them or in their antics. He had been so still and silent that they had come to regard him as part of the furniture of the room.

"SEE," said the Martian suddenly, his mobile features directing their attention to the crystal ball in the middle of the floor, while his arms played rapidly over his keyboards and wheels.

They parted just in time. Professor Winterton's image was back again, staring at them.

"Ah, still there, I see? There's been a lot of fuss and excitement over you down here. Ringing up people, sending messages, getting the views of important persons who had gone on holidays and were difficult to trace, oh, such a confusion! There hasn't been so much excitement on Mars since the Queen dismissed her husband and installed an air-pilot as King in his place.

"But at last we traced nearly everybody who mattered, and all those people who would have been offended if they had not been consulted. *Such* a lot of them! Phew!

"Ah! Here comes the last report. From the King and Queen. These mes-

sages come to me because you would not understand them.

"Her Majesty says, 'I think the ducky little boy must stay on Mars. Didn't he look nice and shy when she was kissing him? He must come to my court.'

"His Majesty says, 'Send him back at once!'

"Their Majesties are now discussing the matter with some excitement, and there seems to be little chance of their arriving at any agreed decision."

Donald broke in.

"I say, have they been watching us?"

"All Mars has been watching you. They had to see you in order to make up their minds. But I shouldn't let that worry you: kissing is unknown on Mars. When the natives want to express affection they bite each other's noses, and rub each other's foreheads and cheeks with their noses. It is the nose and not the lips that expresses affection with them. They would not understand a kiss, unless they guessed its meaning by a sort of intuition, as Her Majesty seems to have done."

Elsa was not in the least embarrassed.

"What's going to be done about the Asiatics?"

"Let me explain one thing at a time. You can go or you can stay, just as you choose. The scientists say there will not be enough krypton in your blood yet to do any harm. So you can forget about that problem; that won't stop you."

"Could one of us go and the other stay?" asked Elsa.

"Certainly, but I thought you would want to be together."

"And what about the Asiatics? What are they going to do about those brigands and murderers?"

"I warned you that the rulers of Mars would not be likely to interfere in a quarrel between Earthmen. And that

is what they have decided. This fighting is no concern of Mars. Mars cannot intervene."

"But something's got to be done. Something *must* be done."

"I have explained carefully that these people are criminals who have made an unprovoked attack on peaceful people. They are prepared to arm you if you care to try an attack on these men yourselves, and to allow you the help of one of their domestic fighting animals, a zekolo, which they keep to protect them from snakes. But more than that they will not do. They will do nothing themselves."

"How are we to get back?" asked Donald. "We can't go through the mine. We'd walk straight into a trap. And if the power is off we couldn't get up the shaft."

"They've thought of that. You would not go through the mine. They would take you along the underground passages to their city, and show you the way out. But you can't go yet. It is night time outside, and in the Martian night you would freeze to death if you tried to cross the open space between city and mine. You have several hours to wait."

"Wait a minute," said Donald. He saw that he would have to make a single-handed attack on several hundred men, and he was not sure that the idea attracted him. "Give me time to think it over. We have several hours to sunrise. Give me time to make up my mind and tell you later what I mean to do."

"Yes, that's all right. I'll make arrangements to have you rung up later, about dawn."

The projection vanished.

Elsa looked at Donald with an expression he could not understand.

"We are tired. We must rest," she said to the Martian.

"I savvy." He guided them to sleep-

ing quarters where he left the couple to their own devices.

"**W**ON'T you do it, for my sake?" she asked, when they were alone. "You were so brave in the mine, facing the giant that everybody else ran from. You won't spoil the picture I made of you then, will you? You won't shirk your duty now, my hero?"

"What chance would I have, against hundreds?"

"Are you afraid of the danger?"

"Yes, I am. Why pretend I'm not, when I'm certain to be killed? But I'll try it. I'll do what you say is my duty, on one condition."

"What is your condition?" she asked softly with a shy smile.

"You know how hard the lives of the miners are? What a lot of accidents there are? If I succeed I want better conditions in the mines, shorter working days and safety measures."

She had expected something quite different.

"But that would absorb all the profits. Martian Metals would have to close down."

"It would not. The company would still be able to pay ten per cent. If it couldn't, production would have to be cut down to force up prices. It would only mean less explosives for armaments."

"Listen to me. The Professor says that your father is confined to the big house. That means he is still on the telephone. I can go a little way into the mine and send a message to him, if the wires are not cut. I'll tell him of the attempt that I propose to make, and of my conditions, should I be successful. And in case anyone should be listening I'll speak in French. He knows that language fairly well, and the Asiatics are hardly likely to understand."

"Oh, you wouldn't," she pleaded.

"You don't know what it would mean. He'd lose his position. The shareholders would turn him out of control."

"He'd still be wealthy, if they did."

She put her arms around him.

"Donald, my darling! You won't insist on these conditions. You don't know what they mean. Come to me and promise me you'll forget them."

He knew little about women. Intoxicated by her powerful charms, his reason swept away.

He took her in his arms, and gave the promise she asked for, feeling like a traitor as he did so.

But tomorrow he was going to be killed. He was quite certain he was going to be killed. What did anything matter except that he was going to die?

## CHAPTER VII

### The Rescue

A WHISTLING sounded outside the round door.

"What is it?" asked Donald, half aroused.

"Dawn."

Donald sat up. He was sleepy still. He had had only a little light sleep, and did not feel in the least like heroic deeds. What he wanted was more rest.

But he had promised to go through with it.

He woke Elsa, who was bleary-eyed and not nearly so dazzling as she had appeared before.

"Morning," he said. "We have to get up."

They went into the other room, where three Martians waited. He wondered if they ever slept.

Without a word they adjusted the plugs and the keyboard. The projection of Professor Winterton appeared, in a long blue gown.

"What have you decided, Donald?"

"I am going back to see what I can

do to help the others."

"Good boy. I knew you would. We'd come and help you, but we can't because of the krypton in our blood. We would not be allowed to, either. But our best wishes go with you."

"Thanks."

"It's a dangerous job you are undertaking, but the Martian nerve-ray producer is an excellent weapon. It has unlimited range, and can be set, by turning a handle, to sweep a wide area or to focus and so carry a very long way. There is a switch: press it to the right and it produces unconsciousness, press it to the left and it kills. It produces chemical reactions in nerves that stops them working. You will be given a pair of special glasses, too, through which you can see the ray shining out of the box. That's a great help in aiming."

"And the zekolo. That's one of the shell-wearing creatures that follow the Martians about like dogs. Their shells are so hard as to be almost impossible to damage, even with explosive bullets. If their tentacles are shot away they simply grow more in a few days."

"They understand a few orders in Martian words. If you say, 'Grahhol' to them they will rush upon and kill whoever you point out. Say, 'Grahlee!' and they simply knock your enemy down and disarm him. Now repeat those instructions."

Donald repeated the information.

"That's right. Better write it down to memorize."

Donald did, and the Professor checked what he had written.

"Correct. Now perhaps you had better practice with the ray producer until you are quite proficient. Remember that it operates, though not so strongly, through thin walls and glass provided they have not been specially protected. You can stand on one side of a wall and

render a man on the other side of the wall unconscious or dead."

The Martians handed him a ray-producing box, and let him practice with it, after fixing a safety catch that prevented it being turned so as to produce a fatal ray. It was a good thing they did, for he swept the ray too wide in his first attempt, and caught one of the arms of a Martian, causing it to hang uselessly at his side for some hours afterwards. But they only laughed at this, and said it did not matter.

**A** LITTLE while later, with the Professor's good wishes ringing in his ears, Donald and a Martian set out in the swiftly rolling sphere along the green-lined tunnels.

Elsa stayed behind. Fighting was not a woman's business.

They came out into the ancient surface city as the sun was beginning to shine slantingly through its walls. The sphere rolled through the wide, winding streets.

Donald thought he could see a sad, wistful look on their Martian compan-

ion's face within his air-helmet as he looked upon the lovely architecture his ancestors had built in the open, under the light of the sun. Now his race was confined to darkness and phosphorus-lit caverns underground, and the driver himself could stay here only a few minutes, for fear of the krypton forming bubbles in his blood.

The sphere stopped. They got out.

"I go," said the Martian. "Danger here for me."

The sphere rolled away.

They were alone again. The nerve-ray producer was in Donald's hands, the zekolo by his side. Ahead was a desperate battle against heavy odds.

But he knew that the longer he stopped to think about it the more his fears would mount and the harder it would be to start. Without a word he set out, firmly.

The zekolo came by his side. It had a fascinating way of walking, its many tentacles weaving in and out in a manner his eyes could not follow. When it came to a downward slope it withdrew inside its shell, closed itself up and

Don pressed the switch and the men dropped to the sand



rolled on its edge, waiting for him at the bottom of the slope.

It carried a large reserve of oxygen in its lungs, so that it could move about without air for a long while.

He came to the edge of the black soot that surrounded the power-station. A man approached, but in the air-helmet he could not see whether he was white or Asiatic.

The man raised an arm in a signal for him to stop. He saw that he carried a rifle.

Don pressed his switch, and the man fell in the slow, deliberate way one falls on Mars.

Approaching, he saw that he was a dark-skinned Afghan, probably a sentry.

He would be all right there until evening, but when evening came he would have to be carried in before he froze.

That was one Asiatic accounted for. The success gave him confidence.

HE went on toward the mine buildings. There would be more danger there, for men would be able to see him before he saw them, and shoot from behind walls, or out of doorways. He would have to be very alert, and keep his eyes wide open.

A group of four men came out of the nearest building toward him. No doubt they had seen their comrade fall, and knew him for an enemy. One fired, and an explosive bullet sang past him to explode on the rocks beyond.\*

He adjusted the ray, which he could see like a stream of pale pink smoke coming from his box, and the four sank to the ground as though they were overcome with weariness.

There was an explosion in front of

\*Owing to the light gravity and very slight wind-resistance on Mars bullets travel in a practically straight line for a very long way. A good marksman can easily hit a small target, such as a rabbit, at seven hundred yards.—Author.

him, and another to his right. The shots came from somewhere among the heap of crushed rock, waste products of the mine, just ahead. Someone was hiding there and sniping at him, but he could not see where the man was.

He swept the rubble heap with his ray, but the shots still came, some of them being uncomfortably close.

It was awkward. To come any closer was to be blown to pieces.

He thought of the zekolo beside him.

"Grablee!" he ordered, pointing, and the creature set off rapidly, its tentacles drawn halfway inside its shell for protection.

Really, it was amusing to watch the way it ran, its many tentacles weaving in and out. It could travel swiftly, too.

The apparition of the weird creature charging toward their hiding-place was too much for the nerves of the two Asiatics who were lying among the rubble. They jumped up and ran in terror, dropping their rifles.

He brought one down, but the other disappeared among the buildings, the zekolo after him.

He wanted to call it back, but knew no word of command for the purpose. It had gone. It was curious how helpless and alone he felt without it.

Cautiously, he made his way among the buildings, expecting ambush everywhere. But instead of the host of enemies he had expected the place was extraordinarily deserted. Nobody was to be seen. They had all bolted in terror at the sight of the zekolo.

He arrived at the big house, where Thorwaldson and some of the white people were locked up. He rang the bell.

The bolts drew back, and he pulled open the air-tight door. A feeble puff of air came out at him.

It occurred to him that if anybody inside chose they might keep him imprisoned as long as they cared to in

these air locks. He would have to risk that.

The safety mechanism would not allow the second door to be opened until the outer one was fastened. If all the air rushed out of the building it might be fatal to anybody caught inside without an air-helmet and unable to shut himself or herself in an air-tight room in time.

The second door opened, and he went into the second air-lock. Then on to the third.

The fourth door was the last. Men might be waiting beyond that door, rifles or revolvers in hand. He played the ray through the door before he opened it.

It was well that he did so, for he found no fewer than six Asiatics lying in attitudes of repose on the floor, revolvers in their hands with which they had obviously been covering the door.

He strode through the building and went up in the elevator to the second floor. He knocked sharply on the door of Thorwaldson's room.

An irritated voice demanded, weakly, "What the devil do you want now?"

The door was locked. He had to go back to the front door and take the keys off the unconscious men before he could open it and let Thorwaldson and his companions out.

John Thorwaldson looked a broken, deflated figure, not the loud-voiced blusterer he usually was.

"Are you in league with these fellows?" were his first words.

Donald told his story rapidly.

"Oh, now you've done it! Now you've done it!" moaned Thorwaldson, when Donald finished. He waved his arms in despair.

Donald had expected relief and gratitude; all he got was hysterical abuse.

"What have I done wrong?"

"Can't you see what you've done, you

fool? The leader of those fellows is over there, in the building that controls the air-supply. He must have seen you come in here; he'll cut off our air supply! They've taken away all the air-helmets. We shall all suffocate!"

The women moaned.

"Not if they think that I have been safely killed or captured by the six guards," Donald reassured them.

"Six guards? There were eight. The other two must have slipped out while you were up here letting us out, you imbecile! They will tell him everything."

Donald now remembered having heard somebody moving about, but had been in too big a hurry to release the resident manager to stop to hunt for whoever it was.

As though to emphasize Thorwaldson's words a cloud of black smoke rose in the middle of the room, for no apparent reason.

Thorwaldson screamed.

"Oh, look what they've done! They've turned the exhaust of the power-plant into our air-pipe. Instead of air we shall get suffocating smoke! Instead of helping us you have killed us all!"

## CHAPTER VIII

### Donald Returns

"GET into an air-tight room as quickly as you can and block up the air-inlets," ordered Donald curtly. "Leave everything to me."

The others ran off. Thorwaldson glared at him then, seeming to realize that this was no time for argument, followed them in their search for temporary safety.

"And now what's next?" muttered Hargreaves to himself.

A noise at the other door drew his attention.

"Coming to pay me a visit, are they?"



he thought, grimly. "That suits me. I'll give them a warm welcome."

He worked the air-locks. As he pulled the switch to operate the last door he stood well away from it, using the leg of a chair. If his visitors started shooting through the door he wanted to be out of the way of the bullets.

But it was not a man that came through the door. It was the zekolo. By some means, probably by smelling his tracks, the creature had been able to trace him here. He patted its hard shell with pleasure.

"Good zeko," he said. "Clever boy."

An explosion sounded outside. Immediately afterwards came another.

"What are they doing now, bombarding the place?" he muttered.

A roar sounded in the air-locks as a bomb burst in the doorway. The Asiatics were blowing up the airlocks so as to let the air out of the building. That meant death for the six unconscious men on the floor.

He tried playing his nerve-ray on the wall of the building in the general direction of his unseen attackers, in the hope of catching them by chance; but the bombardment went on.

Presently the last door was burst open, and a mighty wind swept through the building as the air streamed out. The unconscious men on the floor stirred as they began to suffocate, then lay still in death, the air drained out of their lungs. Their faces went red and their hands waxy white.

"We've got to get out of here somehow, zeko," he said to the crustacean, who was feeling about the bodies, curiously. "And I think that if we tried to get out of the front door we wouldn't get far. They've got it covered."

He went up the stairs, as the elevator had stopped working. Through a window he could see Asiatics outside, surrounding the place.

"Why didn't I think of it before?" he muttered, and began stretching them unconscious by playing his ray through the glass. They dropped one after another.

When those who were still conscious discovered him and began bombarding his window he moved to another window.

"Go to sleep, my lads, go to sleep. Daddy's come to send you to bye-bye!"

It was a one-sided sort of fighting. He could stand well back inside a window, completely invisible from outside, and stretch unconscious, men who could not see what hit them.

Until presently the ray jammed. Either the charge was exhausted or else his inexperienced handling had made the mechanism go wrong. Whichever it was the lever refused to move. He struggled with it for a while, then gave it up as hopeless.

The house was full of smoke, and walls, floors and ceilings had a coating of soot. Many windows had been blown in by the explosive bullets. If the windows of the rooms where Thorwaldson or any of the others were hiding got broken that would be the end of them.

"We've got to do something, zeko," he said.

He took revolvers from the dead men on the floor.

"Got to meet 'em on even terms now, zeko. And I've never handled firearms before in my life."

It had been easy with the pink nerve-ray: he could see what that was playing on, but with an unaccustomed revolver he was sure he could not hit a barn door at ten yards.

"Got to do it, zeko," he said. "If we wait here they'll reduce the whole building to a heap of ruins. Perhaps there will not be many of them round the door now. We've got to make a dash for it. Grablee!"

The beast needed nothing further. It rushed out of the ruined doorway, Donald behind it.

The nerve of the Asiatics had been badly shaken by seeing so many of their number fall, as they thought, dead, for no apparent reason. In the superstitious way of uncivilized peoples, they had thought it to be witchcraft. And the sight of the weird, incomprehensible zekolo charging at them put the finishing touch to their fears. They bolted. One fired at it, but the bullet exploded on the amazingly tough shell without doing any harm. They fled into the mine, into the power-station, anywhere.

Donald found himself in possession of the field.

"Zeko! Come back zeko!"

Zeko came back when he found that his quarry had all got away.

"Good zeko! But we haven't finished our job yet. We've got plenty more to do yet. They still hold the air-plant. As long as the leaders of those fellows hold that building they control the settlement. We've got to get 'em out. We've got to capture the building, and without wrecking the air-plant. It's got to be, 'Grahlee!' again. Eh, damn it, I didn't expect the thing to dash away at once like that!"

For the fighting animal's blood was aroused. At the word of command it dashed off and began scraping at the door of the building that housed the air plant.

Donald watched. He didn't want to run into a trap. The creature would probably scrape for some time before anybody opened.

To his surprise, however, the door did open. He began to run, but it closed again before he reached it. The zekolo was inside, and he was outside.

He knocked on the door and rang, but there was no answer. From inside the building came the sound of several

explosions.

He waited and wandered around, becoming gradually more and more reckless. Minutes passed.

He saw the zekolo at the window, but no other sign of life. Was there nobody inside?

But somebody must have been there to let the zekolo in. And, from what he saw, the creature wanted to get out again, but could not.

"Awkward," he muttered.

He had to get in, but he must be careful not to do anything to damage the air-pumps or interfere with their working, for the life of the colony depended on them. It would not do to blow open a window and let the air out of the building.

But if he blew open a window of an air-tight room it might be all right. The mess-room at the back was air-tight, he remembered. He went to it and smashed the three-inch glass of the window with explosive bullets, then climbed in.

The air-tight door had closed automatically as the air rushed out of the broken window. He pushed it open with a big effort against the air-pressure, and emerged into the passage. It slammed shut instantly again.

"If anybody had been waiting for me here I'd have had no chance at all," he reflected.

He found the zekolo. Three of its tentacles had been blown off, but it seemed to take no notice of that. It waved its stumps and the sound tentacles as though to show how pleased it was to see him.

In various rooms and passages lay the leaders of the revolt, unconscious, knocked out by the zekolo.

DONALD slept better that night, after the feast that had celebrated the crushing of the mutiny. Most of

the Asiatics were safely locked up, but a few had been allowed to go on with their work. Order, as the customary phrase goes, was restored. Earth had heard the whole story by radio, and the culprits were awaiting transport back to Earth by the next rocket-ship.

Congratulations had been showered on Donald Hargreaves. He was the hero of the hour. He had spent a happy night dreaming of his wonderful future as the husband of the beautiful Elsa and son-in-law of the wealthy and influential John Thorwaldson.

The morning bell roused him, warning him that it was time to dress for breakfast. He dressed happily, wondering whether he would be expected to keep on with his clerical job or not. Probably he would for a little while, seeing how short the establishment was of clerks.

Somebody knocked on the door.

"A message from the old man," said the boy who entered, gazing at him in worship and handing him a strip of prepared zinc.

"Thanks," he said, mechanically.

It was unusual to send messages to men in their private rooms like this, and when such a message came it was usually bad news. He had an unpleasant sense of coming shock as he gazed at the metal strip. He was almost afraid to put it in into the machine to hear the manager's voice.

Then he reassured himself. What had he to fear, after what he had done? This foreboding was absurd, and merely due to association of ideas, a long-standing habit of thought.

He put it in the reproducing machine, and listened to the harsh, abrupt voice of John Thorwaldson.

"Hargreaves, after hearing my daughter's story I can only say that I am shocked and amazed that you should use the unfortunate chance that threw

you together to force your attentions on her. If it had not been for your courageous behavior yesterday I should have no hesitation in charging you with criminal assault and having you sent to prison. Your employment here ends today, and you will return to Earth in the next rocket-ship. Think yourself lucky that I am being so lenient with you."

He had to run the brutal message through the machine three times before he was sure that he had not misunderstood it. So that was the story Elsa had told? Forcing his attentions on her! Criminal assault!

He stared blankly before him. His world was in ruins. A man dismissed from a powerful organization like Martian Metals was bound to have a hard struggle to find other employment.

A bad time was before him.

And Elsa had told him that she loved him!

He dressed slowly like a man in a daze.

When he had dressed he decided he wanted no breakfast. Appetite for food had left him. Instead, he put on his fur clothes and air-helmet and went out.

He knocked at the door of the house where Elsa and her wealthy friends were staying after the wreck of the big house. He asked for Miss Thorwaldson, not expecting her to come. But she came, two armed footmen with her, two footmen who glared at him with open hostility.

"What is it?" she demanded, her manner bold and contemptuous.

In spite of himself he could not help admiring her brazen self-assurance. She showed no sign of shame or embarrassment.

"You know your father has dismissed me?"

She laughed.

"What else did you expect him to do?"

"You told him an untruthful story."

"I told him substantially the truth. You took an unfair advantage of me."

He stared, dumbly. Both she and the two men were alert, ready for some hostile action, but he did nothing. All energy seemed drained out of him, leaving him weary, sick and disgusted at what a base thing human nature can be, when men had no gratitude and women could pretend to love for selfish ends.

It was Elsa who spoke.

"Hargreaves," she said, and there was steel in her voice, "there is one quality that you do not possess. That is loyalty. You think only of rewards. I am loyal. I am loyal to my country and to my father. You forgot that."

His answer when it came surprised her.

"Miss Thorwaldson, you told me once that I should have been a Martian. Perhaps you were right. After this example of how one who should be one of the best samples of humanity can behave, I want no more to do with Earth or mankind. I'll become a Martian."

He went out through the air-locks.

She stared after him, wondering what

he meant; then understanding came to her, and she laughed, shortly.

**DONALD HARGREAVES** presented himself at the mine-head.

"Are there many men below?"

"About a score, I think, Mr. Hargreaves."

They spoke respectfully, but he reflected that if they knew he had been dismissed their tone would be very different.

"Will there be enough to clear the obstructions from tunnel 57?"

"The obstructions have already been removed, sir."

"Thanks."

He went into the cage.

"Good-bye," he said, as he began to go down.

And they wondered why he should say, "Good-bye!" not knowing that a man could decide to leave the Earth and her people forever; that, disgusted with the deceit and ingratitude of Earth he could walk with firm, unhurried step into the unknown, to live among aliens in the caverns around the sunken seas of another world.

### » » THE CUCKOO IS A RACKETEER « «

One of the most curious of birds is the Cuckoo. It not only builds no nest of its own, but foists its eggs on other species and has its young reared without trouble to itself, but to the great detriment of the rightful children of the foster-parents. When the time for laying approaches, the female Cuckoo goes to an already selected victim's nest, takes an egg from it with its beak, settles down and lays its own egg. Then it flies away with the stolen egg and either drops it at a distance or eats it. The whole maneuver takes but a few seconds and may be carried out despite the frantic efforts of the unwilling hosts to prevent.



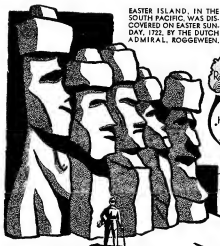
### WARNING TO CRANKS

If you want to stay cranky, look out for Star Single-edge Blades! They're so keen, they're so gentle with a tender skin that if you're not careful, you'll be smiling all over. Famous since 1880! Star Blades cost little: 4 for 10¢. Star Blade Division, Brooklyn, N. Y.



**STAR** SINGLE-EDGE  
**BLADES 4 FOR 10¢**  
FOR GEM AND EVER-READY RAZORS

EASTER ISLAND, IN THE SOUTH PACIFIC, WAS DISCOVERED ON EASTER SUNDAY, 1722, BY THE DUTCH ADMIRAL, ROGGEVEEN.



# RIDDLES OF SCIENCE

## THE TITANS OF EASTER ISLAND

The giant stone statues of Easter Island present the most baffling enigma of all time. Monuments to a lost civilization, their clues of stone have never been deciphered. What is the meaning of these hundreds of frowning images?



EVEN MODERN SCIENCE WOULD BE FACED WITH A COLOSSAL TASK IN ERECTING THESE MASSIVE BLOCKS OF STONE.

12,000 YEARS AGO, A CIVILIZATION HIGHLY ADVANCED IN SCIENCE SANK BENEATH THE SEA. WERE THESE IMAGES A RELIGIOUS EFFORT TO HALT DESTRUCTION? THE ANSWER LIES 10,000 FEET BENEATH THE WAVES.





Tearle set before a turntable in the physics laboratory

# Telepathy

By EANDO BINDER

Overnight Warren Tearle changed from a weak-willed, shy introvert to a dominant, ruthless telepathic giant. Using the vast power that came to him from the third level of mental telepathy, he sought to build a financial empire

## CHAPTER I An Amazing Test

MISS DARCE HENDERSON, the scientist's secretary, had brought Warren Tearle in with an apologetic expression, as though he were an undesirable character, then left.

The visitor was a rather unimpressive figure, angular and awkward, somewhat shabbily dressed. Professor Ray Oberton put him down immediately as a young man of about 24, with a strong inferiority complex. His face was slightly bitter.

"You're here for the tests, young man?" the psychologist asked kindly.

"Yes, professor," the visitor stammered. "My name is Warren Tearle. I

heard you paid five dollars to anyone who took the telepathy tests and came out high. The five dollars—I, er, could use it."

"Of course, anyone can," Oberton said considerably, to put him at his ease. "Sit down. The five-dollar offer is an inducement I've had to use to get people here for the tests. You see, telepathy and telesthesia—the latter usually called clairvoyance—are psychic qualities that vary considerably in people. Most have detectable psychic perception. But one out of a thousand or so have somewhat more remarkable abilities in that line, and they are what I'm looking for. Again, one out of a million perhaps has really exceptional psychic



powers. I'd like to strike one of that sort."

Warren Tearle sat stiffly in his chair, listening attentively.

The scientist had picked up a pack of clean cards with lace-work on their backs. He selected five and laid them face up on the desk in front of Tearle. Each had a simple design on its face, all different—a cross, circle, square, star, and three wavy lines.

"Ever seen these before?"

Tearle shook his head.

"These are the standard ESP cards," explained Oberton. "They were devised by Professor J. B. Rhine at Duke University.\* 'ESP' means 'extra-sensory perception', a term also coined by him. He opened a marvelous new field."

The scientist dreamily tapped the cards in his hand.

"Obviously, it is extra-sensory perception—even the conservatives admit it. But just *what* is it? Is it second sight, mental telegraphy, a sixth sense, a new dimension, or specifically what? That is the question that psychologists are asking the world over. Hundreds of thousands of tests have been made on thousands of people. The law of chance has been ruled out entirely. Something, somehow, carries messages to the human mind without the use of the five senses. *But what?*"

Warren Tearle shrank back a little as the last two words were delivered with an almost explosive inflection.

"Now," said Oberton, clearing his throat, "the idea of the test is this. The deck I hold has 25 cards, 5 of each of those common symbols I've shown you.

By the inexorable law of chance, over a sufficient number of trials, the average result of *guessing* the symbols is exactly one out of five, or 5 out of 25. You understand?"

"Yes," asserted Tearle. He was becoming deeply interested.

"*But*—if there is some strange property of the mind that allows a glimpse now and then of a card through mysterious channels, the average will be *more* than 5 out of 25. And these results have been achieved. Most people, apparently with weak psychic ability, run very little above five. But others will consistently average around 6 and 7. Exceptional subjects have even averaged 9 and 10, which is *twice* as much as the law of chance will allow."

Oberton began shuffling the deck carefully.

"To win the five dollars, you have to make an average score of 8 in five trials. There are two types of tests—telepathic and clairvoyant. In telepathic, you would name the symbols as I hold up the cards in front of me, concentrating on what I see. There you would be reading my mind, so to speak. The clairvoyant test you would carry out alone. The deck is simply placed face down and you would attempt to name the symbols in order from the top card down."

"Like—like seeing *through* the cards?" gasped Tearle.

"In a way," smiled Oberton. "You have your choice."

Tearle sat further toward the edge of his chair. "I'll try it," he said suddenly. "The clairvoyant, I mean."

The scientist nodded and placed the deck, face down, directly before him.

"You may take as long as you wish to name the symbols. However, when you get a strong impression of knowing what one is, don't hesitate in calling it out. This psychic perception is almost

\* It was only four years ago, in 1934, that Duke University announced its epochal experiments in parapsychology, thereby raising that study of psychic phenomena from a pseudo-science to an exact science. Since then there have been many verifications from other laboratories of those classic researches. The strange telepathic and clairvoyant powers of the human mind have been amply demonstrated.—Ed.



an instinct—it doesn't come right out and hit you on the nose. Now start. I'll take down the record."

Warren Tearle felt utterly foolish for a moment, staring down at a deck of cards. How could one see through them and name them! It was ridiculous. But it was too late now to back out, and besides, if he was lucky, he might win the five dollars.

The five-dollar inducement had ensnared Warren Tearle for the simple reason that he needed five dollars. Long orphaned, out of a job, and somewhat bitter toward life, he could not pass by an opportunity to win some money, no matter how crazy the thing sounded. He had barely heard of telepathy in his grim struggle with life.

If Tearle was doubtful about his ability to see through a pack of cards, Oberton had equal misgivings. He reflected that his visitor looked no more psychic than a mudturtle.

Tearle was vaguely aware of someone coughing impatiently. It must be the professor. Tearle felt his eyes blur from his concentrated stare at the deck. What could that first card be? How was he to know when to say it? How did this queer clairvoyance work? A stah of panic went through him. He'd even forgotten what the symbols were! He could only remember one—the star. Well, he might as well say it—

"Star," said Tearle, hesitantly.

That broke the ice. He began calling the symbols regularly. He gained speed as he went along. Some subtle intuition seemed to guide him.

When the five tests had been made, Oberton, already excited, took the average. "Fifteen!" he announced. "Three times chance!" He stuffed his pipe, breaking three matches before he got it lit. Then he smoked jerkily. All the while he stared at Tearle so hard that he felt uncomfortable.

"Pardon me," said Tearle timidly at last, arising. "But if you will give me my—the five dollars I won, I'll leave now, I guess."

"What!" Oberton almost roared.

"Didn't I win it?" gasped Tearle.

Oberton took him by the arm and gently forced him back into the chair as though he were a fragile China piece.

"Tearle," he said earnestly, "do you realize that you are—for lack of a better term—an outstanding psychic? You have truly amazing telepathic powers. I'm going to study them; I'm going to find out how it works, if I can. You're going to become my collaborator in research. Five dollars? Young man, I'll get you a \$1000 a year grant from the university!"

## CHAPTER II

### A Mental Guinea Pig

FROM that day on, there was a quality of confusion in all things, for Warren Tearle. It was more like a vivid dream than real life. Events developed swiftly and incredibly, as though he had been marked by destiny. . . .

Daily he was put through telepathic tests by Professor Oberton. It quickly became obvious that Warren Tearle was a human being with astounding powers of non-sensory perception. Why he should be such, where most people were dull in the psychic sense, was not explainable. It was just a fact. But the science of parapsychology was a new science, the professor reflected. There were many things to learn.

Professor Oberton thereafter spent more and more of his research time with Tearle. Pedantic and earnest, he was determined to run down the will-o-wisp of extra-sensory perception, now that he had the super-psychic Tearle to work with.

As Warren Tearle daily associated

with him and absorbed the background of the research, he became fascinated. His intellect, eager and quick, was more keen than even he himself had suspected, beneath his inferiority complex. The two men worked on with a common interest in the intangible mysteries of mind and its psychic range. Day after day they labored, striving to push back the frontiers that Rhine—the Einstein of psychology—had first invaded.

Professor Oberton soon found the standard ESP cards too simple and unilluminative, and began devising new ones. He tried a wide range of symbols, from a mere dot to a dodecahedron.

Warren Tearle mastered them all within a few trials. It was a crowning achievement when he was able to name correctly 95 out of 100 different symbols, all given within three-second intervals. Only one thing dampened Oberton's enthusiasms—he couldn't arrive at any scientific explanation of how extra-sensory perception worked. No matter how often he asked Tearle just *how* he was able to perceive those hidden things, the young man would only shake his head helplessly.

A MONTH after that day when Warren Tearle, a shabby, underfed figure, had first climbed the steps of the building, there was an air of tenseness in the parapsychology laboratory.

Professor Oberton, Tearle, and Darce Henderson were together. Tearle was staring dreamily out of the window at several feeding pigeons, calling out symbols. Before him, on the desk, was a thick steel strong-box, securely closed. Within it reposed an invisible deck of cards.

Tearle paused, puzzled, on the twelfth card. Professor Oberton and Darce Henderson looked at one another significantly.

"Hand!" said Tearle finally. He

closed his eyes a moment. "*Left hand*," he stated.

He stared out of the window. His voice became a little hoarser now and a slight dew of sweat glistened on his nose. He went on with a rush.

"Flower—carnation. Insect—bee. The Gettysburg Address. Map of Europe—"

After the 25th call, he raised his bewildered eyes. "I named them all," he whispered. "And I named them right—I *know*!" He shivered slightly. "It's uncanny!"

He slumped forward suddenly, resting his head on his arms, trying to control a nervous hysteria that gripped him. Professor Oberton opened the steel box, grabbed up the cards, and checked them with the called list.

"A perfect score—25 out of 25!" he cried. "*And with a set of new imprinted objects he had never seen before!*"

Tearle sat up finally, in sheepish embarrassment. "Sorry I went to pieces, professor. But it was rather a ghastly sensation."

"*What* was?" barked the psychologist, leaning forward.

"The—well, the easy way it suddenly came to me," continued Tearle lamely. "Up to the 12th card, it was like before—the impressions coming slowly. When I got to the 12th—the hand—I found myself straining, striving, as though I had to climb a barrier. Suddenly—it all cleared up! It was like putting on your glasses and reading small print that you couldn't make out before. Or like"—he groped mentally for expression—"finding a dream real. I—I can't explain it, professor."

Oberton tugged at his beard.

"I suspect you have advanced into some new phase of extra-sensory perception," he mused. "The fact that you not only named the hand, but knew it to be a *left* hand is significant. Is it

mostly a sort of vision—a second sight? Think hard now, Tearle. Do you visualize images?"

The young man shook his head. "It's partly that, but much more of something else. It isn't seeing, but *knowing*!"

"Like a voice told you?" queried the scientist, though he had asked that question a hundred times before.

"No," said Tearle hesitantly. "More than just that. In a way, all the five senses are combined in one, it seems. When I came to the card with the hand, I seemed to feel it gripping mine. That was how I knew it was a left hand, because it fitted in *my* left hand, in a handshake. When I came to the flower, I smelled carnation as though it were in front of my nose. As I switched to the next card, a taste of honey was in my mouth. The *Gettysburg Address* seemed to be read out by some one in a sonorous voice. And yet in each case I simply *knew* what they were, too!"

The professor threw out his hands helplessly. "It's the old problem, trying to explain color to a blind man," he sighed. "I've averaged as high as 9.7 myself, in the standard ESP tests, but it's still a mystery to me."

He became enthusiastic again. "But let's have some more tests. Try running through the deck of 100 different symbols."

Tearle settled himself back in his chair, stared out of the window, and began naming them. Darce's eyes widened and her pencil flew busily as he rattled them off with the speed and assurance of a person reading from a list. The professor checked at the end.

"All hundred correct!" he announced. "Now I'll mix the pack of object-symbols with it. Try that."

Tearle found no difficulty in running off these 125 cards, though all the while they reposed invisibly within the steel

box on the desk.

"Psychic perception 100%—never before recorded!" muttered Professor Oberton, as though he didn't want to believe it. "Try broadcast telepathy, now, with Darce as recipient."

With the deck before him, Tearle picked up card after card, concentrating on each as the girl, across the room, wrote down symbols one by one. Darce stared at the raw-boned young man in astonishment all the while. At the end she looked dazed.

"That came over clear as a bell!" she exclaimed.

"A voice?" queried the professor doggedly.

"No, unless it was a voice that reverberated from one end of the universe to another!" said the girl meaninglessly. She was excited. "It's more like a—an instinct of knowing. I can't explain it, either, professor."

Professor Oberton was checking the last run. "Perfect score again! This is almost incredible! Now transmit to me."

The score was once more errorless.

"Well, is it a voice, professor?" asked Darce sweetly.

"No, it's a—a rapport between the two minds, like—"

"Like a seance?" laughed the girl.

"All right, I can't explain it either," admitted the scientist, grinning. "But I'm determined to get at the root of telepathy and telesthesia. Heretofore, our experiments have been carefully controlled laboratory tests, but from now on I'm going to let my imagination lead me on—and see what comes of it!"

His eyes glowed. Then he waved a hand. "That will be all for today, Tearle. You may go. Wait—how much change have I in my pocket?"

"Forty-two cents," said Tearle automatically, though the question was unexpected.

The psychologist dug into his pocket, opened his fist, and displayed four dimes and two pennies. He sat down weakly. "Well, good night," he said.

Tearle followed Darce to the outer office. There was no one else in the room. Suddenly the girl turned to face him with a serious expression.

"Whatever you do," she said solemnly, "don't let this—get you. Don't let it go to your head, I mean. Or I don't know exactly what I mean, but don't get to feeling superior just because you have a wonderful gift of psychic perception." There was a vague uneasiness in her tone.

"Oh, no, of course not," said Tearle slowly. "I understand what you mean."

"I'm glad you do," said the girl. "Good night."

For a moment Tearle hesitated going. Almost every evening he did, with the thought of screwing up enough courage to ask Darce out to dinner, always to lack the courage to go through with it.

But tonight a sort of recklessness imbued him. He turned in the doorway. "Miss Henderson," he began, clearing his throat nervously, "I wonder if—that is—would you—"

That was all the far he got as a burly form from the hall suddenly blundered into him, knocking him off his feet.

"Sorry," said the newcomer, one of the several college boys who were satellites to Darce's queenly beauty. He picked Tearle off the floor and dusted him off hurriedly as though he were a rag doll.

"Beg your pardon, for being in the doorway," said Tearle meekly.

The college boy grunted and turned to Darce eagerly. "So I did beat the other guys here, eh? Honey, how's about you and me—"

"Wait," interrupted the girl. "Warren," she called to the gangling, embar-

assed figure once more heading for the hall. "What were you saying?"

"Me? Oh, nothing important," stammered Tearle, over his shoulder, without stopping.

A month later a scene took place that would have struck any unknowing observer as being a necromantic ritual.

Warren Tearle sat twenty feet from a row of books, unable to see their titles. Professor Oberton stood near the books, peering at them. Darce Henderson wrote in shorthand, in a large notebook.

"The fifteenth book, page 245," said Oberton, at random.

Face blank, Tearle began speaking after a short pause. Steadily, he gave out words, starting in the middle of a sentence and ending a few minutes later with an unfinished sentence. When he had signified the end, the psychologist took out the 15th book on the shelf, turned to page 245, and read its contents. Darce checked with her shorthand record.

"Only ten words wrong," she announced at the end. "Which is four better than his average in the other nine trials."

"And damn good in any man's language!" cried the scientist jubilantly. "Now, Tearle, try reading the titles of books in my apartment, three miles from here! Physical dimensions have been proven to have no effect on psychic range. It should be just as easy for you to perceive them by clairvoyance as the books here."

"I'll try," said Tearle.

For several minutes he made no further sound. Puzzledly, he now and then turned his head, as though adjusting some intangible inner focus. Suddenly his eyes lighted.

"*Decline of the West* by Oswald Spengler," he said. "First book in upper left corner of a glass-faced wall case near the bed. The second is *Webster's*

*Collegiate Dictionary*. The third is *Daring Detective Stories* by Hack Ryter. The fourth—"

"That's enough," interrupted Ober-ton, after he had named ten. "Outside of the fact that you wonder what a scientist is doing with a detective-story book among his works"—he grinned briefly—"the test is perfect. Those titles are correct and in the proper order. Did you have any trouble extending your clairvoyance that far?"

"Just a bit of—well, twisting around in my mind, before I found your place," answered Tearle. He looked up with a faintly haunted stare in his eyes. "Does it mean that I can read any book anywhere—on earth?"

"The range of clairvoyance is probably unlimited," responded Ober-ton. "With suitable orientation, you could perhaps read the titles of books in an Indian Rajah's library, twelve thousand miles away! It's just a matter of practice and development."

Darce Henderson looked at the professor. "But that would be carrying matters too far," she said half earnestly, half jokingly. "You might find yourself reading people's diaries and exposing scandals!"

Professor Ober-ton made a sudden decisive gesture.

"Tearle," he said, "we'll now try straight telepathy. That is, Darce and I will alternately *think* of a symbol, without the use of the cards, or any tangible props. And you try to pick up our symbol-thoughts."

It was the first time they had worked without the cards in a telepathy test and Tearle missed the first half dozen calls. He was dealing now with pure mind, subtly removed in degree from card-calling.

He concentrated desperately on the next call. "Eight-pointed star?"

Darce bobbed her blonde tresses. A

faintly mocking smile came over her face at the picture of the lanky, awkward youth fidgeting in his seat. Warren Tearle's eyes suddenly narrowed. Every time this lovely, haughty girl looked at him in that way, something inside of him seemed to snap. Anger, or something akin to it, always surged through him with the powerful beat of a lashing whip.

He shifted his eyes to the scientist. "Six parallel lines," he snapped.

Ober-ton nodded, pleased.

"Circle within a square!"

Darce nodded, reluctantly.

After a number of correct calls of symbols, a crafty look came into Ober-ton's face. Tearle hesitated a moment and then said, "Chair?"

The scientist started a little.

"Automobile!" said Tearle to Darce, who had taken the professor's cue. Thereafter, a wide variety of objects were named by Tearle as his psychic ear heard them from the amazed two—anything from buttons to battleships.

Sometime later the psychologist called a halt, gasping. "A hundred correct calls!" he exclaimed. "My boy, that is what fantasy writers would call mind-reading!"

"It's a little weird!" Darce Henderson shivered a little. "Perhaps even—dangerous!" She looked from one to the other of the two men and then left the room hurriedly.

"Don't mind her," sighed Ober-ton. "Women have peculiar ideas at times." He lit his pipe and puffed at it furiously, blowing curling blue wreaths of smoke to the ceiling. Then he faced the young man with a glittering look.

"Tearle, I'm about ready now to search out the secret of psychic perception. So far we've just been doing preliminary work. From now on I'm going to put you through intensive tests designed to reveal the manner in which

your psychic powers work. In a way, you'll be a mental guinea-pig. I won't announce any of our results to the scientific world until I have some definite theory of how extra-sensory perception operates. So far I have only vague ideas. These will crystallize as I go along."

He pointed his pipe stem at Tearle dramatically.

"Mind-reading—unlimited clairvoyance—two-way telepathy! We'll startle the world! I can't help being melodramatic about this. You, Warren Tearle, are the key to unlock that vast, untouched domain of mind for mankind. You are Columbus at the shores of a new, psychic world!"

#### CHAPTER III

##### Tearle's Strange Power

WARREN TEARLE left the presence of Professor Oberton feeling like he had drunk a bottle of champagne. It all still seemed like a dream. He was to be lifted from poverty and obscurity to fame and fortune. All the world would soon hear of him. He might not be dominant of personality, but people would look up to him.

Warren Tearle had no altruistic thoughts of the benefits to science, and ultimately to mankind. His reflections were purely personal ones. He was made of common clay, as all humans are, and made no pretense of being otherwise. He was a psychic giant, but otherwise no different from others.

He straightened his tie, flected a thread from his new suit, and reflected that it would be nice asking Darce to dinner that evening—if he only had the nerve. He set his lips grimly. He would, even if she had one or more of her admirers there. If she turned him down, he would walk out airily, for why should such trifles bother him—a man the world would hear about?

As usual, Darce was trying to make up her mind between her three most persistent male satellites. They all turned as Tearle came into the room.

One of the college boys looked him up and down in mock amazement. "Well, if it isn't Romeo in the flesh!"

Another said, with a leer, "Here's our competition!"

The third bleated, "We don't stand a chance with Darce while *he's* around!"

Trying to ignore their sallies, Tearle stopped before the girl. She looked at him half wonderingly.

"Darce, I—" he began, and choked.

"Sir!" said one of the college boys sonorously, "if you are attempting to win the heart of this fair lady, it shall be horsepistols at dawn!"

The following burst of laughter shook Tearle's remaining self-composure to shreds. He saw that Darce had to smile too, though she valiantly tried not to and hid it with her hand.

"Good night, Darce," mumbled Tearle, running out with face flaming.

"Damn fool!" he told himself out in the hall. "Why don't you just ignore their rude wit? After all, the world is going to hear about you!"

But the words tasted flat now. Tearle occupied himself on the way home with a wish-fulfilment wherein he was confounding those terrible three with rapier-like thrust of language—and triumphantly taking Darce out.

PROFESSOR OBERTON'S tests with Warren Tearle in the next month were intricate, and to himself, illuminative. He measured the speed of Tearle's perception and found it to approach that of light.

This he determined by a simple enough test. He took Tearle to the physics laboratory and seated him before a turntable that could be rotated as high as 5000 times a second.

A number was painted on it, unknown to Tearle, and the plate whirled at its highest rate of speed. Tearle had the answer without any trouble. Ober-ton assumed that his psychic perception of the number, therefore, must have occurred in the tiny split second that the number paused at each part of its rotary motion. The test was tried with Tearle miles away from the turntable in a speeding car, with a result still closer to the speed of light.

"I'm gradually building a theory of psychic perception," announced the scientist one day, pacing up and down before Tearle and Darce Henderson. "We must assume that in some mysterious subether there lies a vast field of strange force. Like gravitation in our three dimensional universe, which permeates all matter and space, this new force permeates, besides matter and space, all *mind*!

"This psychic-field is something which so closely links all parts of the known universe together that a full perception of the field would mean a full understanding of all things! But unfortunately, or perhaps fortunately, man has little powers of extra-sensory perception, so that he has but a glimmer now and then of the things and thoughts going on around him which he can neither see nor hear nor feel nor taste nor smell."

The scientist puffed silently at his pipe for a moment. Darce Henderson and Warren Tearle sat motionlessly, trying to assimilate his theory.

"You, Warren Tearle," went on the professor, "are peculiarly gifted with the psychic sense. Why, I don't know. I haven't even the slightest idea just *how* you grasp extra-sensory impressions, nor what part of your brain or body is concerned. Perhaps it is some subatomic phenomenon that the physicists will eventually discover.

"However, through your remarkable results I've been able to map, so to speak, the psychic field. There are three parts, or levels, to it. In the first level, one is able to detect simple clairvoyant symbols and simple telepathic impulses. All people have this first level ability, in greater or lesser degree. In the second level, one is able to detect almost any concrete telepathic message.

"A month ago you passed into the second level, when you were so suddenly able to detect any objects, instead of just the often-used symbols. Like a child learning to use its legs, you suddenly learned how to walk in the second level."

The scientist took a breath and went on.

"The third and highest level would be wonderful to achieve. It would be like tapping the main power-source that serves the universe. I don't know exactly what it would mean—perhaps unlimited psychic perception in the mind-world. It would be like atomic-power in the material world. All human thought, even the most subtle and hidden, would probably be detectable. Transversely, a telepathic-impulse injected directly into the third level would undoubtedly reach all the mind-world. I have a suspicion that the great leaders and generals in history had unconscious contact with the third level and were able to command their followers through its tremendous power."

Professor Oberton, eyes shining, faced Tearle squarely.

"And maybe, for the first time in history, you and I will achieve that miraculous third level by deliberate and scientific means, and explore some of its stupendous possibilities! We will continue developing your psychic power toward that goal!"

Darce Henderson stood up suddenly.

"Professor," she said tensely. "You

must not go too far! You are dealing with tremendous powers and—"

"Quiet!" snapped the psychologist. "Miss Henderson, I'm fully aware of what I'm doing."

The girl shrugged and walked slowly to the door. Before she closed it behind her, she turned once and looked at Tearle strangely.

"That girl has too much imagination," said Oberton with a forced chuckle. Then, before Tearle could speak, he went on. "Now let's try some word transfer. See how rapidly you can speak out the sentences I think of."

They settled themselves and after a moment, with his eyes staring out of the window, Tearle spoke.

"Affective functions are mainly physiological in the human nervous system. Metabolism requires certain modifications of the chemical exchanges between phagocytic cells—"

Tearle spoke on, hesitating only over the pronunciation of words he had never heard or seen in his life before, plucking them from Oberton's mind.

Finally the scientist held up his hand as a signal to halt, but Tearle, unseeing, went on. "Lord, this is pretty weird I wonder myself sometimes what it will lead to Darce might be right, but then—"

Tearle started suddenly and jerked his head around, facing the professor in bewilderment. The latter stared at him wide-eyed.

"Tearle!" he gasped finally. "You began giving my involuntary thoughts! That's third level—you must have reached it!"

He sat down and dabbed at his forehead with a handkerchief excitedly. "Too late to start anything today. But tomorrow we'll begin an exploration of the third-level phenomena of the great psychic force-field!"

Professor Oberton, if he had not been

so disturbed himself, would have noticed a queer look in Tearle's face, a combination of puzzled incredulity and half-fearful wonder. Tearle said good-night and walked from the room stiffly. Almost like a robot he stalked toward the outer office. His mind felt as though it wanted to soar—

When he entered Darce's office, the three college boys whom he had seen so many times were there, noisy and histerous. They caught sight of him and turned to bow stiffly, in mockery.

"Monsieur!" said one. "Allons, ze master-mind!"

"Senor!" said the second. "I am honaired!"

"Milord!" said the third. "Your hawth is ready!"

Warren Tearle did not flush and grin self-consciously as he usually did. Nor did he shuffle toward the door, with shoulders drooping. Instead, he stood erect before them, unflinching.

"I," he said slowly and firmly, "am taking Miss Henderson to dinner!"

The three college boys looked at one another blankly. Darce's eyes riveted on Tearle's face and slowly widened.

"How charming, I'm sure!" said one of the college boys.

"Little boys should be seen, not heard," said the second sarcastically.

"Scram, chump!" growled the third.

"Beneath the moonlight of the bay," spoke Tearle in measured tones, "Where the wild lilies sway; there I'll speak my love for you; and it shall be ever true!"

He turned to the girl. "They compose poetry for you, Darce!"

One of the college boys choked and turned a vivid scarlet. He clutched at his inner coat pocket, jerked out a piece of paper with writing on it, and then hastily jammed it back in again. He tried to face his companions, failed, and left after a hurried excuse.



Tearle faced the second college boy. "You don't write poetry to Darce, but I wonder what you think of her?" His eyes bored into those of the other. He continued, "She's a conceited, arrogant dame and I only take her around to show her off and impress people with my taste!"

Though Tearle had said the words, it was the college boy whose face turned all colors of the rainbow. "I didn't say that!" he sputtered. "I didn't say that, Darce!"

"Of course you didn't," returned Tearle. "No one said you did, either!"

Realizing his blunder, the college boy shrugged in pretended nonchalance and left without a word. The remaining young student edged toward the door. "I—" he began.

"You only have thirty cents in your pocket and hoped Darce would go Dutch with you tonight?" suggested Tearle. The young man vanished.

"Now, for Heaven's sake!" cried Darce. "What is this all about? What has come over you? What—?"

"Will you have dinner with me?" asked Tearle quietly.

"I don't think I will!" returned the girl, swinging her chin up defiantly. "I don't like the way you treated those poor boys, and I'm indisposed!"

"Will you have dinner with me?" said the unsmiling Tearle in a dry, strange voice. His steady, grey eyes, unblinking, stared into hers. The girl felt momentarily dizzy.

"Why—why, yes, I'd be delighted!" she said.

#### CHAPTER IV

##### Tearle Demonstrates

WARREN TEARLE sat at the table with a faint, unhumorous smile on his lips. All through the dinner it had been frozen there. His eyes kept

roving over the throng in the large, gilded dinner-dance place. He had answered Darce's conversation attempts only with grunts. At first she had been angry, then puzzled, and last frightened. This was not the same Warren Tearle she had known in the past months! There was a strange look in his eyes, as though he were listening to silent voices, and were amused.

"What are you doing!" she gasped suddenly. "Reading thoughts?"

He grinned.

"Look!" he pointed to a waiter treading his way between the tables, bearing a large platter of steaming soups. Suddenly the waiter seemed to deliberately tip the tray, spilling hot soup over a half dozen people.

"I didn't mean to do it!" stammered the waiter. "Somebody told me to!" Then he fainted dead away in the midst of indignantly shrieking guests.

"Let's go!" said Darce. "Come to my dormitory room at the college. I want to talk with you!"

A half hour later they were there, and Warren Tearle began speaking in that same dry, unemotional voice, while he paced up and down like a caged tiger.

"I have reached the third level of psychic perception! I now have practically unlimited clairvoyance and telepathy. It was like having dawn come, after the dark night. Professor Oher-ton had some inkling of what it would mean, but he had no idea of how much power it gives. I can read thoughts, Darce, as easy as pie. But more than that, I can give commands that must be obeyed! The example of the waiter is only a trifle.

"My mind is now in direct contact with what the professor called the main field of the psychic world. It is a sort of crossroads of all thoughts, all ideas, all minds, all things! I can see and hear what I wish. But more, I can

force my will where I wish, carried by the tremendous power of the third level!"

He stopped and faced the girl. A new, dominant Warren Tearle had replaced the old. His shoulders were square.

"Darce!" he said, "come here and put your arms around me. Say that you love me!"

Outraged, the girl tried to resist, but some strange force seemed to bend her will to his. She could not keep her arms from encircling him, nor her lips from saying, "I love you, Warren!"

He grinned triumphantly. Then suddenly he pushed her away, rudely. "Oh, I know it's a farce!" he growled. "But it gives you some idea of the power—*mental* power—that I have at my command!" His eyes became cold, glittering bits of stone.

"I'm going to develop my powers. One of these days the whole world will hear of me—and *from* me—"

He began pacing again and talked on and on, feverishly, deliriously, drunk with the thought of the new-found powers in his grasp. Finally the girl could stand it no longer and shrieked for him to stop.

"You're a madman!" she cried.

"Far from it," he returned coolly. "I'm just beginning to realize my great destiny!"

"A wish-fulfillment, that's all it is!" Darce's lips trembled, but determination was in her voice as she went on. "I'm going to be cruel. Your inferiority complex, your inhibitions, your secret yearnings, are overwhelming you, in one big mental upheaval. You want to be a leader and ruler simply because you know you never can be!"

"I have power!" ground out Tearle. "Mind power! And that is far more effective than cannon or bullets or money. Look, I will show you—"

He snapped on the radio and tuned to a commentator speaking rapidly.

"Silence!" said Tearle in his dry, queer voice. "Silence, I say!"

The veins stood out on his forehead as this incredible command rang out. The commentator's voice spluttered, went on chokingly for a few more words, then stopped. For a full three seconds there was no sound from the radio. Then Tearle relaxed and the commentator's voice went on, a bit puzzled and worried.

"He was forced to obey that command because it came with the great energy of the third level of psychic force," said Tearle. "Now, do you believe I can do what I want to—and that I can be a leader?"

Darce shuddered at the odd, dancing light in his eyes. She could almost see the mind behind them going to ruin.

"I knew it!" she said in a hopeless calm. "I knew it would happen! But you'll see all this in a different light, tomorrow, at the laboratory—"

"I won't be at the laboratory tomorrow," interposed Tearle. "Tomorrow, I'm going out in the world as a leader—as a power!"

Darce looked at him pleadingly.

"Warren, it's a dangerous thing to think like that," she cried. "You'll go mad! Don't you see? What you must do is continue your work with Professor Oberton and help him map the psychic-field completely. There are pitfalls in psychic-exploration, which you can expose. That way you will be doing good—"

But she knew she was talking to empty air.

"Doing good!" Tearle laughed harshly. "What good has the world ever done me?"

He brushed the girl aside and left abruptly. The expression on his thin face was one of sardonic anticipation.

## CHAPTER V

## The Power of Third Level

PROFESSOR OBERTON and Darce Henderson did not see Warren Tearle for a month. Then he came in one day. They noticed immediately the swaggering manner he had acquired, and the flush of some deep triumph in his face.

"Tearle!" exclaimed Oberton. He hastily locked the door. "Sit down, Tearle. I must talk to you. I've been trying to get in touch with you, but found you'd moved to an unknown address."

The scientist went on nervously.

"Now, Tearle, what is all this foolishness you've been up to? You've come to your senses, haven't you, and now you and I will continue our scientific research in psychic—"

Tearle held up a hand. Though he hadn't said a word, Oberton choked and stopped as though by kingly command.

"Listen to me," said Tearle in a hard, confident voice. "In the last month I've laid the foundation for an empire. Not a military empire, for they don't last. *A financial empire!* Money is the greatest power today. I'm going to amass a greater fortune than has ever been known."

The professor and Darce glanced at one another helplessly. They had hoped against hope that Tearle would give up his mad dream, and come back as a penitent.

"I am now the president of a certain munitions corporation," continued Tearle tersely. "It was easy. I visited the former president and forced him to sign his powers over to me. Forced him by means of the third-level psychic powers. He committed suicide the next day. You probably read it in the papers."

His two listeners shuddered at his

cold-blooded tone. Yet Oberton noticed that for an instant Tearle looked remorseful. It had probably caused him some twinges of conscience before he had fully inured himself to the tragedy he had caused.

"I called a meeting of bond-holders," Tearle resumed. "They were antagonistic at first and wanted to oust me. I talked to them—swayed them a little through psychic channels—and now they're eating out of my hands. The corporation is part of an international ring of munitions manufacturers, with plants all over the world. As soon as I find out who the ring-leader is, I'll get *his* position. Nothing can stop me!"

His cold eyes snapped.

"Through munitions sales, I'll mint fortunes, as ordinary business men mint dollars. The world of finance will soon place the name of Tearle above those of Rockefeller and Ford, and above such former money-kings as Krueger and Zaharoff. To help my plans along, and speed things up, I'll precipitate the next world war if necessary!"

He leaned forward dramatically.

Professor Oberton, white faced, almost groaned aloud. Darce Henderson wanted to scream hysterically, but even that was denied her, by a look from Warren Tearle. Both of them knew that it was no idle talk. Tearle *had* the power to do it!

"But you haven't the nerve to do all that!" cried the girl finally. "You're a coward at heart. You'll never go through with such a fantastic scheme!"

"I will, because nothing can stop me," retorted Tearle coolly. He looked at her strangely. "And when I have built my great golden empire, I'll need a queen beside my throne of power. All kings have queens . . ."

The girl's face almost convulsed with loathing and hate. But before she could speak, Tearle went on.

"Yes, I know, you refuse. Your mind is an open book to me. No matter. I'll have my pick of women."

Turning slowly toward the professor, he hissed, "I said I could read minds, Oberton. I know you're about to grab up an automatic from your desk. Go ahead! Pick it up and aim it at me. Now—try to pull the trigger!"

Professor Oberton had snatched up the gun and aimed it, determined to end Tearle's mad career on the spot. But when he tried to pull the trigger, some tremendous force held back his finger. The scientist strained, till sweat poured from his face.

Tearle laughed. "No one can ever assassinate me. Now turn the gun on yourself, professor!"

Darce shrieked, but could not move, as the scientist's hand pointed the gun at his own temple. Oberton knew that at the mere mental command of Tearle, he would blow his own brains out.

Tearle laughed again, breaking the tableau. "No, professor, don't kill yourself. I have nothing against you. In fact, I owe everything to you! And I don't have to kill you two, as in murder mysteries, to keep my secret. No one would believe you if you told what I have in mind! Now toss me that gun, Oberton. You might hurt someone with it."

The scientist obediently tossed the gun and Tearle slipped it into his pocket. A yawn came to his lips. His face became a little baggy.

"I'm very tired," he admitted. "I've hardly slept, planning my course of action." He looked at his wrist-watch. "I've called another stockholders' meeting for the afternoon. Till then I'll take a nap. May I be your guest, Professor Oberton?"

Without waiting for an answer, Tearle walked to the small chamber equipped with a couch, in which the

psychologist had taken short rests from his strenuous mental labors. Tearle locked the door behind him.

Darce Henderson burst out sobbing in the professor's arms.

"What are we going to do?" she asked in a terrified whisper. "He's not human any more. He's a monster. A mental monster! And we are responsible!"

"He must never come out of that room alive!" the scientist said grimly.

And then, as clearly as a voice over the telephone, Tearle's psychic voice came to them, from the other room.

"Don't make any plans, Oberton! Remember that I can read your thoughts, asleep as well as awake. I've trained myself in that. If you try to call the police, or burn down the building, or some such childish endeavor, I'll know it before you make the first move. That gives you an idea, professor, of how impossible it is for you, or anyone else on earth, to catch me unawares!"

**P**ROFESSOR OBERTON sat for hours, thinking, while the inhuman ego that had once been timid and unimpressive lay sleeping. It was history repeating itself. As a psychologist, Professor Oberton knew that the history of the world could be rewritten in terms of human psychology. In the past, other human egos had inflated dangerously, usually because of an earlier bitterness toward life. Once given power, those frustrated souls burst the bonds of reason and sanity. They wallowed in false glory, unconcerned over human feelings and sufferings. Dictators, Napoleons, warlords—human history was replete with them.

Warren Tearle was now such a being. He would override the world like a monster, plunging it into war and chaos. He had more real power in his hands than any previous man.

And he, Professor Oberton, had helped develop those powers! The bitterness that filled the scientist's soul at that moment was almost suffocating. Was there any way of stopping this menace to the world's welfare? But how could he even *think* of a way to do it, with his every thought open to Tearle, sleeping or waking?

Oberton sensed that Tearle's tired mind had gone to sleep almost immediately. With his own psychic perception he could feel the relaxation of Tearle's conscious will. But his subconscious mind was still alert, sensitive. At the least sense of danger, it would wake Tearle.

What could be done, if anything? Oberton groaned mentally.

Darce went out for sandwiches after a while, though she knew neither of them would eat. She wanted some fresh air.

Left alone the full force of his responsibility struck Oberton in a wave of realization of what it would surely mean if Tearle went on his unmolested way toward a financial empire—or something else. He sat tense for long moments, fingers gripping so hard he became conscious of pain as the nails bit into the palms.

And it was now, *at once*, that something must be done!

"Asleep!" whispered Oberton hoarsely. "He's asleep now . . . his full will forces robbed of much of their resistance! If only I can impose my own upon his . . . !"

He groaned. "No," he mumbled in despair. "The suggestion is untenable . . . *suggestion!*" He jerked erect. "Suggestion—perhaps . . ."

Forgotten now was the physical pain of his muscular reactions, forgotten altogether his body, the very fact that he lived. Instead he became in effect a disembodied mentality, a tense, strain-

ing intelligence, concentrating . . . concentrating . . . and at the root of his concentration lay one basic significant fact. Warren Tearle, in spite of the telepathic giant he had become, *still possessed a conscience*, still was able to feel remorse over a wrong deed, even though he thrust it from him. That munitions manufacturer who had committed suicide, *at Tearle's suggestion!*

Even as his mind strained, his voice whispered hoarsely the verbal expression of the concentration in his brain. He did not notice that Darce had returned, was standing transfixed in the doorway, her eyes riveted on him in nameless fascination.

"Warren Tearle," he muttered, "you are a despicable creature. *You have murdered a man!* You have killed, as surely as with your own hands, a fellow-being. You are an outcast of society, and you have contracted a debt of horror which must be exacted from you in full payment of your crime. And you *must* pay! There is no escape.

"Think, Warren Tearle, of what you have done, and fill your soul with the remorse that must dog your footsteps until you make amends. And you *cannot* make a *just* reparation. He is dead—gone, and his blood is on your hands.

"A life for a life! That is your only reparation. Those who kill by the gun, must die by the gun . . . there is a gun beside you, Tearle, in the drawer of the table beside your bed . . . a gun—loaded—"

Darce stifled a strangled exclamation of horror as the import of the words the professor muttered broke over her like a wave.

"A great crime—a gun—only justice —"

Oberton's face grew pale and his body shook with the force of his thought intensity, and his eyes blazed with some strange fire, smouldering, the only spot

of living color in the chalk-like hypnotic concentration of his visage.

Darce stood at the door, hardly breathing. She could feel the psychic forces at play, between the scientist and the sleeping man in the other room.

Then suddenly there was a shot, and she screamed, dropping the forgotten sandwiches from her hands. Professor Oberton hardly moved, but his whole body seemed to shrink and relax.

He looked up at the girl with a ghastly smile.

"I knew one thing more than Tearle," he spoke, in a low, weary tone. "That the subconscious mind contains all of man's so-called conscience. I didn't

project any antagonistic thoughts against Tearle himself, for that would have awakened him. I simply kept thinking of the munitions president, who had committed suicide because of Tearle. That remorseful thought I projected filled his subconscious mind. It played that strange chord that affects the mysterious strings of conscience."

Darce put her hand to her mouth, to stifle a moan of horror, waiting for the professor to go on.

"And so, Tearle just shot himself through the head," finished the scientist with a pitying note in his voice, "—in utter remorse over that crime."

THE END

# « « THE EDITOR'S OBSERVATORY » »

(Continued from page 6)

ON our back cover this month we feature Julian S. Krupa's conception of a spaceship. We feel that rocket travel is the only means now in any way based on possibility, and certainly, this conception is a logical one. We've tried to present all the space problems of such a ship, such as a means of producing artificial gravity, etc., for the convenience and comfort of the passenger, maintaining a breathable air supply, redistillation of water cargo, and many other problems. Space and what we may encounter out there is a complete mystery, so far as actual knowledge is concerned. We do know, however, that we must guard against harmful rays, against body complications in a medium entirely unsuited for human comfort (certainly space-sickness will be much worse than any sea-sickness could ever be).

Our last two back cover features have attempted to portray some phase of the future which is before us. Do you approve? Are you interested in such things as these? Perhaps we open our-

selves to criticism of our theory, but after all, it seems that our conceptions of the future fact must necessarily be imaginative and fall short of the eventual reality.

What would you like to see on future back covers? Things of this sort? Anything else you think would make for a continually interesting feature? We want to give you the sort of thing you like best, and we'd like to know what those things are. We'll give careful consideration to any suggestions.

\* \* \*

A NEW British picture, titled "Oh Boy," featuring Albert Burdon and Mary Lawson, depicts the amusing effects of an "energizing" drug which has the property of causing the hero to revert gradually to babyhood.

In competition, Columbia has filmed Phillip Wylie's "The Gladiator" and the role of the superman, created by scientific formula, is portrayed by none other than Joe E. Brown!



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# PURGE OF



"Tell the people of America that you are no longer Chief!"



# THE DEAF

Martin Stafford returned from Brazil to find America in an amazing bondage, and only the deaf were free of its weird power

By  
**A. R. TOFTE**  
AND  
**L. A. SCHMIDT**

## CHAPTER I "Rustane"

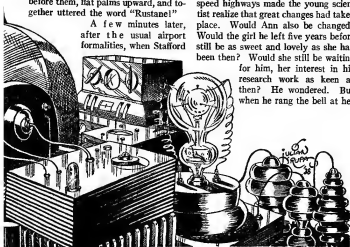
MARTIN STAFFORD expected that the five year old wing markings on his weather-beaten plane would create curiosity at the airport when he landed. But he was hardly prepared for the strange greeting the half dozen field attendants gave him when he swung his long legs out of the cockpit and descended to the ground. For as he turned to face them, they came to stiff attention, raised their arms before them, flat palms upward, and together uttered the word "Rustanel"

A few minutes later, after the usual airport formalities, when Stafford

approached a cab outside the gate, the driver leaped from his seat and went through the same strange salute.

All this to Stafford was strange and unnatural. But in his weariness after the long flight, all he could think of was that as soon as he got to Ann Leydon, he would find out what it meant. After five years of self-imposed exile, cut off from all communication with the civilized world, there were probably a lot of things that he wouldn't understand.

The trip through Chicago's new high-speed highways made the young scientist realize that great changes had taken place. Would Ann also be changed? Would the girl he left five years before still be as sweet and lovely as she had been then? Would she still be waiting for him, her interest in his research work as keen as then? He wondered. But when he rang the bell at her



apartment, and she opened the door to him, all his hopes were more than realized. Ann Leydon was, to him now, even more lovely and breath-taking than ever, her soft brown hair tumbling almost to her shoulders, her beauty showing itself in the soft lines of her slender figure. He stepped forward eagerly to take her in his arms.

Her eyes widened in surprise and sudden joy, but as suddenly she stopped, and her slim, young body stiffened as she raised her hands before her, palms upward, and uttered the word "Rustane!" Immediately then, she surrendered to his arms and with the pressure of her warm lips on his, Stafford almost forgot about the greeting.

"Ann," he whispered in her ear, "I've thought of you every day of these five long years, and you are lovelier than I even dreamed you would be."

"I'm so happy you are back, Martin," she said softly, her cheek against his. "I've thought so often of you, too . . . and prayed you were succeeding. You did, didn't you, Martin?"

Stafford looked down at the girl in his arms, "Yes," he said, "I think our sacrifice was worth it. With my new formula, we will be able to control habits now, at least acquired habits. I proved what I set out to prove; that the synapses \* are affected, built up, by my new derivatives. And those uncivilized, unspoiled natives on the upper Amazon—they were the perfect human guinea pigs to try it on. But tell me, sweet, all about yourself and your father and your work with him. How is he?"

Ann smiled up at him.

"I've been lonely," she admitted, "but I've been happy too. Of course

they took father away to the concentration camp about two years ago, but I've been happy. The Chief has been good to all of us. We can't help but be happy."

"Your father in a concentration camp?" Stafford cried with surprise. "What do you mean? And who is this Chief you speak of?"

As he asked his questions, he was shocked to see the girl's expression become rigid with fanatical zeal. And then it came back to him that those men at the airport with their strange greeting had the same fervored look. But to think of John Leydon, physicist, Professor Emeritus, Ann's father . . . in a concentration camp . . . what could it mean?

"The Chief," the girl was saying, as though in a trance, "is good and kind. He is our leader. We love him and obey him."

"Ann, for God's sake, what is wrong? Why do you talk this way? Where is your father?"

"Nothing is wrong," she replied calmly. "Rustane is our Chief. It was best that he take father away. Father couldn't understand him."

She pointed to the wall, "There is a picture of our great Chief!"

Stafford looked into the cold staring eyes of the picture, noted the full, greedy mouth, the high forehead, the impressive higness of the head and the tremendous breadth of shoulders. So this was Rustane! Such a man must have been Attila or Tamerlane or Genghis Khan or Savonarola. Cruel and dangerous.

When Stafford looked back at the girl, she was smiling again, once more her normal self. Her love for him shining in her face. Sick at heart and afraid to question her further lest he bring on that strange spell once more, Stafford excused himself as quickly as

\* Germ cells, in a stage preceding their maturation. Therefore, in a stage easily dominated by environmental conditions, conducive of future habit.—Ed.

he could, promising to return that evening. The girl seemed perfectly normal now and entirely unaware that she had acted strangely.

When he left her, her arms held him close for a moment and her lips were a plea for his return. It was hard for him to believe that only a few minutes before she had been so utterly different.

Later, as he stepped from the elevator on the ground floor, Stafford found himself facing three armed soldiers. When he attempted to brush by, two of them clamped vise-like grips on his arms, and the third stepped up before him.

"Martin Stafford," he said in a low voice, "you are under arrest . . . by order of the Chief. This is for your own good and it will be best if you come without disturbance."

The young scientist, unprepared for this sudden turn, and perceiving instantly that resistance would be futile, allowed himself to be hurried from the hotel-apartment through the small crowd that had gathered on the sidewalk outside, to the military car which stood at the curb.

## CHAPTER II

### Underground

JUST as Stafford and the three armed soldiers reached the car, there was a silent, but concerted surge on the part of the crowd at both sides. In an instant the air was filled with flailing blackjacks, clubs, and fists, answered a second later by several shots from the guards.

With his arms pinned to his sides at the first onset, Stafford was helpless to defend himself in the wild melee. He saw his captors go down, one by one, under the hail of descending weapons. His arms free again, the young scientist lashed out with both fists at the attackers. Two or three staggered back,

dazed by his blows, but the others pressed in. Stafford's final swing was futile as two hundred pounds of bone and muscle landed on his back and bore him down.

Dazed as he was by the sudden onslaught, Stafford nevertheless realized that none of those deadly blackjacks had been aimed at him. In mere seconds from the moment of the attack, he found himself dragged back into the apartment building entrance, through a service door at the side, and down a flight of stairs.

There were about ten men in the group that had taken Stafford from his captors. They were poorly dressed and unkempt; but the silent, grim look of determination on their faces, and the smooth way they had gone about the job made it almost seem as though it had been rehearsed.

At the bottom of the second narrow flight of stairs, a heavy door swung shut behind them, and two of the men remained there as guards. The rest plunged on through the furnace room and past the coal bunkers of the building.

An iron door at the far end of the bunkers opened in response to a signal tapped out by the grizzled leader. When this door had also been closed and barred behind them, Stafford's new captors for the first time relaxed their holds on him, and gave him a chance to survey his surroundings in the quickly moving beams of light from the electric torches the men now played about. The place seemed to be a long vaulted tunnel. They stood on a flat concrete platform beside which ran narrow gauge iron rails, obviously a part of the underground railroad which Stafford remembered ran everywhere under the congested areas of Chicago's old Loop district.

Out of the darkness of the tunnel

stepped a tall, slender, slightly bent figure of a man, strangely familiar to Stafford in the way he walked up and extended his hand in greeting. The strong, vibrant quality of his piercing eyes, the handsome, intelligent face. . . . Stafford still did not recognize him until he spoke. And then it came to him suddenly that it was Ann's father—Professor John Leydon!

"Martin Stafford!" Leydon cried. "Thank God we reached you before it was too late. You remember me?"

"Of course, Professor Leydon. I was talking with your daughter only a few minutes ago."

"Yes, poor girl," the professor exclaimed ruefully, "she is like all those others up there. We have to save them in spite of themselves. Just as we had to rescue you a few minutes ago in spite of yourself. We didn't have time to explain."

"What is it all about?" Stafford cried, "—all this fighting, you in charge of these men down here underground, and especially—who or what is Rustane?"

The professor looked at him and shook his head slowly. "I can't tell you here. They will be following us in a few minutes. There is not a moment to lose now. We have much to do."

The muffled roar of an explosion from somewhere behind the barred iron door gave almost instant proof that the words were justified. Together the group of men started at a half run down the tracks into the dark of the tunnel, their electric torches only now and then flashing on to signal a turn in the way or an obstacle.

After what seemed about a mile of exhausting, stumbling run through the dark, the men halted, and again there were strange signals pounded on iron doors, and Stafford and Leydon went on alone. This time the cavernous rooms through which they passed were damp

and musty with still, unventilated air. Finally after mounting several flights of stairs and again descending, Leydon unlocked a narrow door and led Stafford through.

A moment later, the light of an ancient kerosene lamp disclosed a shabby room with several cots, a few chairs, and a desk disheveled with papers.

"Sit in the light where I can see you, my friend," Leydon said quietly. "You will remember that I am deaf, but I can read your lips as you talk."

"I think it is you who should talk," Stafford replied. "After all, I returned to civilization only a few hours ago. It all seems topsy-turvy to me—I can't understand what it is all about."

Professor Leydon sat at the desk and ran his hands across his tired eyes. Then he looked up.

"I'll try to tell you, briefly . . . although there is much that could be told."

He continued.

"I have been deaf, as you know, for most of my life. All over America in the past two or three years people have gone crazy. Only the deaf have remained sane. And now the Chief . . . this man, they call Rustane . . . is bunting down the deaf and killing us like wild beasts. Rustane has said that all the deaf must die."

"But why the deaf?" Stafford asked, mystification gradually making way to a suspicion that Leydon himself might be insane. But a look at that calm, intelligent face reassured him.

"I know what you are thinking," the professor said. "It must sound mad to you. But he assured, I am as sane as you are. My bringing you here is not chance."

"We deaf people," he went on, "have built up a secret empire of our own. It is our only hope to survive—by uniting

our forces and fighting Rustane.

"We need you, Martin Stafford. We have waited and prayed that you might be in time. As soon as your plane landed this afternoon, we tried to get to you. We followed you to my daughter's apartment. The rest, you know."

"I can't say that I know very much yet," Stafford smiled grimly. "It doesn't make sense. Why is Rustane persecuting only the deaf? Who is he anyway? And why are you all so interested in me? I can't understand these things. I've been gone for five years, you know."

Leydon smiled.

"That is exactly why you are valuable to us. You are still sane, still normal. I am a physicist myself, and while I don't know exactly *how* it has happened, I can describe *what* has happened.

"You left, as I recall, in 1938. Do you remember the case of Austria? One day the Austrians yelled themselves hoarse for Schuschnigg. Only a short time later, Hitler crossed the border and the same people yelled themselves hoarse for him. What do you think happened in those few days?

"There were other dictators who made equally remarkable conversions of all the factions in their countries. Mussolini had already done this by 1938. Franco did it in Spain in 1940, following the end of their civil war. Early in the same year, Hitler did the same trick in Czechoslovakia, and bitter as they had been against him up to that time, they became almost overnight his most ardent worshippers. A month or so later, Mussolini was assassinated, and Gallo became the idol of Italy. Within a year, Gallo controlled the entire Mediterranean basin and Italy once more became the Roman Empire. About this same time the Associated Fascist States of Asia were

formed, with one man, Lin Tei-fai, an obscure Chinese general, as the ruler of all China, Japan, India, and the Malay States.

"In October, 1940, just before the presidential election, conditions in this country came to a head. Suddenly from nowhere appeared this man, Rustane. No one seems to know where he came from. But in the confusion of political meetings, he frequently got up and talked—and wherever he talked, the people began to listen. On election eve he spoke over a national hook-up, and announced that there would be no election the next day, and that he, himself, would take over the administration of the nation. The country went mad with joy. All but the deaf!"

Stafford looked deep into the piercing eyes opposite him. "This is very strange, what you tell me. But why should only the deaf be immune to his power?"

"I have a theory," Leydon replied. "And that is why I hope that you will help us. If my theory is correct, you may be the only man in the world who can help."

"How can I help?" Stafford asked.

Leydon smiled in that bitter wry way of his. "I have followed your career, Stafford. I know what you went to South America five years ago to learn. If you found out you may still save us. If you failed, nothing can save us."

### CHAPTER III

#### Magic Unmasked

"**H**ERE is my theory," continued Leydon, his eyes aglow with the excitement of a scientist about to announce a new discovery.

"There is magic . . . peculiar magic . . . in Rustane's voice. All who hear him fall under his spell. But that magic is based on some new scientific prin-

ciple known only to him, and now I think I have just about reduced his magic to its fundamentals.

"For one thing, he always talks to enormous audiences, always through special loud speakers which he guards with unusual precautions. Last October, we stole one of those loud speakers. It cost us a hundred men . . . just as those ten men were sacrificed today to cover our retreat."

Leydon's clenched fists on the table top betrayed his emotions, but he went on steadily.

"We took the loud speaker apart. It was a typical, well built machine, PLUS a special super-frequency sonic tube. That is as close as I can describe it. Nothing like it is known to legitimate science. We experimented with it, and found that it operates with the normal sound device of the speaker, producing waves of approximately thirty thousand times the normal frequency which ordinarily goes through the auditory channels into the sensory brain cells.

"Something happens to all the nerves affected—synaptic resistance breaks down a thousand times faster than under normal nerve impulse.

"We tried it on rats, guinea pigs, rabbits. They developed sound induced habits at a terrific rate. Two or three repetitions and the new habit was made stronger than any normally acquired habit, stronger even than control instinct.

"After three or four repetitions, the nerve cell synapses seem to have become fused. All the resistance along the particular brain path is broken down.

"And this, my friend, is what Rustane is using on the human brains of all who listen to his broadcasts. They listen to his words. He repeats what he says a few times, and the most intelligent men become his slaves. No resistance is possible to such a force . . . a

force that only the deaf do not feel, *because they do not hear the words!*"

As he looked into Leydon's burning eyes and listened to his words, Stafford realized with horror what had taken place in the country since he had left it. America had become a nation of flesh-and-blood robots; and lovely Ann Leydon was one of them. He nodded understandingly to Leydon.

"But how can I help?" he asked.

"That habit-breaking drug you went to South America to develop," Leydon cried eagerly, "if you found that, you and you alone can save the country!"

"Yes, I found it," Stafford replied calmly.

For a moment the old physicist stared at him, then he smiled.

A loud thumping on the door interrupted them. At Stafford's start of alarm, Leydon reassured him.

"It is Felix," he said, and rose to open the door. He returned in a moment with a stolid, tow-headed youth beside him, his hands racing in the language of the dumb.

"Felix brings word," said Leydon, "that Rustane's men have surrounded Ann's apartment. Perhaps they are waiting for you to return. Sooner or later, of course, they will take her, and she will tell them all about you. She hasn't any will of her own not to tell, you know."

Stafford thought hard for a moment. "My luggage from the plane! Can we get it?"

"We have already taken care of that. It is here in the laboratory," Leydon replied.

Stafford smiled, "Could your men take Ann and bring her here without Rustane's men knowing it?"

"We can try," the professor replied and made a few rapid signs to Felix.

Stafford knew that the order meant possible death to more of the loyal,

hunted deaf. But Ann's presence was an important factor in the plan which was growing in Stafford's mind.

The two men settled back to wait. And as they waited, Stafford related the things he had learned in the Amazon jungle.

"As you know," he began, "I went there because it is one of the few places where the natives are still untouched by civilization. I chose them because I wanted to give them some of civilization's habits—and then see if I could break those habits. The opium habit . . . the liquor habit . . . the habit of fear . . . and so forth.

"It took months and years. But I finally accumulated my facts. My histamine\* derivatives came closer and closer to working, especially in combination with old Ungabi's herb colloids. Finally my sub-cutaneous and intramuscular injections began to work. Alcohol, opium, all the newly acquired habits were wiped away in a few hours after treatment.

"Fortunately, the older natural habits were scarcely affected. There seems to be a difference in the form of the synaptic breakdown of recently induced habits and those of long standing. I have found that my drug will not touch the brain paths of the normal habits, only those of acquired new habits."

"Just as I dreamed and hoped," cried Leydon. "It is the exact reverse of Rustane's sonic wave. His wave fuses the nerve ends and your drug breaks the fusion to set up normal resistance at the synapses. This gives me great hope!"

Stafford smiled wryly at the other's eagerness.

"Not yet. In my luggage is only enough of the drug to treat about two dozen people. How do you expect to

cure a hundred and thirty million people with that?"

"Two dozen!" Leydon cried and looked away in despair. Then he looked back with renewed hope. "But even two dozen—if we could get the leaders, those closest to Rustane, we might still do something."

"Exactly what I was thinking," Stafford agreed. And as he said it, he heard a noise in the empty store room outside. He motioned to Leydon that someone was coming.

A moment later, Felix and two other men carried Ann Leydon into the room and put her down on one of the cots. Stafford loosened her bonds and removed the gag from her mouth. Her father had stepped back into a dark alcove.

"Martin," she cried hysterically when she saw who it was. "Why have these men kidnaped me?"

"You are safe now, Ann," he said as he caressed her arm and motioned for all but Felix to leave.

"Ann," he said, "you must believe in me. You are ill, and I want to make you well again. I had you brought here so that I could treat you. This hypodermic . . . it won't hurt you."

"I won't take it," Ann screamed with terror and jumped from the cot.

Stafford looked at Felix. "You had better hold her, I suppose."

As Felix approached the cowering girl, she kicked out at him, but he seized her foot deftly, twisted her over on her face on the floor, and pulled her arms up behind her. Quickly Stafford plunged the hypodermic needle into the firm pink flesh of her upper arm.

The girl sobbed quietly for a few minutes and then seemed to slip off into a coma. Stafford picked her up gently and placed her slender body on the cot.

For more than an hour, Stafford and Leydon sat and watched the girl as she

\*HISTAMINE is Betalminasolylethylamine. It is a depressor substance formed during the catabolism of histidine.—Author.

tossed in the delirium of the drug action. Everything in Stafford's growing plans depended upon her reaction to the hypodermic. Would she react as the natives of the Amazon had done?

When finally she opened her eyes, she looked up at them and smiled weakly.

"Martin! Dad!" she cried when she saw who it was. "I'm so glad to see you both."

She rubbed her hands over her eyes. "I seem to have had such a bad dream." Her face clouded over. "It seemed that. . ."

Stafford interrupted. "What are your thoughts, my dear, when I say the word 'Rustane'?"

"Rustane!" she repeated, a slightly puzzled expression covering her face. "Why that seems to be part of the bad dream. Rustane was the Chief, and I felt so queerly about him. I don't see how, even in a dream. . ." her voice trailed off into mystified silence.

#### CHAPTER IV

##### The Plan

"OUR plan," related Professor Leydon to his daughter, "is to capture several of the Chief's main lieutenants, give them Stafford's histamine drug, and send them back into Rustane's service as our spies. It is our only hope—to bore from within."

"I know Henry Gervase, head of the air force," stated the girl, "perhaps I could. . ."

"Too dangerous for a girl," blurted out Stafford.

"But I want to help," urged Ann. "It shouldn't be any more dangerous for me than for you, and so much depends on everybody doing his share. I have known Gervase for many years, and I know that he stands very high in the Chief's councils. He has always wanted me to marry him, and I believe he would

come to me anywhere if I sent him a note."

"Ann is right," her father agreed. "If she can help us get Gervase, it would give our plan a good start."

"I'll meet him in a park," Ann hastened to suggest before Stafford could protest. "When he appears, a number of our men could seize him and drag him away before anyone has a chance to interfere. Then they could bring him here for the treatment."

Stafford shook his head doubtfully, but he had no logical objections, and in the end was forced to agree.

The next day as Ann made her way slowly toward the appointed place, Stafford watched from a parked car a half block away. He saw her seat herself on a bench and toy with her broad-brimmed hat as she casually watched an old man feed pigeons from a paper sack. The old man, he knew, was Professor Leydon in disguise.

The first Stafford realized that Gervase had arrived was when he saw the pigeons scatter in short nervous flights before the imperious stride of a big, heavy-set man.

He saw Ann rise to meet the man, saw her put on her broad-brimmed hat. It was the signal . . . and at once a dozen fights started in the park on all sides, sending the pigeons flying wildly away. And in the midst of the melee, Stafford saw the old feeder of the pigeons swing a blackjack expertly down on Gervase's head. Other eager hands dragged the big man into a waiting car and drove away.

Stafford watched a moment longer—saw Professor Leydon shuffle off into the crowd, saw Ann run to a waiting car. Then he got his own car into motion and headed for the sub-basement hiding place of the deaf conspirators.

Arriving there, he found Gervase hound and gagged, his eyes blazing with



rage. Leydon sat nearby, looking quietly at Rustane's lieutenant. He hardly glanced up at Stafford's entrance.

At once the young scientist prepared the hypodermic needle. Before he plunged the point of the needle into Gervase's arm, he looked into the man's eyes, raging with hatred. He wondered—would this drug be able to counteract such fanatical zeal as this man had!

He thrust the needle in, and almost at once the man's eyes closed and he slumped in his chair. Stafford turned to Leydon who had been sitting quietly watching the proceedings.

"Where is Ann?" he asked.

Leydon looked up, despair for the first time showing in his expression.

"Somehow—we don't know quite how," he replied, "she was picked up by Rustane's police after the flight. We think she got into the wrong car."

Stafford looked down at the inert body of Gervase and clenched his fists.

"That means," he muttered, "we haven't any time to lose. If Rustane directs his sonic ray on her, it will counteract my drug in a day or two. Then she'll be under his control again—and will tell everything she knows."

"What shall we do?" Leydon asked.

Stafford thought a moment. "Tell your men to bring in as many of the Chief's leaders as they can—at least twenty of them. And tell them they must be brought in at once—today."

"You know what that means?"

"Yes, I know," Stafford nodded. "Many lives will be lost. But it is now or never for us—before Ann reveals our plans to Rustane."

In the hours that followed, by ones and twos and threes, men were dragged into the secret chamber where Stafford administered his drug.

The first to revive was Gervase, and as with Ann, he expressed extreme sur-

prise at what he had been doing under Rustane and kept referring to it as a bad dream. He was enthusiastic in his promise to help.

As the others returned to consciousness, after Stafford's histamine injections had produced their effect on them, some were as eager as Gervase to help undo Rustane's cruel power over the country; a few were less enthusiastic, seemingly more interested in getting out of trouble as fast as possible. One of the leaders, Runkle, a physicist who was in charge of the installation and maintenance of the super wave speakers by which Rustane ruled the nation, was slower than any of the others in agreeing to help.

When he had departed, Leydon shook his head in doubt. "I don't trust that man," he said. "After all, your drug is only meant to return men to normal. As I remember now, Runkle had a bad reputation years ago."

"We can't worry about that now," Stafford replied impatiently, as he picked up his hypodermic needle with its two remaining doses, "tonight we strike at Rustane!"

## CHAPTER V

### Attack

STAFFORD and Leydon went down into the sub-basement, and as they passed from room to room, through one tunnel after another, an army of silent men gathered behind them.

Some carried rifles. Others had clumsy shotguns. A number carried revolvers stuck into belts. Many carried steel crowbars and sledges. Several groups were equipped with acetylene torches. Every tenth man was loaded with a bag of dynamite sticks slung around his neck.

Moving along with this strangely silent, peculiarly shuffling mob, Stafford

felt that it was unreal, a nightmare. In all this crowd, he was the only one who could hear. Every now and then some careless foot stumbled and a clatter of noise went up. Stafford's heart would almost stop, but the others never noticed.

Faces, he perceived, were grim. This thing they were set out to do was against all odds, almost against all hope. In Rustane's palace fortress were nearly three thousand trained soldiers, equipped with the most modern war weapons. Protecting the person of Rustane were all the devices that his enslaved scientists could invent. And deep within this labyrinth of insulations was Rustane himself—the spider that they had to crush within his own web.

Converging on Rustane's fortress-like building from three sides, Leydon called a halt to give final instructions to the silent forces. His orders were passed hurriedly though silently down the lines of tunnels. A new grimness came to the faces of the men back of Stafford. He could see them tighten grips on their weapons. He could sense their ruthless hatred for Rustane.

The young scientist thought of Ann. She was in Rustane's palace, possibly even then being tortured by his sonic ray into revealing information that would mean death to her father and to all these other desperate people. As for himself, he knew what his fate would be if the attack failed.

Another thought entered Stafford's mind—when the mob of silent men streamed like vindictive madmen into the palace, he wanted to be among the first. There was no telling what they might do in the fury of attack. And, too, he hoped that he could settle his score with Rustane, face to face.

Leydon motioned to Stafford and Felix, and the three moved forward toward a steel door in the tunnel.

"If your drug still holds those men of Rustane's," Leydon said to Stafford, "this door ahead will be unlocked and the guards on the other side will be dead."

Cautiously Leydon pushed on the tunnel door. It gave way with a slow, weary groan. And holding up his electric torch, Stafford saw just beyond the door, the figures of three men. One, a soldier, lay in a heap at one side, his head crushed in. The other two lay in the embrace that had brought death to both. One was a soldier; the other was one of the leaders whom Stafford had treated with his drug.

Felix pushed the dead bodies aside and motioned for the men behind him to come ahead.

At the next higher level, they came to another heavy iron door that failed to open at their touch. This time Felix went back for a group of men with acetylene torches. Quietly they set up their equipment, and began to cut out the heavy steel lock from the iron door.

Hardly had they started their work when the door opened and a soldier stuck his head through the opening. Before the man knew what struck him, Felix brought down his heavy cudgel on the man's skull. There was a sickening smashing sound as he went down.

In that instant, Stafford and Leydon swung open the door and leaped over the soldier's body. Hurrying toward them around a corner ahead was another soldier, his rifle half raised.

But before he knew what had struck him, the guard went down before Stafford's plunge at his knees. His rifle went clattering to one side. Again Felix was ready with his club, and Stafford felt the man go limp in his arms.

For only a moment Stafford hesitated. Then he hurried on with Leydon and Felix. The tunnel widened and the feel of fresh air indicated that they

were nearing the surface level.

As they quietly approached a huge double door, it opened slowly, and one man came through, motioning them to silence. It was Runkle, the last man Stafford had treated with his drug.

"Two minutes ago," Runkle told them, "the alarm was sounded. Even now, the men of the garrison are standing ready at their posts. Soldiers with machine guns control every corridor in the building."

Leydon and Stafford looked at each other. Were they going to fail after coming so far?

Runkle smiled at their expressions. "But I know a way . . ." he said.

"You will send your followers down the left corridor to the great central hall where the main palace force is concentrated to guard the elevators to all upper floors.

"To the right, there is a narrower corridor leading to a private elevator guarded by men under my own command, making the way clear for us to the fifth floor which is occupied by Rustane's private suite and the radio control rooms."

Runkle's statement checked with the layout of the fortress-palace which the conspirators had obtained from Gervase. Stafford knew that there would be but little chance of winning actual control of the huge main elevator banks from Rustane's well-armed guards, but if those elevators could be put out of commission for an hour or two while he and a chosen few of his men gained access to the lightly guarded fifth floor . . . perhaps they could reach Rustane himself that way.

Stafford passed the signal down the line for the silent forces to advance along the corridor to the left. As they went by, he watched them, eager in their rush to meet what was almost certain death.

Then, as Leydon, Stafford, and Felix followed Runkle down the narrower passageway toward the private elevator, there came to them the first sound of stuttering machine gun fire, immediately followed by a floor-shaking series of heavy explosions and a sudden sucking of air along the corridor. The attack was begun.

Stafford looked at the man who led them. It struck him as queer that of all the leaders they had treated, only Runkle should have met them. Supposing Runkle had been only mildly affected by the drug? Supposing he was leading them into a trap? Stafford shrugged his shoulders helplessly—it was a risk they had to take.

But Runkle was smiling as he motioned them into the small private elevator which was to take them directly to Rustane.

However, as the elevator stopped at the fifth floor, the door flew open and Stafford's worst fears vanished. For there stood Gervase, and a dozen or more of the other leaders who had been treated.

## CHAPTER VI

### Rustane—At Last!

HASTILY Gervase told what they had done to pave the way. A secret conference of the leaders had been called due to the attack, and since most of the leaders were with them in the conspiracy, it would give them the needed chance to get access to the actual presence of the dictator.

The group moved quickly and quietly toward the great bronze doors of Rustane's reception chamber. Runkle pulled the doors open and held them for the rest to enter. Leydon, Felix, and Stafford were the last to step through. Runkle closed the huge doors, remaining outside. Stafford heard bolts in the

doors slide shut.

But before the young scientist could warn his companions, a deep, harsh voice boomed out from the opposite end of the room.

"So you think you can trap Rustane in his chamber?" the speaker asked sardonically, and laughed.

Alone, and seated on a throne-like chair, with a machine gun mounted on a tripod in front of him, sat the Chief. A smile was on his thick, sensuous mouth, though the sweat ran in a stream down the man's harsh bulldog face.

"Runkle led you here as he said he would," Rustane said softly, "for I wanted to deal with you myself. I trust no one."

He looked over the faces before him as he tightened his grip on the handle of the machine gun.

"You, Leydon, step forward," he commanded, "and you Stafford!"

After the two men had stepped forward, Stafford stared back into the cold, mad eyes of the man on the throne. Then Rustane laughed aloud as though heartily enjoying a good joke.

"Ann Leydon, the girl who was brought to me yesterday," he went on, "has told me all about you two."

"Where is she?" Stafford cried, pushing forward.

"No closer!" Rustane roared, grim once more.

"Where is Ann Leydon?" Stafford asked again.

"She is where you will never see her again," Rustane smiled once more with that malevolent grimace of his.

"You are a scientist, and you know something of habits, I understand. Your scientific curiosity will be stirred, I imagine, to hear that since yesterday I have tried a new experiment I never troubled to try before. But I found your young friend so very attractive that it was an irresistible experiment

to make. I created in her the habit of love . . . for me.

"Ah, my young scientific friend, it would amaze you to see her. She loves me as no woman ever loved any man before. She adores me. She worships me. It is all very funny to me to laugh in her face and see her crawling on her hands and knees to kiss my boots. You never saw such pure, unselfish love. And all for me. . . ."

Stafford stared up at the cruel, lustful face before him. Here was Rustane, master of one hundred and thirty million people, so mad with power that he had to concentrate his lust upon one helpless girl to give it meaning to him, to give it the reality of flesh and blood. Stafford shuddered and half closed his eyes. What hope was there?

One pull of that trigger finger on the machine gun and all the men in the room would be a bloody pulp. Rustane still was master.

"And now, my friends," the man on the throne was saying, "I shall proceed to liquidate the conspiracy. If you have prayers. . . ."

At that instant there was a sudden movement at the end of the line of men as Felix leaped clear of the rest and lifted his heavy cudgel to hurl at the dictator.

The hand on the machine gun trigger convulsed and there was a flash and roar as the muzzle swung around to follow Felix's wild course. The cudgel flew through the air as the poor fellow went down riddled with bullets.

Rustane ducked, and the clumsy projectile missed its mark. But in that instant, in the moment's chance that Felix's sacrifice had created, Stafford leaped forward. Rustane saw him coming and swung the muzzle around again. Throwing his body through the air, Stafford plunged blindly toward the other. As he came down, his shoulder

hushed the harrel of the gun, forcing it aside hoidly and sending its stream of bullets aimlessly across the marble wall.

Stafford arose shakily, with a surge that toppled over the heavy gun standard. But as he came up, his head met a terrific blow from Rustane's massive fist.

Dazed for a second, Stafford shook the fog from his head just in time to see his enemy leap for a small door behind the throne chair. Intent on but one thing, to lay his hands on the fleeing man, Stafford lunged through after him, before the door closed shut.

In the room beyond the door the two men stood for a moment, taking stock of each other: Rustane, his bulldog face glaring in hatred; Stafford, lean and hard, his lips drawn in like a fighter's.

"It's man against man now," Stafford muttered.

Then they leaped at each other. Stafford's right fist landed hard on the bulldog chin and he felt the massive head snap back. The next instant the Chief's arms went around him like the terrible crushing coils of a python. But the young scientist's arms were free and blow after blow rained on the head next to his own.

As Rustane's powerful embrace tightened, Stafford's blows weakened. Desperately he reached in his pocket for the hypodermic needle. With his last bit of strength, he thrust the point into the Chief's arm.

Gradually the crushing embrace loosened and Stafford breathed again—cool draughts of air that went deep into his tortured lungs. Getting to his feet

shakily, Stafford struggled to reach the door and let in his friends who were trying to break it down.

Behind him he heard a cry.

"You've killed him! You've killed the Chief!"

He turned. It was Ann, coming from another room. Quickly she ran to the body on the floor and kissed the half open lips of the unconscious man.

Stafford stepped quietly over her, lifted her arm and grimly sank the hypodermic needle in, sending the last remaining dose of his drug coursing through her body. Almost at once she sank down, half covering Rustane with her own body.

Stafford lifted her away and carefully made her as comfortable as possible on a lounge. Then he went to the door and admitted his comrades.

"When Rustane becomes conscious again," Stafford told them after they stood around for a few minutes looking at the prostrate figure of the dictator, "take him to the microphone and have him tell the people of America that he is no longer Chief. Make him say it fifty times. Then break the whole apparatus. In a few hours we will be able to leave here in safety."

"In the meantime, out there in the corridors, our friends are dying," Professor Leydon replied.

"We dare not open the doors yet," Stafford declared. "All we can do is wait for Rustane's own voice to release the nation from his power. After that, I think, will come great happiness."

And the young scientist smiled as he looked down at the unconscious girl on the lounge.

#### ENERGY

Potential energy and kinetic energy are the only two fundamental forms of energy thus far discovered, the latter being that expended in setting a body in motion and which then travels with the body. Potential energy is that form which is available for future use, as in the case of a suspended weight which can do work in falling. It may also be stored by forcing things together that constantly tend to force each other apart, i.e. compressed air or gas. It may also be stored between electrons by forcing them upon the surface of a body, where they cling, but tend to push each other off by mutual repulsion.

# Prince Deru Returns

By HARL VINCENT

Spirited back to the mysterious world of his birth, Derek Raine plunges into a bitter struggle to regain his throne

## CHAPTER I

### The Mystery of Derek's Past

ON a hillside near the small village of Corintown sat a young man and a girl. For long minutes they had not spoken, both staring off into the deepening twilight.

"Why not ask him again?" the girl said finally.

Derek Raine considered, making no immediate reply. Silences were common between these two. They understood one another, even though a mysterious barrier was keeping them apart.

Now nearly two years out of college, Derek was more than ever dissatisfied with his life as ward of the aged recluse known to him and to the townspeople as Uncle John. He had no valid reason to complain of his guardian. Derek had been well housed, well fed, well clothed and well educated. He had never lacked any material thing.

But he chafed under the restraint of Uncle John, who was like a watchdog at his heels. He wanted independence, wanted to shake off this constant surveillance and pampering care. To live like other active and healthy young men. Derek was just past twenty-four.

Most of all he wanted to be free of the doubts and mystery, to be able to say to June Clayton, the girl at his side, the things that were in his heart.

"I'll do it," he declared, raising his lean form to its six feet of erectness. "I'll *demand* an explanation."

He lifted the girl to her feet and together they gazed out at the sunset. The gold bronze glints in her hair lighted the usual flame within him. But he had seen the dubious look in her wide eyes. June had cause to doubt, he reflected. Then her hand had brushed his hand softly and she was off down the winding path to the village.

DEREK faced Uncle John in the oak-paneled library of the old house on the outskirts of Corintown. He cooled down somewhat when he looked into the calm steel-gray eyes of his guardian.

"I want the truth, Uncle John," he blurted out. "Now!—I'm sick of this life, sick of waiting."

The old man raised his right forefinger to caress the graying hair at his temple, a gesture which always irritated Derek.

"You have less than one year to wait, my boy," he said gently.

"Why? You say I'll know when I'm twenty-five. But why? Why can't I know of my early life? Why am I so different?"

Uncle John smiled gravely. "The same old questions I can not answer. Not till the appointed day—I must obey



Her face contorted in agony as the force globe dropped upon her

that command."

"Command! So someone *else* is responsible. Who?"

The older man flushed; he had made a slip. "Derek, my boy," he repeated wearily, "There was nothing dishonorable in your past life or ancestry. Don't fear the memories that will be restored on the appointed day—you—"

"Honor! Ancestry!" Derek was bitter. "What do I care about those things? All I want is to live like a normal human. I want to get a job and work hard at it. I want to marry."

Uncle John paled. "June Clayton, you mean?"

"Yes,"—defiantly.

"Never!" The older man rose and stood stiffly erect. "Put such thoughts from your mind. Be patient—"

Derek exploded: "Patient! Nine years I *have* been patient. I'm sick of it. I'm of age and—get this straight—I'm through."

But rushing out into the night, Derek knew he would return.

AIMLESSLY he wandered over the hillside, his mind a chaos of mixed emotions. Vainly he struggled for one faint stirring of the memory which had been taken from him in his fifteenth year.

It had all begun—at least as far as his memory was concerned—one bright day when he found himself before a house he had never before seen, with a man he did not know. Uncle John.

"Where am I?" he had asked the soldierly stranger in a tongue that was likewise unfamiliar. "Who am I? Who are you?"

The answers came readily enough and the lad of fifteen had been satisfied. It was good to be alive and healthy. What did it matter that a supposed accident had deprived a boy of memory of his past life? That Uncle John promised

return of that memory in ten years did not seem at all important. Not at that time.

For a number of years Derek did not realize he was different from other boys. True, he was strictly held down by Uncle John, but he was much too engrossed in a world and a life that seemed utterly new and fresh and good; too occupied to notice.

In his university days came vague unrest. The other men lived in dormitories or fraternity houses. Derek lived in a hotel with Uncle John. There were the veiled jibes and quips of his classmates. And gradually it was impressed upon him that he was different.

He came to manhood. He was athletic, but Uncle John would not permit his competing in the more dangerous sports. Derek had to be content with his swimming and track records, which were excellent.

Taunted by ill-advised classmates, he had on occasion proved his courage as well as the hardness of his fists. Of these things Uncle John knew nothing.

Derek never spoke to outsiders of his amnesia.

Returning to Corintown after graduation, he had asked to go to work, but was overruled by Uncle John. He must dwell in seclusion in the old house on the hill until his years were twenty-five.

Then Derek met June Clayton and all his previously conceived notions of life were changed. Their friendship ripened swiftly into something far deeper and Derek knew there was no future for him without June. But there were the doubts as to his origin and past. Doubts as to the promised revelations. Doubts of Uncle John.

The older man wielded an uncanny power over him, a power he could not understand or resist. Something psychic. And June knew, he was sure.

Stumbling through the darkness,



Derek drew his hand across his eyes. It was always like this, groping for truth, fearing for his reason. In his sleep, even, there were dreams. Curiously garbled and fantastic, of a vastly different environment. Nightmares. But these told him nothing; he scarcely remembered them on awakening.

Resolutely now, he shook off his black mood. He saw with some surprise that he was at the gate of his guardian's grounds.

HE entered the house without arousing Mullins, their only servant. Voices came from the library, one sharp and excited, the other Uncle John's slightly nasal drawl. The words were in a foreign tongue.

Derek halted irresolutely. It *could* not be they had visitors; his guardian barred their entrance. Wondering, Derek tiptoed past the library and made for the stairs to his own room.

But a startled cry from Uncle John caused him to wheel swiftly and dash into the library. The older man was alone, just closing the lid of a massive chest which had always before been locked. Derek glimpsed a shining mechanism within, and a sphere of milky glass or crystal.

"Where is he?" Derek demanded. "The man who was talking?"

Uncle John stared and the color drained from his cheeks. He gasped: "Derek! Don't ask me. He is—gone—"

He tottered and would have fallen had not the younger man helped him to a chair. Uncle John was subject to heart attacks.

Derek asked contritely: "What's wrong then? Tell me!"

"Everything." There was fear in the steel-gray eyes looking up from the chair. But an indomitable spirit shone out of them an instant later and Uncle

John motioned Derek to a seat before him. "My boy," he said slowly, "you said tonight you were through. An empty threat! Because, Derek, you come from a land where a man is not of age till twenty-five. You are *not* your own master. Your life belongs to a Cause, as does mine. And now—we must leave here—immediately."

It was as near as his guardian had ever come to talking. Derek's heart leaped within him. "You—you mean—" he faltered.

"I mean there is real, swift danger. I can't explain. Get out the car—quick—and say nothing to Mullins."

"But, sir—"

Uncle John rose; recovered quickly as usual. "At once, I said. More than *your* life depends on it—or *mine*—there are the lives and hopes of a people. Do it, I say!"

Derek hesitated no longer, though the thought of leaving June came devastatingly to his mind. Seeing Uncle John as he was, he knew the emergency was great. Besides, feelings had been aroused by this meagre information. Feelings harking back to his fantastic dreams. . . .

Out in the driveway a moment later, Uncle John leaned on him for support. Derek would say or do nothing to hurt him now.

The older man scanned the night sky fearfully, then cried out in alarm, clutching at his throat. A more serious heart attack was upon him. Derek caught his falling form and lowered it gently.

"Promise me," Uncle John began. "Promise you will. . . ."

"Anything." Raising the older man's head, Derek saw that he had lost consciousness. In panic he rose, not knowing where to turn.

Then came a blinding flash of green brilliance, a hurtling and shrieking

something that struck Derek's chest with numbing force.

Abruptly he knew no more.

## CHAPTER II

### Kidnapped

**D**EREK awoke with throbbing head and pain-racked body. He lay on a cot which was the sole article of furniture in a cubicle of blank metal walls. Faintly he heard the purr of machinery.

For a long time he was too ill and exhausted to raise his head. Then strength flowed back. He sat up.

He remembered the missile which had screamed out of the bushes to strike him down. Some unfamiliar force had been used to incapacitate him; then he had been carried to this place. He saw a button beside the cot, pressed it in sudden anger. This brought results.

A panel slid back and a grinning dwarf entered. Derek stared; recollection stirred vaguely. In his forgotten youth, or in his dreams, there had been such creatures. He passed the back of his hand before his eyes, but memory did not follow.

He demanded of the dwarf: "Now you've got me here, what are you going to do with me?"

The misshapen creature smirked evilly, spouting unmeaning grunts. Derek lowered his feet to the floor, rose groggily. His sight blurred. The flat features of the dwarf were those of a leering gargoyle. Derek spat out his loathing. More gibberish from the dwarf. Commanding . . .

Derek's vision cleared and his normal vigor returned. A bludgeon prodded his ribs and he lunged at the dwarf.

Something in the dwarf's band sang spitefully and Derek found himself beating at an invisible barrier that sprang up between them, a barrier

elastic and yet unyielding as a steel wall. The dwarf laughed uproariously. Derek subsided. Here were forces beyond his comprehension, and an invulnerability not to be overlooked. He shrugged, preceding the dwarf into the corridor.

The throb of machinery was louder here and Derek knew now that he was in a vessel of some sort. There was no sense of motion, however. He had a curious feeling of lightness, as if he had lost twenty or more pounds in weight. Each stride carried him a greater distance than the effort would normally warrant. He frowned perplexedly.

With the dwarf at his heels, he came out into a large room with transparent walls. Here was a bewildering maze of mechanisms and controls. Outside were the starry heavens, velvety black, ominous. Off to one side was a great green globe with a tiny silvery crescent for companion. All was explained, or at least a part.

Derek was in a space ship, far outside Earth's atmosphere.

**S**EATED at a control panel like the console of an organ, was a man with unbelievably white skin. This man wheeled and gazed at Derek. He flung out curt syllables from a too-wide mouth and the dwarf, bowing obsequiously, withdrew.

Then, although his lips compressed immediately into a crimson slit, it was as if the man at the controls spoke words of English.

"You've seen, have you?" It was a snarl, but could only be telepathic; there was no sound save the muffled hum of machinery.

Derek stammered: "Y-yes. But I don't know your language."

The reply flashed instantly in Derek's consciousness: "You go ahead and

“speak in your own tongue—or *think*—and I’ll understand.”

“Then tell me how this ship works and where we are bound. Why am I here?”

The pilot’s eyes were intensely black, flecked with red. But they twinkled humorously. “You are too curious,” came his thought flash. “I can’t answer—yet. But you’ll not be harmed here. You’ll find out where you’re going. Regarding the operation of the ship, I, Chandor, Royal Space Pilot of Vilos, will be glad to tell.”

Derek flared up anew. “But you can’t do this to me! I’m a free man and an American citizen. I demand—”

Chandor’s friendliness vanished; his strange eyes flamed. “You are a citizen of *Vilos*!” Pink gas spurted from a ball at his belt.\*

Derek choked, but forgot his indignation. “V-Vilos?”

“That’s better.” The pilot actually smiled. “Vilos, yes, and that too you’ll see. Give me your word you’ll make no trouble and you’ll see many things that for a long while have been wrongfully hidden from you. Promise?”

Derek was stirred to new resentment against Uncle John. He *had* been denied much by the stern old man who called himself his guardian. No warning sense told him these feelings were caused by the pink gas.

Looking off into the mysterious vastness of the cosmos, he was conscious of an urge to adventure. These wonders he had seen before, in that other life, in his dreams—perhaps—

“I promise,” he told Chandor gravely.

The pilot locked his controls and led

the way down a companionway to the engine room. Here there was softly humming machinery and a huge rotating sphere of metal. Nozzles slanted alongside the sphere.

“We use cosmic rays for power,” Chandor explained. “That is, in outer space. In an atmosphere they’re too weak and then we use the rocket tubes. Electrically fired, these use a compact and most powerful explosive. In the cosmic ray streams of space, however, we have unlimited free energy available. The charged particles of the ray stream are collected, intensified, and directed at high velocity against the propelling sphere as you can see—through the nozzles—”

Derek watched the pilot’s lips in astonishment. “Why Chandor,” he exclaimed, “you’re speaking in your own tongue and I understand you. It’s like a long lost dream; I can’t explain it.”

“It is something long forgotten. Your native tongue as well as mine.” The pilot avoided Derek’s gaze.

“My memory, then—it’s coming back to me?”

“Not yet; only that part of your mind responsible for memory of your native speech is restored. By the pink gas.”

“Still I don’t get it.” Derek passed his hand before his eyes in the gesture he had come to use so much.

“Full memory will come later,” Chandor assured him. “But now—look—see the operation of our propelling sphere. Its surface is a trickily grooved one . . . the various forces produce a resultant along the ship’s axis . . . speed attainable almost unlimited. . . .”

Derek was paying no attention.

Chandor laughed. “I don’t suppose you’ve been trained in science. Maybe you’d rather see the manipulation of the controls and the beauties of the heavens. Come.”

\* This pink gas is undoubtedly a drug which affects the memory. When Derek breathed it in, his brain cells were partially damped by its etheric effects, and memory cells became inoperative. By using various concentrations, it is possible that any desired portion of the memory might be obscured.

As if in a trance, Derek followed. He saw several of the dwarfs in the engine room; they were a part of his forgotten past, he knew, but definite association eluded him. Although the tongue spoken by Chandor was now his own speech, he could not yet recall any incident of his early life. Terrifyingly too, memory of recent years was becoming hazy. He could scarcely visualize Uncle John, and even June Clayton was a swiftly fading remembrance.

Again he passed his hand before his eyes.

IN the control room once more, he saw that Earth had receded into the vastness and was lost among the stars. Knowledge of the rapidly increasing distance brought to Derek a sense of irreparable loss.

Earth ties were calling.

"I must go back," he choked, clutching the pilot's arm.

Another puff of pink vapor. Chandor smiling through it. "You are going back. Back to Vilos, your real home."

Derek's senses reeled under this second dose of the gas. Then he became elated. Carefree. He had no further regret, only anticipation. And Chandor seemed to be an excellent fellow.

He watched and listened eagerly as the pilot explained the action of the complicated controls. He peered through the forward ports into the starry depths. Viewing the huge flaming orb of the sun through a darkened glass, he voiced his wonder.

The pilot eyed him narrowly. "Seen all this before?"

Derek's hand strayed again to his eyes. "Why—why no," he admitted.

"Any recollection of your home or friends?"

Derek stared blankly.

"Do you know who you are?"

"N-no." Again that motion of the

hand before the eyes.

Chandor grinned triumphantly. Pink gas, and quirks of memory.

### CHAPTER III

#### Another World

THE mental state induced by the pink gas was peculiar. Although retaining no memory of his past or even of his own identity, Derek's brain was active and receptive. He sat beside the pilot throughout the long journey to Vilos, drinking in his every word.

Had he recalled the astronomy of his college days, he would have known that the huge ring-encircled orb which now loomed before them was Saturn. Chandor called the body by another name. Vilos, Derek learned, was its fifth moon. Rhea, he would have called it on earth.

"You will find Vilos a pleasant place and a lively one," Chandor told him. "Especially Kora, the capital, where we go."

Saturn was left behind. The pilot pointed out its moons.

Derek asked: "Is Vilos the only one inhabited?"

"No. One other, the sixth and largest of all the moons, is also peopled. We call the body Forsa, but have no traffic with it."

At length the billowing clouds which covered the surface of Vilos could be distinguished. Kneeling at a floor port, Derek watched as the sphere flattened out and reversed curvature. Now it was an enormous bowl of fluffy gray and white vapors. A moment later it was flat, and directly underneath. Derek glimpsed a huge metallic globe drifting just above the clouds not far away; then everything was blotted out by the grayness which enveloped them.

UNDERNEATH the clouds was the central palace of Kora. Derek's

memory stirred vigorously. Vividly from his submerged consciousness came a picture of frenzied mobs in the plaza, of bloodied marble steps and of a boy who fled screaming from the scene. Deep hatred rose up in him and a cry escaped his lips: "Murderer! Killer!"

Then he inhaled deeply of the pink gas and forgot. He smiled up into the narrowed eyes of the pilot.

"Your home," said Chandor. "Remember it?"

Derek shook his head. Things of amazing interest were below. A flood of questions left his lips. Chuckling, the pilot answered them.

Dazzled by the brilliant light from the city, Derek listened. He would find the lighting moderate after they had landed, Chandor told him. Up here it was intense because they directed it against the low clouds for better diffusion below. Artificial illumination was used in Vilos because of the cutting off of the already distance-weakened sunlight by the perpetually hovering vapors.

Kora, a city of twenty million souls, was on the island of the same name, the largest island of the planet. There were no great continents, only the islands, and a vast sea that covered all but one-twentieth of the surface. Derek glimpsed the milky waters of the ocean and remarked that steam was rising from them.

"True," agreed Chandor. "The sea is the source of our clouds; its waters are always hot."

Even in the state induced by the pink gas, Derek could reason. "But the sun is so far away," he objected.

Chandor enlightened him. "We don't depend on the sun but upon Saturn, whose rings radiate tremendous electronic energy. The core of Vilos, of nickel-iron, is heated by these radiations from the mother planet. Through

chasms in the sea bottom, contact is made with the hot core and steam is generated, heating the mass of water and bringing warmth to our atmosphere. The steam is also piped to our cities and used for generating electric power."

The tallest spires of Kora were now on a level with the space ship. Directly below them were the broad plazas of the palace area. They nosed down into the central court. A single short rocket blast, a gentle bump, and they had landed.

CHANDOR opened the manhole and stepped out, reaching up a hand to assist his passenger. When Derek set foot on the white marble of the landing stage, armed guards closed in on him, hustling him off. He was rushed through a great arched passage into a spacious hall.

There the guards fell back. Only Chandor was at his side. At the end of the hall sat a pudgy, overfed and overdressed man, flanked by male and female courtiers.

In the shadows behind stood four dwarfs who carried slender rods tipped with iridescent globes. Intangible, wavering formations, the globes, yet things of menace somehow.

"Tarbot, the emperor," husked Chandor. "Prostrate yourself." Drugged though he was, Derek rebelled. He stood proudly erect. Purpling, the emperor bellowed to his dwarfs. Four rods swept down, their hubble-like appendages undulating before Derek's face. Chandor, cowering on the floor alongside, wailed miserably.

With an effort, Tarbot twisted his features into the semblance of a smile. "No," he countermanded his order. "I was joking. I forgive your disrespect, Prince Deru. You may embrace me."

Derek did not move; visions of a forgotten past were crowding in. Dark re-

membrance of vile treachery, and worse. . . .

Chandor rose, jabbered excitedly. Tarbot grinned crookedly. A courtier, a girl slender and beautiful, glided to Derek's side. Her hand slipped up his arm caressingly. Derek winced at a stab of pain in his shoulder. The girl drew away, laughing delightedly, a tiny cylinder glistening in her fingers.

Derek knew and didn't care. The girl was dazzling, seductive. Kora was the most wonderful of cities, Tarbot a benignant monarch. And he . . . he knew it now . . . was Prince Deru, Son of the Stars, come into his own at last. . . .

Pink gas and hypodermics. Amnesia control.

#### CHAPTER IV

##### An Explanation

MEMORY of his childhood was suddenly clear. These were his people and this was his home. He, the Crown Prince. Only one thing eluded him . . . he made obeisance before the emperor.

"You may speak, Deru," said Tarbot untidiously.

"I want to know about my father, Thorson. You are my uncle, I know, his brother and governor of the Cold-spot, on the other side of our planet. But my father was emperor when I was a boy; where is he?"

Bowing as if in sorrow, Tarbot dismissed his courtiers. "It is a long story, Deru," he said. "Sit down and I'll tell it."

The prince passed a hand before his eyes but squatted dutifully.

Tarbot asked: "What do you last remember of Thorson, and of the empress, your mother?"

"It was my fourteenth birthday, I think," replied Deru. "When hundreds

were in this hall for the celebration. You had come a long way to be here. There was a feast, lots of merriment. I believe I finally fell asleep."

The emperor coughed. "Prepare yourself for a shock."

"A shock?" Again the passing of the hand before the eyes.

"Yes. I regret telling you that Thorson and the empress have been dead for many years."

"Dead!" Deru stared, but felt no deep sorrow. It was all so long ago.

Tarbot warmed to his subject. "It was soon after the party you mention. The space ships of Forsa attacked us; your father and mother were brutally slain; so were their courtiers. You, Deru, escaped with your life, but the shock had robbed you of your memory. Meanwhile, one Jan, secret enemy of Thorson with designs on the throne, kidnaped you, intending to kill you so he might more easily take the throne. He took you to Earth."

"Earth?" Derek had forgotten already.

"A backward planet, third in distance from our sun. Jan held you captive there and only recently my spies searched you both out. Overjoyed, I caused you to be brought here so you might resume your place in the empire and assume this throne when you reach your majority."

It all seemed logical to Deru, but unimportant. He fidgeted where he sat, new desires and curiosities stirring within him.

"I'm content to wait the time," he said. "Meanwhile—"

"You would like to see everything in the city of Kora?" suggested Tarbot with a knowing leer.

Deru hesitated. "Er—I was too young before—"

The boom of a gong brought Tarbot out of his cushions.

A GUARD moved swiftly, undrapping a crystal sphere that glowed with milky light. Deru's interest was aroused; this was one of the televue crystals he had longed to possess when a boy.

A grim visage materialized in the sphere. "Hail, Majesty!" came from the twisted lips pictured.

"Hail, Garda," returned Tarbot. "What news of Ivan?"

"He returns empty-handed."

"The curse of the underseaimps upon him! Send him to me."

"It is done, Majesty." The sphere clouded and went blank.

Tarbot was in a towering rage, pacing the floor and snarling.

"What is it?" the prince inquired.

"It is this Jan who abducted you; he has escaped my trusted lieutenant. Jan was to have been punished."

"Oh." It seemed of too little moment to cause such a fuss; Deru was anxious to set forth from the palace.

A tall, chalky-skinned Koranian was dragged in by two of the dwarf guards. The captive protested: "It's an outrage, your Majesty. Can I be blamed if Jan's friends came for him in a vessel which became invisible immediately it left the atmosphere of Earth?"

"Silence!" thundered Tarbot. "You know the penalty."

The captive blanched to even chalkier hue. "I'll give away the secret of Thorson," he threatened.

"Enough! It is death. Guards, the vibration!"

Four slender rods swept down from behind the emperor; four shimmering hubbles burst at once. The prisoner screamed horribly.

Deru recoiled in horror as the unfortunate victim swelled to enormous proportions, shivering violently in every joint and muscle. A loud humming issued from the tortured body as the vi-

bration increased. The body was no longer a body, the face no more a face. Where a man had stood was only a translucent, pulsating mass that began to flicker with little bursts of light, then to disintegrate entirely. In a moment it had completely vanished, only a faint trace of vapor and a pungent odor remaining.\*

"The reward of treachery!" Tarbot's features distorted hideously for an instant, then relaxed. "Potter!" he called.

Deru's horror was forgotten in anticipation; the drug in his veins was coming to full power. He was to go places and see things.

The man summoned by the emperor was a young noble, well-set and muscular but with the marks of dissipation plain on his handsome face. Richly attired and of swaggering air. Catching a roguish twinkle in his eyes, the prince was at once enthusiastic when Tarbot said:

"Potter is to be your companion, Deru. He'll show you what you need to know."

"Perhaps some things you shouldn't know," grinned Potter. "Prepare for a swift tour and a joyous one."

"When do we begin?" the prince asked eagerly.

Potter laughed. So did the emperor, who hid them be off.

Later, attired for the streets, Deru was impatient to get started. "Let's go," he begged.

Potter stared; the Prince's expression was a queer one in the Koranian tongue. It had come from the depths of Deru's inoperative memory of Earth. How, he could not have told, especially with this new urge.

\* The method of death used here is probably a form of gaseous thermite, which ignites the molecules of whatever it touches and consumes them in an intense flame, or more properly, a heat vibration.—Ed.

Amnesia control. Old repressions cast aside.

## CHAPTER V

### Pleasure Tour

THE drug had restored Deru's memory, but only that portion of it between his earliest recollections and his fourteenth birthday. It had blanked out everything else. For good reason, Tarbot wanted him to remember nothing after that, either in Vilos or on Earth.

Under the drug, his moral scruples were forgotten. His only mentor in the new life was Potter, a roue and a waster. They went first to the Idler, a resort of the uppermost level in the tallest spire of Kora, a place of entertainment frequented by the nobility. Potter ordered chuk, the distillate of Vilos fruits, which loosens the tongue and livens the spirits. Curiously, the pungent draught did not elate Deru. He would have no more of it.

That was the beginning, after which their progress was downward and swift. They dropped in a speedy lift to the region of the moving catwalks; they sped from spire to spire on traveling belts that swung dizzily out above the street levels. From one music hall to another they hurried until Deru was laughingly breathless from exertion.

"I'm looking for some friends," Potter explained owlishly.

Presently he found them in a noisy resort where chuk flowed most freely. Potter was greeted joyously. A bevy of damsels surrounded him. He singled out one of these and presented her to Deru.

"This is Sara," he said. "Don't be a stranger to her, Deru."

In a moment they were seated at a secluded table. Potter's feminine companion was Iule, who was lithe and pert

and black-eyed. Sara was blonde and plump, unbelievably soft of skin. Clinging. She leaned close to Deru; the scent of her hair was in his nostrils. His arm crept around her possessively. Potter and Iule voiced approval.

After that the four were boon companions. They embarked upon a round of mad revelings that are still spoken of with awe by habitues of Kora's gayest spots. Deru lost all track of time; as waking and sleeping periods passed in endless succession he lived only for what new sensation and thrill the immediate future promised.

Pink gas and hypodermics. . . .

POTTER was uneasy at times. Once he asked: "Do you remember anything at all of Earth?"

Deru's brow wrinkled. There was something, very elusive, but a hammering at his consciousness that some time would bring results. "No-o," he was forced to admit. "I remember nothing of Earth."

"We'll go into the pits," Sara decided during one waking period.

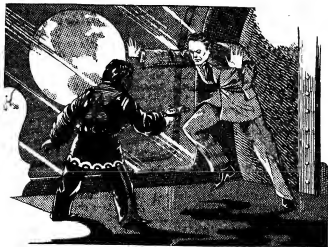
"No," said Potter. "It's forbidden."

That made it all the more desirable a lark. The girls insisted, and Deru took their part. The next thing, all four were in one of the swift cablecars, slanting at breathless speed into the regions below.

Potter fortified himself with a huge draught of chuk; he did not relish the prospect. Sara and Iule, however, were enthusiastic, flushed with triumph. Deru, too, was eager; he knew that the twisted dwarf folk who performed all the manual tasks of Kora dwelt in the pits. He wanted to see them in their native haunts.

The sights and sounds of the city's lower levels were suddenly blotted out as their car drove down steeply into darkness.





A wall of invisible force was between them

A vast cavern where lights dazzled and where all space was filled with such a tinnabulation of sound that the girls stopped their ears with their fingers. The car came to rest and they were out among the dwellers of the pits.

Potter singled out one of the dwarfs, who wore on his narrow chest the badge of the emperor. A few curt syllables made of him their bowing and scraping servitor. Pompously, he asserted his authority and forced a way for his new charges to the floor of the huge pit.

Here was one of the great power plants of Kora. Long aisles separated rows of enormous steam turbine generators whose deep-throated roar silenced the visitors as they passed to the far end of the pit.

Here their guide led them finally through passages to the innermost realm of his kind. Something told Deru that in this region was hidden a secret in some way connected with himself.

Potter was nervous, soberer than he had been in a long time.

THE guard was one of the Gerdons, that selected eightieth part of the slaves directly in the emperor's employ. Guards in the palace, certain of the Gerdons, but most of them spies and police agents below ground here. Forcibly inoculated with a serum that made them completely subservient to Tarbot and incapable of treachery, they were feared and hated by their own kind. They ruled the other slaves with the tyranny of their master. Their word was law in the pits and they enforced it with the vibratory death.

Deru was absorbed with the things he saw in the midst of a slave village. Sara pouted over his neglect of her. "You left me behind," she complained, attaching herself to his arm as was her habit.

Absently, Deru smiled into the up-

turned face. His eyes roved from the stone-flagged plaza on which they stood to the rows of dilapidated huts along the crooked streets of the village. To the steep slope beyond the huts, where hundreds of twisted sweating figures toiled mightily in the quarries. They labored with their hands, the slaves, with every muscle of their distorted bodies. Misery was in each mask of a face, and gaunt forms told of malnutrition and unhealthful environment. The streets were as bad; shabby women lolled in doorways, many with scrawny babes. They were a hopeless, hapless lot.

"There are more interesting scenes," the guard said tonelessly. "We'll visit one of their meeting places. It's not far."

Sara brightened. She giggled, trotting at Deru's side.

Deru knew something was wrong with a system which would permit of the lives of luxury in the city above while these creatures, once free, were now forced to grueling labor and the squalid quarters of the pits. Why, it was the work of the slaves which made those other luxuries and useless lives possible! He and his kind were little more than parasites . . . dooming the slaves to this. . . .

Deru forgot his sober thoughts. Sounds of music came from a long low building before them.

"The Casino," the guard announced. "We'll go in, but I warn you in the emperor's name not to talk to those within."

They went inside, where many slaves were gathered. The place was a cheap imitation of a Koranian music hall, with stage, orchestra pit, tables for diners and imbibers of chuk, and a level space for the dance. Iule and Sara were gleeful.

Still ill at ease, Potter whispered:

"Be careful. Don't give any offense. There are stories of trouble in the pits."

Deru saw many of the Gerdons here, scattered throughout the place in strategic spots. Wondered about it. Suddenly Sara felt his arm go tense under her fingers. She saw him looking into a far corner where there were many men and women not of the slaves. People from the surface world, but attired in strange gray garb of uniform cut.

"Outcasts from the cities," the guard told them. "Some of these are at the bottom of the uprisings."

Deru continued to stare, his mind in a turmoil.

A GIRL rose from among those in gray, a slim girl unlike the rest. Her skin was not chalky, but ruddy. Like Deru's. Her eyes were big and blue, her hair of gleaming bronze.

"June . . ." Deru muttered uncertainly.

He lurched to his feet and went to meet her.

Potter yelled: "Come back!" Seeing that Deru paid no heed, he whispered to the guard, who went to confer with the Gerdon captain.

Music throbbed in Deru's consciousness. He did not observe the converging of Gerdons on the open space he had entered. He saw only the slim girl in gray, heard only her soft voice repeating a name oddly like his own.

"Derek," she said. "They'll separate us soon. But I have to warn you. Escape your companions. Join mine instead. You *must*—oh—"

Gerdons intervened silently and effectively. They parted man and girl swiftly, without roughness. Potter was there, growling. The girl was in the hands of her friends. Deru's mind was chaotic; he had no real reason for wanting to talk to that girl and could not account for his impulsiveness. Yet, he'd

known her name. *Something*. . .

"It was necessary, Prince," the guard apologized. "She is a leader among them, a leader of organized revolt."

Deru hardly heard. He was trying to conciliate Sara.

His muddled mind was clearing as they hurried to leave. Sara, finally appeased, hugged his arm. In her bright smile was witchery and promise. His pulses quickened anew. Again they were a joyous quartet.

"We'll go to one of the pleasure spheres above the clouds," Sara decreed. They left the pits.

## CHAPTER VI

### Danger Above the Clouds

A SWIFT gravity-repulsion car carried them through the cloud layer. Above was the black velvet of the heavens with its myriad pinpoints of brilliance. Ahead was the pleasure sphere, big enough to hold the palace of Kora, and more.

Sara cooed her gratification. Deru could feel his pulse in his throat; in another moment they'd drift through the sphere's airlock.

Pink gas and hypodermics. A kettle a-boil.

The pleasure sphere drifted above the clouds that perpetually blanket Vilos, gravity-repulsion forces holding it aloft. Hermetically sealed like a space ship, its drugged atmosphere produced in the visitors a stimulation like that of some of the milder opiates, a continual effervescence of spirits, a sharpening of appreciation of entertainment, a deadening of the senses of responsibility and care.

Changing to bathing costumes, Deru's party went at once to the top dome which housed the main pool. The pool was circular, filled with scented amber fluid and warmed to a most com-

fortable temperature. In the pool, cavorting at its brink, or lolling in secluded nooks of the surrounding park-like area, were hundreds of Koranians. A jubilant, almost hysterical assemblage.

Bodies of the bathers flashed whitely in the pool. Potter and Iule, leaning over the rim to shout greetings to friends, fell with a great splash into the scented fluid. Sara and Deru followed.

"Look!" squealed Sara. "Deru propels himself like a power boat."

He was *swimming*, with powerful overhand strokes. This being an accomplishment unknown on Vilos, the bathers gathered to watch him in amazement. Sara demanded to be taught. Embarrassed, Deru refused.

This means of propelling one's self was no part of his memory; to progress with such speed and ease as he had displayed was unheard of. Deru left the pool and sat at its rim.

Sara came up after him, smooth and white and dripping; with a delighted giggle she hugged against him. "Please Deru," she begged. "Please instruct your Sara."

He almost yielded, then shook his head. Sara pursed her lips in the pout she had used so effectively, but forgot her wiles in fresh thought. A queer sense of alarm assailed her. She knew something of the real reasons behind this pleasure jaunt; suddenly afraid for Deru, she held him closer. Into the shallowness of her nature had crept an affection for him as real as any of which she was capable.

UNEXPECTEDLY then the light was blotted out. The great sphere reverberated to a mighty clang as if it had contacted an enormous metallic body out here in space. The floor heaved. Screaming, the pleasure seekers tried to flee in the darkness. Pan-

demonium reigned. Deru stumbled against Sara; they clung together.

"They'll kill you, Deru," the girl sobbed on his breast. "I just know they will. And Sara is so miserable, so sorry."

"Sorry! For what?" Deru held her tightly.

"For the part I've played. But I've loved you—I *meant* it—"

There were sudden blinding lights from hand lamps held by mail clad warriors. The pirates were everywhere, if pirates they were; they began examining the features of all. There was no escape.

"They're looking for someone," a cry arose.

"For Prince Deru." It was Iule's betraying shout.

Shivering in his arms, sobbing uncontrollably, Sara clung to him the harder. "It's the end," she wailed.

Deru could not analyze his feelings. Strangely, he was glad to see the warriors, glad when their lamps singled him out. "I'm going to them," he announced. They were not pirates—they were his friends, but Derek did not know that. They had come out of space to rescue him.

"No!" Sara clutched frantically but could not stay him.

Deru planted a farewell kiss on the trembling upturned lips.

"You—you forgive me?" she pleaded tearfully.

"Yes." Deru went before the leader of the warriors.

"It is he," a voice intoned. "We're in time."

A whiff of sickish-sweet odor assailed Deru's nostrils.

## CHAPTER VII

### An Explanation at Last

WHEN Deru recovered, it was to a new consciousness of being.

Complete remembrance flooded his mind with devastating clarity. Now there were no blank periods; minute details of all his past life in Vilos and on Earth flashed before him.

A basketlike cage surrounded him; through its mesh he saw the man who had counseled him in the palace of Kora as a boy and who later counseled him in far-away Earth. Others were there, all men older than himself, all changed in appearance, but all recognized as former members of his father's court. Lothar, who had been chancellor, Holcom, Vance, Lambert, Krone—wise men all, and honest. And he knew now that it had been they who were his rescuers in the pleasure sphere.

The cage lifted and he stumbled forth to grip Jan's hands. "It all comes back to me," he gasped. "Uncle John, I'm sorry—and ashamed. My actions on Earth—and here—"

The older man stopped him. "Say no more about it. The fault was not yours; we, your supporters, find you blameless. We trust you now just as we have ever since the fatal day."

Deru's lean features set in a grim mask. "The day of massacre," he choked. "When Tarhot killed his own brother so he might himself rule all Vilos. My father, my mother, all of them he murdered. He lied when he brought me back from Earth, swearing the warriors of Forsa did it. And I—remembering nothing—believed him! Now—"

"Yes?—now—" Jan hung on the lad's words.

"Now they'll be avenged. With my own hands I'll kill Tarhot—I swear it."

It was Prince Deru speaking. Jan's eyes shone. "It's what we, your friends, have planned and waited for," he declared.

"I—I saw June. She was in the pits and I—didn't know. How did she get

here? Is she safe?"

That was Derek Raine who spoke; he was mortified, thinking of the madness of recent days. He was afraid for June, afraid he had lost her.

Uncle John said kindly: "There's much to be explained to you, my boy. Come, we'll sit at the council table and talk it over. As for June, she stowed away on the space ship that brought me. When we landed on Vilos, we didn't know what to do with her—I couldn't persuade the others that she might not be a spy—so we just let her go. Later we found that she had been sent to the pits for expressing her loyalty to you. All such sympathizers are sent to the pits, where they can do no harm. But here, let us join the council, in this room."

LOTHAR was spokesman. He talked at length while Deru and the others listened, Deru impatiently to be sure.

The story began with the day of the massacre, when only a small group of Thorson's adherents escaped the curved knives and the vibratory death of the treacherous Tarbot's minions. This group fled to the pits with Deru, who had fainted at sight of the bloody deeds. Great scientists were among them; mercifully they took away the young prince's memory while he was yet unconscious.

Later they sent him to Earth, where he would be safe from Tarbot's spies. Jan was commissioned to guard the lad carefully until the day of his majority when he would return to lead them. His age then had been fourteen.

But Tarbot continued his search for the young prince. Only a few months before the time set for Deru's return, he had discovered, by the use of television rays, the old house near Corintown. Chandor was sent to Earth in

a fast space ship to get him.

The patriots had learned of this too late. They warned Jan, but not in time. Tarbot's deputy succeeded, as Deru knew.

"But why," Deru asked, "did the emperor welcome me as he did? Why drug me and send me to the flesh pots with Potter and the—the women? I now see they were hired to playact with me. But why didn't the emperor kill me as he did my parents?"

Lothar made reply: "You were the innocent feast-bird being fattened for the kill. He had two reasons: first, our hands were tied because we knew you were in his power; second, a product of his own filthy mind. He wanted to give you a taste of the present Koranian life, thinking death would then be more bitter when you met it. You were to be kept drugged until the day of your majority, when a great feast was to have been held, supposedly in your honor but actually to provide sport for his sadistic followers. You were to be assassinated at the feast. Horribly, slowly."

Deru's eyes narrowed to slits. "Potter knew of this! Sara and Iule?" he demanded.

"Probably not the horrible details, but enough. And they'll no doubt pay for not holding you safe."

Deru looked around the table, noted the eager faces. Back of the chairs he saw walls of riveted metal plates.

"Where are we?" he asked. "What are the plans?"

"This is a space sphere," replied Lothar. "Similar to one of the pleasure spheres but rendered invisible to Tarbot's patrol ships by Vance's invention, a hull-charging energy which bends all light rays around it, thus disclosing to view neither solid object nor any emptiness in the space we occupy."

"There are thirty of us here and we

have a fleet of swift battle cruisers housed in airlocks in the hull of the sphere itself. These are armed with such weapons as Vilos has never known, and the flagship of the fleet is yours, Deru. We hope you will lead us against the emperor.

"Will I!" A bleak smile froze Deru's lips. "Just teach me to run this flagship and watch what I shall do!"

"After that," Jan put in, "you are to resume your rightful place, which is on the throne of Kora."

"We have other supporters?" Deru wanted to know. "How about the people of Vilos as a mass? The slaves?"

"Ninety-five percent are with us," exulted Lothar. "In the pits there's been trouble keeping them in check; the slaves are impatient and can hardly wait for the day. Already there have been minor outbreaks. In all cities of the surface except Kora itself the population is almost solidly behind us. You'll be welcomed as their ruler; a new era is to come."

A gong rang sharply; it was the signal of the televue crystal. Vance depressed a spring and the vision sphere rose before them. A Gerdon countenance materialized in its milkiness.

"One of our spies in the palace," breathed Lothar. "A report."

AS he spoke the face vanished and a view of the emperor's court came into view. Tarbot sat among his cushions with black rage patent in every expression and gesture.

"Bring them in!" he bellowed. "Bring the traitors."

Three figures were dragged before him. Deru sucked in a sharp breath; they were Potter, Sara, and Iule. Potter shivered so he could not stand without his guard's support. Iule screeched and fought like a tigress of Earth's jungles. Sara, seeming tinier and more helpless

than ever, wept softly. She offered no resistance.

"That devil!" grated Deru, watching Tarbot's expression.

"There's only one fate for those who fail him," Lothar said.

"Not the vibratory death!" Deru was aghast at the thought. "If it is, I don't want to see it. Cut off the view."

Understanding, Vance reached for the energy control. But the shimmering bubbles had already swept down. The three victims were instantly expanding misty blobs of oscillating matter. A cry of rage and horror escaped Deru.

"The monster! He'll not live three days. Where's the training ship?"

Vance, who had anxiously waited this moment, led him away.

LIKE the mother sphere, the small cruisers could be made invisible. One which was especially equipped for training pilots, was unshipped with Deru and Vance at the dual controls. It dropped away from the sphere, cloaked with invisibility.

Deru was quick to learn. It was a full gravity-control vessel of tremendous speed, but he had flown with Vance not more than two hours when he was able to take the controls alone. A feeling of power flooded his being as the ship leaped and cavorted under the pressure of his fingers on the button controls. For the better part of the waking period he drove the ship to its utmost, sweeping through the cloud layer, diving between the spires of cities, shooting again above the clouds and performing the most intricate and difficult gyrations.

Vance, satisfied, had him return to the mother sphere. There was still to come the mastering of the armament, which must wait until next waking period.

Deru saw the wisdom of this edict,

enthusiastic though he was. He had not realized his exhausted condition; perhaps the energies of the cage in which full memory had been restored were partly to blame.

Uncle John took him in charge promptly.

"You have eaten?" he asked Deru.

The prince nodded sleepily. "On the cruiser—Vance had a supply of food pellets. Now I want to sleep—right away."

Uncle John understood. "Here is your room," he announced, when they had traversed a short corridor.

Just before consciousness left him, Deru raised one heavy lid and asked of Uncle John: "Where is June? I *must* see her."

Jan smiled enigmatically. "That too can wait until after this sleeping period."

## CHAPTER VIII

### Battle

THE second waking period thereafter saw the fleet ready to go into action. The organized forces of the cities and the pits were ready to take control of the various branches of government as soon as the citadel of the emperor had fallen. The patriots had laid their plans well during the ten years since the massacre.

Busy as he was, Deru thought much of June Clayton. Repentantly and anxiously. Early in his second waking period aboard the mother sphere, he had taken Uncle John to task. No harm could possibly have overtaken her, Uncle John protested. But where she now might be or what was her state of health, none of the patriots here had heard.

Deru insisted that they find out and eventually Jan himself was sent to locate her. He had not yet returned when

the fleet was set to take off, nor had any news come through the telecrystals.

There was nothing for it but to proceed to the attack. One last order of Deru's brought a measure of consternation to his followers. He decreed that the fleet be not rendered invisible.

"But invisibility is our best weapon," objected Lambert.

"Its use is cold-blooded murder," Deru insisted. "We've thirty cruisers which are vastly superior to Tarbot's fifty. The sporting thing is at least to let them see us."

Eventually they saw it his way, secretly admiring him for his decision. His stay on Earth had imbued him with ideas of fair play.

Besides, it was true that their own fighting ships were deadlier than the emperor's by far, though fewer in number. They had twice the speed, armor that was impervious to the freezing energies and the vibratory death bombs of Tarbot's fighters, blasting heat projectors of such power that carbon was fusible in their rays. The outcome of the battle could hardly be doubted.

The mechanics had arrived from below the clouds; the cruisers were in all respects conditioned. Deru closed the hatch from the control panel of the flagship and shouted his first order into the etherphone.

His command was: "Attack!"

THIRTY sleek black shapes drove down through the clouds toward Kora. Fifty equally sleek red shapes rose up from the city to meet them, for Tarbot, after the mysterious kidnapping of Deru from the pleasure sphere, had kept them in constant readiness. He knew not what to expect and could conceive of no force of the patriots with which his own forces could not cope, but he was not one to overlook bets.

Deru, driving the flagship down at

the tip of a wedge formation, headed for the tallest spire of the palace. A red shape loomed before him and the transparent port in front of his eyes shuddered under the impact of an exploding missile. The vessel vibrated sharply for an instant and then resumed normal stability. The vibratory death had passed him by. A dozen red shapes converged upon him. He pressed the release of his heat blast and one of the enemy vessels melted to a spattering, dripping, white-hot blob. Another and another followed it down. His viewing port suddenly clouded and the air of the control room went frigid. His fingers cramped on the control buttons but he managed to switch on the viewing plate. The cold was gone in another instant as his neutralizing heaters functioned. He shot down another red shape, then closed the transparent port with the protective armor.

Pictured in the viewing plate was his objective, the main spire of the palace. All around him were flashing shapes of red and of black. Stabbing pencils of light crossed and crisscrossed in all directions, the angry ruby of the heat energies, the pulsating blue of the vibratory death bomb projectors, the gelid white of the freezing rays. Two red ships fused into one and fell into the city a spreading mass of molten metal which burst into searing white flame. Three of the emperor's vessels converged upon one of his own, directing an unceasing fire of bombs and freezing energies against it. The black ship wavered groggily and vanished in a puff of vapor. There must have been an unsuspected fault in its armor.

Now the battle raged furiously behind and above. From below, from the turrets of the main spire and from the central square, blasts of white and streamers of throbbing blue shot up to contact the hulls of the black ships without ef-

fect. Now, too, gray-clad figures were swarming the catwalks and ways of the upper levels of Kora, while deep in the abysses of the streets gray columns marched triumphantly.

Deru directed the heat energies of his own ship at the main spire and held the release at maximum position. Down he plunged until the finial of the spire thrust almost to the floor ports. Red, then most dazzling white, the spire glowed. It sank down like a burned-out taper, spouting sluggish streams of liquid metal and masonry.

Abruptly the battle ended. The red ships had been swept from the air; all resistance from below had ceased. There remained but the taking of the fruits of victory.

Deru felt no elation when he took formal possession of the palace amid the noisy demonstrations of his followers. Guarded by warriors in gray, he stalked through the deserted corridors to the throne room. His work was not yet done; if Tarbot had escaped into hiding, he'd search him out and kill him although it required a lifetime. By ancient codes of Vilos, as by his own inclination, he was bound to the deed.

But the emperor, likewise bound by tradition, had deprived him of his right of personal execution. Tarbot had not escaped, but still lolled in his cushions in a strangely rigid attitude, a snarl of malice graven on his crass features. Pasty-white, as immobile as granite, his left elbow still crooked in the motion which had carried to his lips the phial that now was empty of its lethal potion.

Tarbot, deserted by his retainers, knowing he was beaten, had swallowed the drug which instantly paralyzes and petrifies. The blood in his veins, the flesh on his skeleton, all had hardened to stone. He was an effigy of himself, a thing of cold lifeless matter, and yet the representation in lifelike bulk and



appearance of the evil creature he had been in life.

Deru mouthed his disgust. "Bring generators of the vibration," he commanded. "Even as a statue he can not longer exist."

Then he turned his back while the guards in gray let loose the oscillatory energy which reduced the leering image to nothingness.

THERE was jubilation throughout Kora and in all Vilos. In some quarters, fear and trembling. The usurper and oppressor was no more. His downtrodden subjects, who were legion, were now to be free. His friends, who were few, might suffer temporarily during the period of readjustment. But all knew that the golden age which had passed with the passing of Thorson was returned with the coming of his son.

Deru called an immediate meeting of the council.

"Where is Jan?" he asked, when they had assembled. Only two faces were missing, Jan's and Krone's. He knew that Krone had gone into the nothingness from which none return; it was his ship which had been destroyed.

"Jan is in an antechamber with one from the pits," replied Vance. "With the woman you wanted him to find."

Deru's heart leaped. "Send for them," he commanded.

At the head of the table, in the chair of his ancestors which was his by right of succession, Deru sat stiffly. The patriots who had planned long and successfully for this moment, exchanged anxious glances. The young prince was not at all as they had anticipated; he had more thought for a young woman from Earth than for the affairs of the world over which he was so soon to rule. But they sent for Jan.

Deru had eyes only for June Clayton when the two came in. But first he had

a duty to perform; as heir to the throne of Kora he addressed them all:

"I must state my position, gentlemen, and I want to do it in the presence of the one I hope to make my bride."

He looked hopefully toward June but she avoided his gaze.

He continued: "It's my understanding that my majority is reached in the space of three days, and that I'm then to be formally inaugurated as your emperor. I also understand that the ancient law of Vilos forbids a member of the royal family to marry any excepting a high-born native Koranian maiden. Am I correct?"

Lothar nodded solemnly.

"That law," said Deru, "was written in past centuries when there was danger of contaminating the blood of Vilos with that of the barbarians from the satellite Forsa. It can't apply today; we've been at peace and have signed the pact of perpetual isolation with Forsa. Neither should it apply to me and the woman of my choice. I ask you: can this law be repealed?"

"It can," stated Lothar. Jan nodded his head in confirmation.

"Then," said Deru, stepping down toward June, "I shall ask her now."

"June," he said in clear, calm tones, "will you become my wife, to remain with me on the planet of my birth, on *your* world, to rule with me the lands of my choice?"

He saw his answer in her eyes and turned triumphantly to the council.

"Gentlemen," he announced. "The ceremonies of three days from now will be arranged thus—for the marriage and coronation of the King and Queen of Vilos."

And in the enthusiastic shout that rose, he sensed a surety of a long and happy reign of the world to which he had so triumphantly returned—the world of his rightful heritage.

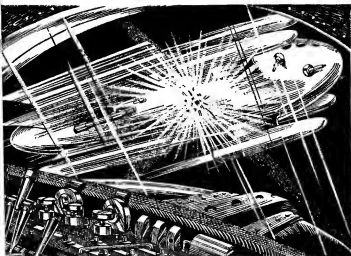
# PATROLMAN E-6 GETS HIS MAN



By  
**BENSON  
HERBERT**

When the challenge of battle meant the honor of the force, not even the possible sacrifice of the life of Eda Summers could keep Rex Linn from the performance of his duty in tracking down the ruthless bandit of space, Gustav Lammel.

... sped straight into the path of the torpedo



## CHAPTER I

### The Yellow Bandit

THE distorted features of a red-haired girl grinned out from the telescreen of Space-Patrolship E6. Rex Linn thrust out his square, granite chin aggressively toward the flickering image.

"Can't even co-ordinate her television beams," he muttered contemptuously. "Just as well I can't see her phizz clearly, anyway. Red-heads aren't in my line."

"O.K.," he snapped briefly in response to her query. "Come over for an inspection, if you must. See the animile performing in its cage!"

With a flick of his finger he cut the connection. Before the image faded he had time to see the girl's tongue protruding from her mouth.

"Blasted cheek!"

Rex always writhed when some official's relative produced a viewing per-

mit to give his ship the once-over. Made him feel like something in a zoo.

Some chaps enjoyed it. Broke the monotony of their eternal vigilance, on the look-out for spacebandits who had harried the interworld mails ever since the lines had been opened out fifty years ago.

But Rex wasn't made that way. He just didn't see the fun of answering fool questions and figuring out bright quips for the entertainment of visitors. He decided to be brief to the point of rudeness. Maybe that would help the inspection to an end.

The two ships, their rockets dead, pursued an almost circular orbit between Mars and the asteroid belt. The long, slim contours of E6, its sides camouflaged with dazzling zigzags, contrasted queerly with its tiny neighbor, a two-seater spaceglobe. The latter circulated in a subsidiary orbit around the more massive Patrolship, a couple of

hundred yards distant. A smart model, in cream and blue. An expensive bag of tricks, decked up to catch a female's eye.

The girl's pilot opened the air-lock for her, and she sprang away from the globe in her space-suit, guiding her course by a couple of reaction pistols. In three minutes she had contacted E6. The air-lock was open for her. She pulled herself inside.

Out of the bulky suit stepped an unexpectedly slim figure, almost ludicrous by contrast.

"Saturn's rings," thought Rex, "I take back everything; she's a swell looker."

Aloud, he said: "I didn't get your name."

"Eda Summers. D'you have all this craft to yourself?"

A gleam of respect shone in Rex's eye. Summers was a name not to be trifled with in the space channels. The girl's father held a third share in the moribund mines on Pluto.

"Yep. And I'm cramped at that. Patrolships are full to the neck with gadgets. Where is your parent ship?"

His rude directness failed to unbalance her.

"As far as I know, on an orbit half a million miles toward Mars."

Rex jumped away from the control panel, an action which showed how much he was startled.

"Solar corona! What the deuce are you doing so far away? Don't you know the asteroid belt is the favorite hide-out for spacebandits?"

"Mister Patrol, I wish you'd mind your own business. I got my viewing ticket—should be enough for you."

An angry retort rose to his lips, but he checked it. What was the use of telling this dame about the responsibility she was imposing on him? If she hadn't already thought of that, telling

wouldn't make her. Daughter of a billionaire, looking round for new sensations. He knew the type. Nothing would drive sense into 'em. Thought she was finding a spot of romance by putting more than the regulation distance between her globe and the parent cruiser.

"One thing, mister," went on the girl, a dangerous lilt in her voice, "it's more than your job's worth to radio my location. I'm out for fun, see?"

Rex shrugged his shoulders.

"Just as you say, lady. It's your funeral."

Suddenly she laughed at his curt tone.

"Seeing I *am* here, we might as well be on good terms—Mr. Linn. Now first of all, explain what 'E6' stands for."

Rex yawned a little before beginning his routine description.

"For the purposes of patrol work, the solar system is divided into space channels, or rings. The first is between the sun and Mercury, called Alpha ring, or Alphar for short. Then Betar, between Mercury and Venus, and so on. As we're in the fifth channel, between Mars and the asteroids, it's called Epsilon ring, or Epsilor. Get the idea?"

"I still don't see why the 'E'."

"That's because Patrolmen are considered too dumb to read Greek letters."

"And are they?"

Rex, ignoring this just retort to his own quip, turned to the bank of levers under the instrument panel.

"These hair triggers operate the director beams. Once these are focused on any object—in my case, of course, a bandit ship—they remain so. They never let go, as long as the ship's within a couple of million miles, and a lump of rock no more than a mile across gets in between. That's why they're so useful for dodging in and out of the asteroids, most of which aren't more than a mile in diameter. The director beams

aren't much good in themselves, but they give instantaneous orientation for tension and repulsion rays, generator cosmoics, radio beams and any others. But maybe you don't follow?"

"Course I do. You utilize the Clarkson principle.\* I graduated at Venus university in astroballistics and space mechanics."

"In that case you'd better show me round the ship," retorted Rex sarcastically.

"Why, you—"

The girl's heated reply was cut short by a harsh, metallic voice that echoed throughout the machine.

"E6, you are detailed to pursue a yellow ship, believed to be in your sector, heading for the asteroid belt. E7 discovered the space-yacht *Jovian* looted and empty of air. Saw the bandit entering your sector. Do not let him escape alive."

The girl's face blanched.

"The *Jovian* was my parent ship. Empty of air? That means they're all—"

"Won't do you any good to think about it," snapped the other, abruptly hard and grim, his eyes slits of steel-grey.

A sudden burst of acceleration sent the girl hurtling to the rear wall of the control cabin.

"What's the idea?" she gasped, rubbing her bruised elbow. "You're leaving my globe behind!"

\* All Patrol ships use the Clarkson Principle for space navigation, especially in navigation in the region of the asteroids. Director beams, reacting on photo-electric cells, automatically focus on any intercepted body, and give certain and continuous sight on the obstruction, thereby allowing for positive avoidance, or positive guidance toward it. Once an asteroid is in the beam, its course is continually charted by the photo electric cells and the ship's course can be so charted as to avoid it with the least possible amount of maneuvering. And it is just as simple to steer straight for a bandit ship on a constantly corrected course that exactly coincides with other ships' course—Ed.

Rex did not reply. His eyes were glued to slowly-swiveling telescope sights.

"Hey, mister," she went on indignantly, "you can just turn about and take me back to my globe!"

A glance through a port showed that her puzzled pilot was making entirely ineffectual efforts to keep pace. Even as she watched, the globe rapidly dwindled to a dot.

"I told you it was your funeral," growled Rex through grim lips. "D'you think I've time to play taxi? If you drop in on me without warning headquarters, you've got to take the consequences."

"Why didn't you tell 'em I'm on board? They'd have detailed some other patrolship for the job."

"Lady, the next patrolship is so far away that the bandit could do a double loop 'round Pluto. He's in my sector, and it's my job to get him. Next time you inspect a patrolship, do it in port."

The girl swayed comically as Rex admitted more juice to the main rocket tube.

"You can't run off with me like this! I'm Eda Summers!"

The other coolly swung the sights to inspect a fresh sector. Rapidly his fingers danced on a key-board, projecting and rotating a search-beam. Only when he had satisfied himself that the results were negative did he deign to reply. His tone was contemptuous and incisive.

"Had the *Jovian* a full complement of passengers?"

The girl nodded, wincing.

"That means two hundred and seventy—all murdered by the bandit in the yellow ship. What's your life beside theirs? You may have plenty power behind your name, but what about the other passenger ships which'll go the same way as the *Jovian* if I let the

yellow ship slip through my fingers? It's not often a patrolship gets so close to a bandit. I wouldn't miss this chance for a whole family of Summers."

The girl, hunched up against the wall with a pressure three times gravity, dropped her eyes.

"I guess you're right. I'm a meddling fool. I—"

"Cut it out. I've got other things to think about. By Halley, I think I know who the bandit is! Lammel!"

"How d'you figure that?" demanded the girl, eager and showing no signs of apprehension.

Rex turned shrewd eyes upon her before answering.

"It's only a hunch," he said bitterly, "but I guess there's only one planet that produces outlaws bloodthirsty enough to slaughter a whole shipload of passengers for the sake of the loot. Yes, you got it—earth. And most of the earth-born bandits are cleaned up now, 'cept Lammel and one or two others. Those others wouldn't dare to bring off a haul right under the nose of a patrolman."

Lammel! The girl shuddered at the very name. During five years Lammel had brought off twenty major coups, through which some eight hundred people had lost their lives. He always attacked the bigger vessels because they were easier to spot and held more loot. He made no attempt to rescue chance survivors. Dead passengers were easier to rob than live ones.

The patrolman's eyes narrowed as he altered the course to avoid a massive rock five miles across, lonely outpost of the asteroids. If Lammel could be captured or destroyed, the few remaining outlaws would be discouraged. The space channels might at last become reasonably safe. And if Rex could be the exterminator of this vermin—he stood the chance of receiving a band-

some lump sum from the grateful service companies, as well as the reward that patrol headquarters had placed upon Lammel's head.

"Any sign?" asked the girl excitedly.

"Give me a chance," returned the other evenly. "My sector covers seven million miles."

The girl glanced round the cramped quarters. To her surprise she noticed in one corner an eighteen-inch *toomja*—a tough Venusian flower that could withstand the stresses of sudden acceleration. She looked carefully at the brawny shoulders and bull-neck of the patrolman, as he scanned the pitted surface of the asteroid they were passing. He didn't look the sort of person who would keep flowers in his cabin.

She was about to remark on this peculiar circumstance when a faint recollection struck her. Somewhere she had read an article about the *toomja* flower in a technical magazine. It was the most delicate detector of generator cosmoics; an ionization of a thousandth per cent would cause its purplish hue to change with startling abruptness to violet.

She was on the point of displaying her technical knowledge when she screamed. A furry, eight-legged creature, two feet in length, had scurried past her ankles and leapt upon the man's shoulder.

"Hello, Chucker," chortled Rex. "Never seen a Ganymedian marsupial before, Miss Summers? He's my pet, and the mascot of E6."

The girl stepped forward to stroke the slim, beady-eyed beast. Before she could do so, Rex stiffened.

"Got him," he exclaimed, voice vibrant and tense. "Search beam records an object thirty-two degrees north of ecliptic. Can't be an asteroid way up there. Lammel thinks he can escape by diving out of the ecliptic. You'd

better clear out. Wrap yourself in the compressed air hammock. You'll find it through the door on your left."

The girl, flushed with excitement, rejected this dismissal.

"I'd much rather stay here—maybe I can help—"

"Do as you're told!" snarled Rex, without raising his eyes from the panel. "Clear off before you get in my hair. I'll need all my wits without you huttin' in. Besides, I'm going up to five gravity,\* and this seat is the only one in the cabin that'll stand it."

Still she hesitated, resentful, puckering her mouth.

"In just five seconds I'm going to unstrap the juice," he said calmly. "Then you'll break your neck against the back wall."

## CHAPTER II

### A Chase Through Space

EDA SUMMERS disappeared through the door with unladylike celerity. A slight smile playing on his lips, Rex gave her time to adjust the hammock, then—

A hammer seemed to strike the machine. E6 shot like a shell out of the ecliptic, dead on its course. A muffled scream came from the door on the

\*The pull of gravity at earth's surface is taken as the unit of acceleration in space travel. Thus an acceleration of two gravities would be one that would result in acceleration pressure equal to doubling the apparent weight of the body. A space traveler would find it a difficult job to stand on his feet with his body weighing twice as much, in effect, as normally. Thus, with five gravities, the results might be fatal unless the body was properly slung in a protective hammock and protected against great pressure. However, even so, the effect on the body is great, in heart action, blood pressure, and very often extreme space-sickness results due to pressure of the brain against the brain pan. A horizontal position is best, since a vertical one would result in either fainting, from lack of blood in the brain, or death from rupture of the blood vessels of the brain, depending on whether the body is erect, or upside-down.—Ed.

left. Rex chuckled. Out of spite he notched the juice to six-and-a-half gravity. His heart, well-trained though he was, pounded savagely at the extra strain thrown upon it. Only after years of finely-graded experience could a patrolman retain his full complement of fighting faculties under such conditions.

The scream died to a gurgle, then petered out. The girl must be unconscious. So much the better. If Lammel outwitted him, then the girl would never know the horrible death she would die. For Rex was determined to make it a fight to the finish. Either he or Lammel would feel the bite of the vacuum. Rex knew he had sufficient reserve of acceleration not to let Lammel out of reach of the director beam. A matter of seconds now before he would be able to focus—

The search beam showed a sudden dip of five degrees.

"Diving back to the ecliptic," muttered Rex, promptly altering the course accordingly. "He must have spotted me with his search beam. No chance now of taking him off guard."

A further dip of three degrees. Rex grinned a little, kicked the tail up with a burst from two auxiliary tubes, then sheared down to the ecliptic at an angle of forty degrees. By not following Lammel's curve he would save precious seconds, might even intercept the other before he reached the ecliptic.

But Lammel knew all the answers. He wasn't to be trapped like a booh. Barely five seconds after E6 had roared on its new course, Lammel had roughly estimated the orbit, and jerked his ship away from the ecliptic at a steep angle.

The full battery of E6's upper auxiliaries screamed white-hot flame. The ship skidded violently in a narrow arc. Rex's muscles sagged sickeningly under the punch of two terrific accelerations. He would have to sit on the

smart guy's tail after all. There would be no short cuts.

Rex glued the nose to Lammel's track and let full blaze with the main tube—seven gravity. The fittings of the patrolship threatened to break loose from their anchorage. The multitudinous bearings of the nightmare of machinery at his back dinned fiercely, protestingly, with a forced vibration. The blood in his veins circulated queerly, trying to adjust to the changing stresses.

Ten seconds, twenty, a minute, two minutes—

Lammel not even in reach of the director beams! At any moment the search beam might lose him in the wilderness of space outside the ecliptic. Rex could not be sure of him till the director beams contacted the yellow vessel. Only one way—

Should he use the emergency reserve tube, notch up the acceleration to eight gravity, beat Lammel by sheer, pounding force?

The patrolship was built to stand eight gravity for fifteen minutes, but the strongest, most clear-brained pilot in the space channels would not be able to ward off the resulting lethargy for more than a minute. Actually the record endurance test had been won by a close friend of Rex's, at fifty seven and six-tenths seconds.

Rex debated with himself, thinking rapidly. If he stood up to it for only half a minute, he would probably be brought within striking distance of Lammel. But that half-minute of frightful strain would dull his faculties, make him easy prey to the spacebandit. Was it worth the risk?

Circumstances helped him to decide. Lammel's course abruptly veered from eighty five degrees to fifty. E6 skidded violently in the effort to keep pinned to the track, wasting valuable moments because Rex could not foresee the al-

teration in direction. If Lammel kept up these tactics, he would gradually shake off his pursuer.

"Cosmic dust!" Rex shouted aloud, "I ain't goin' places nohow. See if that little gadget of mine'll work. Had no chance to give it a try-out yet. If it works, I'll patent it after this trip. If it doesn't—E6'll join the asteroid queue."

Rex pulled from an inside pocket a tiny timing device of his own design, and clipped it to the reserve throttle. He spun a milled knob till the dial registered ten minutes. For that time the reserve throttle would be held full open by the device, then it would close. His relaxed body would then—he hoped—return to consciousness. It had been his experience that acceleration-lethargy disappeared as soon as the acceleration eased off. He had noted it time and again—under safer conditions.

Supposing it didn't this time? Or supposing his little device delayed its action too long, through lack of sufficient lubrication or other trivial cause? Should he pin his life, and that of the girl, on that fallible fragment of clock-work?

"To hell with supposing!" he muttered through his teeth. "Lammel's scalp is worth a chance!"

If he lost his opportunity of getting Lammel now, the girl might easily be a passenger on the next ship due to be looted by Lammel. And damn it, he had faith in his own invention! What could be a better practical demonstration?

During this period of decision the yellow ship zigzagged four times, the course varying between eighty five and forty five degrees above the ecliptic. Rex struck an average, setting his course at sixty-five. Maybe Lammel would spot the ruse, maybe he wouldn't. Rex fancied that Lammel would now



he over-confident, would continue to zigzag for a while without stopping to check his pursuer's course. A mighty lot of "ifs," but the only hope of overtaking the spacebandit, who obviously had a powerful ship.

Rex pressed a stud which set the silent clockwork in operation, then at once completely relaxed his body, allowing the acceleration to take him in its monster grip. No use fighting against it. He would need all his nervous strength, later. . . .

Blood pounded, heart faltered under the titanic impulse; rounded muscles flattened out beneath their own weight; his head thrust down upon his spine like a ball of iron; his chair groaned, threatened to wrench itself free from its anchorage; the ties and struts that held E6 together screamed out discordant notes of warning—of peril!

A terrible thought struck him the moment before he lost consciousness. Eight gravity was the ship's safety limit—for three minutes only. He had been so intent on testing his timing gadget that he had forgotten this one vital fact. There was no guarantee that the ship would hold together for the next ten minutes!

His brain whirling into a bottomless pit, he mumbled a curse.

"Bad luck to have a girl on the ship! She and my gadget between 'em took my mind off my job—"

Summoning together the tiny fragment of will-power left to him, he endeavored to raise his hand to cut out the reserve supply. His finger-tip actually rested upon the throttle—

Too late! He had let loose a force he could no longer control! The relentless acceleration dragged him, willy-nilly, down—down—

His hand dropped. His brain slumbered in an oppressive nightmare. The clockwork timer continued to whirr, ig-

noring its designer's agitation. Chance alone held the master-card! Would the ship be shaken to fragments by its own colossal energy?

A fiery mist danced before Rex's eyes, pin-points of light that resolved themselves into—the dials of the control panel! Instantly he glanced at the timer. It had released the reserve throttle—then ten minutes must have passed!

"Good old E6!" he whooped, flexing his neck to shake off the lethargy. "You held out! And hy jiminy—there's the yellow ship, dead ahead—in sight!"

His wheeze had succeeded! He was practically sitting on Lammel's tail!

Barely had Rex time to realize this when Lammel also became aware of the situation. Rex chuckled to think what Lammel would make of it.

Red jets glared from the side of the yellow ship, kicking the tail round in a wide arc. But now the patrolman had the advantage. No need now to interpret instruments in order to find what Lammel was doing! He could use his eyes directly! A touch on two studs kicked down the nose of the patrolship a split second after Lammel's.

Roaring on parallel courses, the patrolship barely four hundred yards to the rear, the two ships darted back to the ecliptic at a vertical angle, their velocities steadily stepping up under the urge of six gravity.

Rex's pet, the Ganymedian marsupial and mascot of E6, jumped unconcernedly upon the pilot's shoulder, drowsily winking its beady eyes. Like its master, it had slumbered during the ten minutes. Most patrolmen were faintly superstitious. They had need to be—needed something to divert their minds from the frightful dangers they encountered in their daily routine in the space channels. Chucker's gesture of friendliness at this crucial moment

seemed a good omen. . . .

Abruptly the yellow ship staggered on its course, began a baffling evolution. Brilliant flames silently scoured the heavens. Rex tensed over his controls, ready to follow the least movement.

The patrolman blinked his eyes in sheer amazement. The yellow ship had vanished! At the same moment, out of the corner of his eye, he noted that the *toomfa* flower had altered its hue by a perceptible amount. A shade less purple, a shade more violet.

Generator cosmoics\* only could cause that change! Lammel had begun the attack! With a gasp Rex brought into operation the neutronium screen which was the ship's only protection against cosmoics. The screen, manifested by a deep orange corona surrounding the vessel, consumed a heart-rending amount of energy, but it had to be used till Lammel could be located and his attack returned.

The search beams picked up Lammel a quarter-mile to the rear. The amazed patrolman quickly reversed his ship to face the foe. There he was—a tiny dot of yellow moving across the night-side of Mars. The pursued ship must have performed a superhuman maneuver to achieve its new position. Lammel must have employed a spurt of at least ten gravity to loop round the patrolship so fast that Rex could not follow the operation visually.

"It's Lammel all right," growled Rex, his eyes staring ahead. "No one else in the space channels has the skill or the head for a loop like that. What a stunt! It's not in my repertoire. I

sure got my hands full. The stunt department at the Patrol Training School has some points to learn."

Rex knew he would have a tough time. Spacehandits had plenty of opportunity to acquire technique. Caution meant nothing to them. They had nothing to lose. . . .

The yellow dot was growing larger, approaching the edge of Mars' disc, well outside the shadow of the red planet. A pulsing, orange aura spread its protective folds around the approaching ship. Lammel was ready for action.

### CHAPTER .III

#### Battle in Space

REX LINN rested his fingers upon the hair-trigger controls of his spaceweapons, sensing the latent power that branched around him in a hundred tubes and wires. Lammel might have the advantage of skill, but E6 was hacked by an organized system of research, which spared nothing to keep new inventions secret. That twisting ray, for instance, which pulled the nose, thrust the tail of a bandit ship, upsetting the pilot's calculations, forcing the ship off its course and putting all beam-weapons out of focus. That would make Lammel squirm.

From time to time in past years, bandits had learnt a few jealously guarded secrets, sometimes by a daring spy system, sometimes by capturing patrolships; six months ago, however, a new device had been made compulsory, which turned the patrolship to cosmic dust if any attempt were made to open it from the outside. It was worth an odd pilot's life or two to prevent the newest spaceweapons from falling into the hands of bandits.

Rex kept his eyes glued upon Lammel's neutronium screen. Only search-beams, which transferred practically no

\*Generator cosmoics is the technical term used to designate cosmic ray vibrations, artificially produced as a weapon in beam form. These rays attack all material things, causing atomic agitation which, if continued long enough, results in actual disintegration. The only screen to its effects is an artificially induced one of neutronium, an element in which, technically, all atoms are at rest, and therefore impenetrable.—Ed.

energy, could be used effectively through that screen. If the screen flickered or disappeared, that would indicate the emergence of some destructive ray. While the screen remained, Rex knew he was safe from any attack.

Well, he had turned the pursued at bay now. So much to the good. Rex let loose half a kilogram of fuel, which gave the ship a sudden acceleration of a mile a second, slightly to the left of the bandit's course. In an instant they were dodging this way and that, warily watching each other for signs of attack.

Once they approached within fifty yards, Lammel, instead of veering, continued straight ahead. Rex smartly zigzagged, but the other as promptly twisted his course, and again bore down upon the patrolship.

Rex knew what Lammel was after. If he could bring his ship near enough to E6, Rex would be compelled to cut the screen. Two opposed neutronium screens coming in contact didn't mix. The result would be a far-reaching explosion of titanic forces, almost of planetary dimensions. With E6's screen gone, the yellow ship could pour in force rays unhindered.

But Rex was determined not to lose his screen. He twisted, sidestepped, used every stunt he had been taught. He possessed the greatest faculty which his arduous training could give—patience under all conditions. By sheer concentration he avoided Lammel, though more than once the screens sheared past each other with barely a fathom to spare.

Lurid flames hissed alternately left and right as the pair jostled round each other in a wild cosmic dance. At last Lammel gave it up, momentarily beaten by the other's endurance. The couple spun round in a wide circle.

Suddenly the yellow ship discharged a space torpedo—a miniature rocket

jammed to the neck with colossium explosive. Accelerating as it advanced, it headed straight for the burnished nose of E6. Rex saw it coming, opened his left auxiliaries to make a jarring side-step. Instantly he saw his mistake. He had wasted so much fuel and time. The torpedo was fitted with automatic magnetic controls which caused it to veer towards its target, no matter how the latter shifted. Nothing could prevent the collision, the annihilating flash of the explosion, unless—

Rex had no time to figure it out. The torpedo was almost atop of him. He had to work by a reflex action or not at all. His fingers danced automatically on the keyboard before him discharging a massive projectile.

It sped straight into the path of the torpedo. They must inevitably meet, wasting their unleashed energy in the airless vacuum. The course of the projectile had been set with hair-line exactness. Rex breathed relief.

Then his jaw dropped. The torpedo had swung to one side, barely grazing his missile! Then continued with its message of death toward E6!

"Remote control as well as auto-control!" spat Rex. "Well, here's something too quick for Lammel!"

Before he had time to finish uttering these words, his fingers, working with lightning, automatic speed, deadened the screen and ejected a tensor ray from the forward battery. The ray set up an emanation, giving the appearance of waves of bluish color washing over the nose of the torpedo.

For a further quarter-second the torpedo proceeded on its deadly course, then the detonator cap functioned. The torpedo vanished from view, giving way to an ever-widening sphere of devastating energy, a grey cloud shot through with vivid violet. The grey cloud contacted with E6's screen, now closed,

causing the ship to react violently, rocking almost out of control. Control would certainly have been lost if Rex had not been prepared for the hassle with his own ship.

Without taking his eyes for a moment from the enemy ship, Rex edged the hucking E6 away from the scene of the explosion, which had not yet ceased exuding energy. He had a hunch that Lammel would press on with his attack before Rex could check the rocking of E6.

He was right! The yellow ship's orange aura abruptly died. Rex, his eyes narrowed with fierce concentration, noted that the debris of the explosion was being sucked into a portion of space between the two vessels. That could mean only one thing. Lammel was utilizing the Merritt spaceray which had the effect of a gigantic gravitational attraction.

Even as he came to this conclusion, Rex sensed his own ship being sucked in also to the vortex.

"Two can play at that game," he muttered, countering with his own Merritt spacetube. The two ships approached one another as if their masses had suddenly been increased twenty-fold. Actually they were not attracting each other, but both were being drawn into the vortex between them.

Rex smartly fired his right auxiliary to avoid a head-on collision. The ships spun round each other in an eccentric ellipse, narrowly circumscribed, the vortex containing the debris being at one of the foci of the ellipse.

Rex grinned. His pulse raced at the narrow escape. Evidently the one with the most unexpected tactics up his sleeve would win. Surprise had to be countered by greater surprise. In older days of handiwork, the man quickest on the draw had his way. The same applied now, with the one exception that

the combatants were encased inside their own bullets!

The next move? Rex played a waiting game for the moment. It was safer to watch and counter each move on the other's part. Then he would always be prepared.

Lammel in one jerk doubled his spaceray warp, dangerously narrowing their mutual orbits. Then he waltzed wildly, his ship twisting and spinning like a live thing. Rex could not help admiring the other's devilish skill. The slightest miscalculation in those turns would have rent the yellow ship in two by sheer mechanical stress. To a tyro the maneuver would have appeared crazy, senseless. Even Rex, experienced patrolman though he was, could not as yet guess the reason for this fantastic rigmorole.

Then, almost too late, he saw.

Lammel was attempting the most dangerous of all gambits—direct ramming in mid-space. It could only be done by a vessel with a specially strengthened nose. The enemy ship had to be struck in its weakest spot—usually just forward of the main rocket tube—provided that spot was not too far from the centre of gravity, in which case the target ship would spin to one side or the other; then the two ships would grind each other's sides, the resulting friction and stresses almost certainly bringing destruction to both.

Rex gasped at the sheer audacity of Lammel. Not more than once in a decade had this daring and desperate form of attack been carried out successfully. It had the advantage of being difficult to ward off, for the ships were now so close that any destructive device which Rex could use would be bound to react upon his own vessel.

E6 had no time to spin round and face the collision head on. The terrifying onrush itself had to be stopped.

Again Rex's automatic reflexes came to the fore, born of long years of tough experience. His main torpedo tube belched forth a missile. With Lammel's ship looming on top of him, he stood only the slimmest of chances of surviving the shock of the torpedo explosion, but without it his doom was certain.

Sweat dripped from his brow as he waited for the kick. A momentary vision of helpless passenger ships, mercilessly looted by the spacehandit, flashed into his mind. At that moment he knew he did not care what happened to E6, as long as the torpedo found its mark.

Now the yellow ship was rushing headlong to its own destruction. Lammel was finished unless he did something mighty slick.

He flashed on his tensor ray not a moment too soon. The torpedo let loose its energy. The terrific shock caused Rex to strike his head violently against the control panel, only giving him, however, momentary discomfort. The pilot of the yellow ship was clearly also badly shaken.

The two ships fell apart, Lammel retreating.

Rex, rubbing his numbed forehead, wondered how much damage had been done to the yellow ship. For perhaps a quarter of a minute no sign of life came from the latter. Then it turned about with a curious, halting tremor and plunged at a moderate speed down to the ecliptic.

#### CHAPTER IV

##### At Grips

**R**EX LINN gave a whoop of triumph. The first round had fallen to him! Lammel would not have turned tail unless drastic damage had been done to his equipment!

Without wasting a moment, E6 dropped her nose and followed in the

wake of the yellow ship. In a minute Rex found himself hovering directly above the asteroid belt. Lammel had disappeared from view among those perilous reefs and shoals of the space channels.

Rex cautiously approached the nearest of the tiny planets—a distorted, jagged spheroid, apparently of iron, some four miles across—and hovered at a height of half a mile. An occasional hurst of the auxiliaries was sufficient to prevent the rocket from falling to the airless surface.

Where was the yellow ship? Was Lammel luring the patrolship into a trap, or had he landed his broken, helpless machine to investigate the damage?

Rex, taking advantage of this moment of inactivity, gave E6 sufficient velocity to make it a satellite of the asteroid, then left the controls to conduct an inspection. The undisturbed marsupial perched on his shoulder, he surveyed the instruments and fittings one after the other.

Suddenly he shuddered. The temperature was sinking low. A glance at the thermostat showed him which unit had been damaged. He replaced it from the spares and continued his inspection. No other material damage, except a slight warping of the searchbeam unit bearings. He could allow for that.

As for personal damage, his head still throbbed painfully. He swallowed a couple of capsules of *lanor*, a Venusian medicant, and in five seconds the pain bothered him no more.

On his way back to the controls, he passed close by the *toomfa* flower. After passing it he turned back his head to glare at the thing. Its purplish tinge had assumed a peculiar glassy texture. Why? In one of the petals he saw a clear reflection of the neon tube that illuminated the dials on the panel.

He was even more startled on han-

dling the flower. It had lost its flexibility. It was brittle, hard as stone. In his efforts to bend one of the petals, it suddenly snapped off and fell to the ground with a dull sound.

Rex felt that his mind had come against a blank wall. He could think of no explanation of this strange phenomenon.

Ahruptly came another thud, and the weight on his shoulder lightened. Chucker, his Ganymedian pet, had fallen to the floor of the cabin, drawn by the artificial gravity tubes under the flooring. It lay supine, making no attempt to rise to its feet.

The astounded patrolman bent down and fingered the unconscious marsupial.

It, too, was brittle, petrified!

"Must be some unheard-of emanation," he thought with chilling swiftness. "Maybe from the asteroid. It's affecting organic material, the least complex to begin with—first the flower, then Chucker—next myself! Better make a landing before it gets me, or should I make a bee-line away from the asteroid?"

Circumstances decided for him. His limbs suddenly stiffened till he could barely move. The emanation was beginning to strike! He felt power draining from him, knew he could not maneuver the patrolship away from the asteroid. If he wandered away and lost consciousness, a crash with another asteroid was certain. He would be lucky if he could make a safe landing on this one.

Staggering on legs that refused to bend at the knee-joints, he collapsed against the control panel. His hips seemed held in a vise. Unable to sit down, he remained propped against the bank of levers, hardly daring to move in case he fired the rockets at random. His finger-joints, as if rheumatic, creaked and bulged with hideous pain

as he forced them to curl round an auxiliary throttle.

Gently he checked the speed of the ship. It sank to the surface of the asteroid with a jerk that knocked him from his balance. He fell to the floor stiffly, like a tree, just succeeding in snapping open the main ignition switch as he did so.

He could weakly move his arms, his jaws, his head. Those were the only voluntary movements possible. His lungs and heart continued to function automatically. His thoughts had lessened in intensity, yet seemed quite clear-cut. Strangely enough, he had lost the faculty of wonder. Everything seemed matter-of-fact, nothing could astonish.

The time sense had also gone. He could not guess how long he remained in that condition, till he heard a noise outside, as of the air-lock being forced open.

A stoutly-built, grim-lipped man, dressed in jet-black overalls, entered the cabin, followed by half a dozen stupid-looking creatures. Rex recognized them as members of the race inhabiting the third moon of Pluto. Having weak will power they could readily be adapted for use as slaves. They were commonly used by spacebandits, since the latter did not care to put their trust in men.

The man in black carried a small sphere of some material like polished oak which he adjusted. At once Rex was able to rise to his feet. He noted that Chucker did not revive as yet. Evidently Lammel—for he did not doubt it was the spacebandit—had only released Rex himself from the petrifying influence.

The Plutonians formed a threatening ring round the patrolman.

"Well, E6," began Lammel with a leer, his voice ringing hoarsely tri-

umphant, "you patrolmen should think twice before tackling Gustav Lammel! I've had no less than seven encounters with your famous brethren. Unluckily I had to destroy them all—till now. Believe me, you don't know what a prize you are!"

The bandit leered again. He was evidently in high spirits.

"What's your bag of tricks, Lammel?" demanded Rex curtly, trying to veil his interest and excitement.

"This, you mean?" smiled the other blandly, handling the oak sphere. "My petrifier. Utilizes subatomic vibrations of the super-ether. Not even the neutronium screen will blanket it. An invention of my dear friend, Professor Blenheim."

"Blenheim?" gasped Rex, showing astonishment in spite of himself. "He disappeared last year—was it you who captured the Jupiter express?"

"Who else could have done it?" retorted the bandit insolently. "The professor was on board—I spared him since I thought he might be useful to me. He also invented the super-ether jammer which puts all electrical gear out of action. Otherwise I couldn't have entered your space-lock without blowing your ship to fragments, since I understand the detonator is perpetually guarded by its own neutronium screen, which only super-ether vibrations can pass."

Rex's blood surged exultantly. If he could only rescue Blenheim—what a prize!

"Where is the professor now?" he asked, taking advantage of the other's confident loquacity.

"I have been keeping him—a guest in the interior of this very asteroid. It's really astonishing the way my—persuasive powers have stimulated his inventive capacity. One moment—perhaps you would care to speak with him? It

might teach you a useful lesson!"

Lammel switched on and adjusted the telescreen. A bare cell was exposed to view, containing a haggard, broken-down creature, grey-haired and whimpering. Rex, hardened though he was, winced at the sight.

The professor staggered to his feet, gazing with heavy eyes at the corresponding telescreen in his cell. His face, worn and seamed by unknown tortures, perpetually twitched.

"Another prisoner!" screamed Professor Blenheim. "Kill yourself—do anything rather than let Lammel drag you down here! He's a demon—a devil—"

Lammel snapped the switch and the vision faded.

"Now you know what you're up against, E6," he chuckled.

"Why didn't you use your petrifier before now, instead of wasting your juice?"

"A reasonable question. You see, I was out to give you a fair fight. It may sound strange to you, but I pride myself on my gallantry—as a fighter. It would go against the grain to use weapons you didn't possess. I would have beaten you in the end—I always do—if I hadn't had the bad luck to fuse one of my auxiliaries, throwing my whole ship out of gear.

"Then the fight was over. I'd had my fun. So I decided to capture you—alive. I daresay you can tell me quite a lot about recent inventions—and more important still, the present policy—of the space patrol."

His jaw clamped tight, Rex gritted, "If you think you'll wrench any secrets from me, you're badly mistaken, Lammel!"

The spacebandit grinned coolly, then picked up the helpless marsupial. Deliberately, one by one, he snapped off its brittle limbs across his black-clad

knee.

Rex yelled his horrified rage and knocked down one of the Plutonians. But the others formed a ring around him and he was helpless.

"If you get mad about *that*," said Lammel, spitting at the pitiful, mangled creature, "what'll you do when I start breaking off *your* limbs—slowly—beginning with the fingers—then maybe the ears—!"

"You devil—you demon!" shouted Rex, averting his eyes from the remains of Chucker.

"Angry people have a singularly limited vocabulary," retorted the other amiably. "It's all a very boring routine. Maybe I should give you a taste of what I can do before I take you down below."

Calmly, almost casually, the fiend fingered the oak sphere. . . .

Suddenly, without warning a stupid, dazed look came over the eyes of the bandit. He swayed, his knees sagged, he fell! Rex stared at the unconscious form of his foe in bewilderment. This was the biggest surprise of all. Just when he had given up all hope, this unaccountable thing had happened. Had Lammel been attacked by some swift-working disease? Heart-failure? If so, an incredible coincidence!

Puzzled, the now uncontrolled Plutonians backed away.

"Well, I guess you'd better sling a rope around him before he wakes up," came a gay, if somewhat weary voice.

Rex looked up in amazement. Eda Summers stood framed in the doorway of the passenger cabin, a paralyzing gun in her hand. He had forgotten her very existence. So she had rescued him. He did not like the notion at all, after their former exchange of sarcasms. Still, better to be free, even through the agency of an impudent red-head.

"Not so bad, Miss Summers," he said

at last. "Thanks for butting in when you did. You couldn't have chosen a better moment. But I don't understand! How did you avoid the petrifier?"

"That sphere, you mean?" She nodded at the oak ball on the floor beside the bandit's still figure. "I heard him talk about it. I guess it must be on account of the morobdium-fibre underwear I have on."

"Morobdium." The patrolman knitted his brows. "It's good that the devilish thing can be so easily guarded against. I admire your taste in underwear. Help me truss up our friend."

The Plutonians, deprived of their commanding intelligence, wandered aimlessly and harmlessly round the cabin, showing little interest in the proceedings. Evidently, too, they were impervious to the paralyzing ray.

Rex dumped the unconscious, well-bound Lammel in the passenger cabin, gave a sorrowful glance at the body of Chucker, then made for the air-lock.

"Maybe you'll stay here, Miss Summers, while I locate Professor Blenheim."

"O.K."

Rex made one step towards the door. One of the Plutonians slid across his path. He thrust out his foot contemptuously to kick it aside, when suddenly it wrapped its arms round his legs, crushing them in a powerful grip.

"What the hell!"

He struggled to free himself, but the creature proved stronger than he. The girl screamed. He swung his head and saw that a second Plutonian had clutched her round the waist. Two more moved purposefully toward him, the other two toward her.

"They're picking up cerebral emanations—commands—from Lammel," snapped Rex, thrusting savagely at his immobile captor. "He must have re-



covered!"

One of the Plutonians ambled toward the door of the passenger cabin.

"Look out!" yelled the girl. "It's going to let Lammel loose! Don't let him through the door, or we're done!"

Rex jerked and squirmed across the cabin, dragging the full weight of his captor with him. He reached the door, flung his body across the door, barring it.

Then began a desperate struggle. Hampered by the Plutonian clinging to his leg, the patrolman could only use his body as a physical barrier. He clung to the door-frame while the second Plutonian reached him, wrapped its arms round his shoulders and waist, and tried to pull him away. Man against morons—and behind them, the demonic brain of Lammel! Behind the man—the lives of thousands of space passengers, potential future prey to the handit!

The second Plutonian, finding it impossible to shift the patrolman's Herculean grip on the door-frame, changed its tactics. It drew back a little, then pounced upon Rex's prone body, trying to climb over it and reach the door. But Rex by a gigantic effort half-raised his body and beat it down again.

"We must use our will-power!" gasped the girl, held helpless in the corner. "Pit ours against Lammel's! Surely two brains can beat one!"

Together they exerted their mental powers to the utmost. A groan burst from Rex. He was fighting two battles—physical and mental. Again the Plutonian scrambled over his body, again he beat it down. But now the other three were ambling up to aid their fellow.

The one that had been trying to clamber over Rex's body again changed its plans. It dropped to the floor, obtained a firm grip round his neck, and

held him flat down so that the others could climb over.

"They're tuned to Lammel's cortex vibrations!" screamed the girl. "Not to ours! That means we've got to try all the harder—in unison. Use words—it makes thoughts stronger. Ready. *Go back! Go back!*"

Together they shouted, "Go back! Go back!"

Perspiration streamed down Rex's face. He was half-smothered by the grip of the Plutonian. Still the other three crept on.

"The neutronium screen!" came Rex's half-strangled voice. "Only chance—switch it on—third grey button from the left confines the screen to the cabin—shut out Lammel's cortex vibrations—"

His tormented voice choked into silence.

The girl, taking advantage of the fact that the attention of all the Plutonians was focused upon the patrolman, jerked herself free from the Plutonian clinging to her waist, and half-fell, half-jumped towards the control panel. But Lammel had heard and understood Rex's suggestion, and promptly re-adjusted his mental commands. The three free Plutonians stopped short of Rex, swung round, and raced towards the girl.

One whipped its fingers round her slim ankle, brought her slithering to the floor. As she fell, her left hand came within reach of the panel. Her groping fingers sought the studs.

Just as her finger reached the third stud, the Plutonian tugged her away, dragging her violently across the floor on her breast.

But the stud had been depressed! A weird, orange aura illumined the strange turmoil in the cabin, bringing with it an unnatural silence. The Plutonians, cut off from the space handit's

directing influence, released their panting, weary victims and became idle spectators of the scene.

Rex slowly stood up, rubbing his bruised and aching neck, then helped the girl to her feet.

"That's that," she uttered calmly, if somewhat breathlessly. "A close shave."

Rex gaped at her, admiring her self-control.

"I must say, Miss Summers, you've got some pluck—"

"Cut that out," she said shortly.

"How about clearing the place of

these ugly things? I don't like the look of 'em. Go out, you—! Go on, all of you!"

Obedying her mental force, not her verbal utterance, they meekly trooped out in single file. Their sudden, blind obedience, in sharp contrast to their former malevolence, set both laughing.

"This time I'll cover Lammel with my paralyzing gun," said the girl, "while you go fetch Blenheim."

"Yep," grinned Rex, turning to the door. "I'll really get the professor this time. He'll be glad to see some human beings, after . . . Gustav Lammel."

# The Science of Photography

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# SCIENCE QUIZ

We present the following science questions and problems for your entertainment, and at the same time, as a pleasant means of testing your knowledge. How many can you answer offhand, without referring to an authority? Per is 70% correct.

## TRUE OR FALSE

1. Au is the chemical symbol for gold. True  
.... False....
2. All bacteria require oxygen to exist. True  
.... False....
3. The earth travels around the sun at 18½ miles per second. True.... False....
4. Sodium Sulphite acts as a catalyst in a photographic developer. True.... False....
5. The lightest known metal is aluminum. True.... False....
6. German silver is an alloy of copper, zinc, and nickel. True.... False....
7. U. S. A. nickel coins contain over 50% nickel. True.... False....
8. Graphite is a rare mineral. True.... False....
9. Helium has greater lifting power than hydrogen. True.... False....
10. The more nicotine there is in tobacco the stronger it is. True.... False....
11. The nearest star to the earth is Proxima Centauri. True.... False....
12. Gold is heavier than lead. True.... False....
13. One gram is equivalent to about 1/30 of an ounce. True.... False....
14. Yeast is composed mostly of living organisms. True.... False....
15. Heavy water has the same chemical composition as ordinary water. True.... False....

## SCIENCE TESTS

1. One of the following is an important iron ore: chalcopryite; hematite; halite; meteorite.
2. Select the poisonous gas from the following: Carbon dioxide; Nitrogen; Fluorine; Argon.
3. The Heavyside layer is located: in the Antarctic; at the equator; at the bottom of the Atlantic; in the stratosphere.
4. You are given a choice to drink any of the following things. Which would be the best? (a) Methanol; (h) Ethanol; (c) aqua regia; (d) bromine.
5. The age of the earth is approximately: 5,000,000; 1,000,000,000; 100,000,000; 10,000 years.
6. The proper name for the "lead" in pencils is: slintic; carbon black; graphite; isoprene.
7. Light from the sun takes: 1 minute; 500 seconds; 3 years; 1/10 second; to reach the earth.
8. The name of Fox-Talbot is heard in connection with: astronomy; photography; socialism; electricity.
9. One of the following is not a photographic developing agent: Hydroquinone; Metol; Amidol; Sodium Thiosulphate.

10. Nobel; Maxwell; Daguerre; Roger Bacon; invented dynamite.

## STRIKE OUT THE WORD THAT DOES NOT CONFORM

- (a) Iron, nickel, copper, carbon, zinc.
- (h) Sine, tangent, cosine, secant, chord.
- (c) Macrocosm, universe, cosmos, solar system.
- (d) Oscillatory, libratory, pulsatory, vibratory, mandatory.

## SCRAMBLED SCIENCE TERMS

1. An element. MUSEOID
2. A natural phenomenon. NAVOCOL
3. A phase of the moon. EGREEPI
4. A planet. HARTE
5. A combustible fluid. REEKNOS

## MARK THE WORD THAT HOLDS TRUE

1. All planets have: moons, rings, atmosphere, continents, phases.
2. On the moon there are: plants, animals, craters, cities, seas.
3. The most valuable element is: gold, iridium, platinum, radium, carbon.
4. A metal that is not an alloy is: steel, brass, bronze, pewter, aluminum.
5. The human body contains no: carbon, iron, phosphorus, manganese, H<sub>2</sub>O.

## PROBLEMS

1. You have suddenly decided to make a trip. You dash up to your room, and find the light has blown out. You must find a pair of socks in a drawer containing 25 pairs of white socks and 25 pairs of black socks. They are not paired. How many socks must you take from the drawer to be mathematically certain of having a mated pair?

\* \* \*

2. Having made certain you have a pair of socks in your suitcase, you taxi to the Grand Central Station in New York and find that a train leaves in ten minutes for Chicago, and that a train leaves every hour on the hour. It takes 24 hours for the trip. You are also informed that a train leaves Chicago every hour on the hour. As your train pulls out, you meet a Chicago train pulling in. Counting this train, how many will you meet enroute to Chicago? Disregard time difference.

\* \* \*

3. Once in Chicago, you decide to visit Milwaukee also. You take a 100 mile an hour train in the evening, and at 6:35 P.M. you meet the Chippewa, also a hundred mile an hour train, enroute to Chicago. The Chippewa leaves Milwaukee just five minutes before the world famous Hiawatha, crack Minneapolis to Chicago streamliner, also travelling on this route at a hundred mile an hour clip. At what time do you meet the Hiawatha?



Dr. Ambert used many cobras in his operations on the girl

# Kiss of Death

Under the skilled surgery of unscrupulous Dr. Ambers, the lovely Bera became a deadly menace to vengeance-seeking Jack Lynworth

BY  
**NEIL R.  
JONES**

## CHAPTER I

### The Elephant Pit

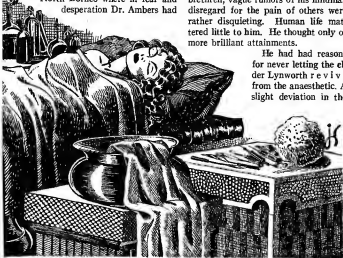
**D**R. AMBERS paused in a little clearing of the jungle and rested, wiping the reek of sweat and grime from his tanned, swarthy face. He cursed the intolerable heat, the bothersome insects, the madness which had prompted him upon this wild flight into the Cambodian jungle.

But more intensely did he curse the grimly pursuing avenger who had held so doggedly to his trail from Hong Kong to the Phillipines, from these islands to North Borneo where in fear and desperation Dr. Ambers had

hired a tramp steamer to land him at one of the more obscure little ports of the Cambodian shore line bordering the South China Sea. And even here, young Jack Lynworth had relentlessly followed him.

Dr. Ambers' skill as a surgeon was quite noted in Hong Kong. He enjoyed a brilliant reputation for startling innovations of surgery, several of which, however, had been condemned and suppressed by the medical fraternity. If his excellent finesse and amazing skill were the admiration of his surgical brethren, vague rumors of his inhuman disregard for the pain of others were rather disquieting. Human life mattered little to him. He thought only of more brilliant attainments.

He had had reasons for never letting the elder Lynworth revive from the anaesthetic. A slight deviation in the



course of a surgical instrument had definitely assured the doctor of this. Dr. Ambers had always coveted a specimen of abnormal adrenal glands which the condition of George Cecil Lynworth had plainly suggested to his practiced eye.

In his usual ruthless manner, Dr. Ambers procured the long desired set of abnormal adrenal glands as this sudden opportunity arose before him. Suspicions of a colleague in the light of later events occasioned an exhumation of the body and a careful examination. Plainly, it was murder. Dr. Ambers had decided to travel. And swearing vengeance, the son, Jack Lynworth, had taken the trail.

Since leaving the coast many long days ago, the doctor had courted death several times. Cohras and other deadly snakes had glided away from him among the tall grasses. Once he had narrowly avoided the charge of wild elephants through a bamboo forest. The huge, striped, man eaters of the jungle had strangely enough not molested him, although several times he had seen their tawny flanks in the late afternoon of the forest aisles.

Previous travel in Africa stood the doctor in good stead. He found means of procuring both food and water. His nights in the trees, however, were often nightmares, for the lesser cats climbed the trees. He had seen them. And he killed one of them as it crept above him on a higher branch. The larger snakes occasionally curled about the lower branches.

What terrified Dr. Ambers more than the menacing dangers of nature was the faint sound of a rifle shot from the direction he had come, and this grim, prophetic sound had overwhelmed the doctor with terror. It meant but one thing. Jack Lynworth, younger, stronger, was gradually overtaking him.

The fugitive tried ruses of destroy-

ing his trail, but lost time by it. Once he crossed the feeding grounds of an elephant herd, and it was on that occasion that he nearly fell a victim of his own ruse.

That rifle shot he had heard caused him to cast away his own heavy rifle which was weighing him down and slowing his progress. Free of its encumbering weight, he still retained his pistol and hunting knife. Monkeys and other small game he killed for food. Good water was rarely found, and he used this sparingly.

He entertained a vague idea of eventually stumbling upon the Mekong River or one of its smaller tributaries, constructing a raft and floating downstream to the sea.

Had he been less a coward, his contemplations of ambushing Jack Lynworth would have found expression, but he stood in mortal fear of the other's presence. The trials of his flight had robbed him of the cool and calculating traits he had shown in the cold blooded murder of George Cecil Lynworth.

This day, following an elephant trail, he found the heat and dampness even more intolerable than before. He wondered if he was going to be stricken with fever. He had guarded carefully against it.

Without warning the ground gave way suddenly beneath him, and he felt himself hurtling downward. He landed in soft, damp dirt uninjured and rolled over upon his side. Rising dazedly to an elbow, the doctor looked high above him to where a small, round cavity let through a shaft of light.

He stood up in the gloom around him and saw above him smaller spots of daylight covering a larger area than the hole through which he had fallen. The crossbars, loosely strewn dirt, and scattered vegetation he recalled seeing be-

fore his fall, proclaimed a man-made trap.

When his eyes were finally accustomed to the near darkness of the pit, he immediately recognized the broad dimensions as a trap for the giant pachyderms. Walking slowly around the pit, he found the walls too straight, too soft and too high for climbing out.

He was a prisoner until those who had made the trap returned. The doctor speculated upon the possibilities uneasily. This was a supposedly uninhabited region, and it was little explored, too. Sweat started out upon his forehead and his heart hammered as a new thought struck him with its devastating possibilities. He was trapped. Jack Lynworth would come and find him like the animal for which the pit had been intended. With the desperation of the caged rat, he shakingly fingered the pistol at his side.

All the rest of that day, he sat and ruminated, breaking the monotony with occasional and futile attempts to dig footholds in the soft sides of the pit, succeeding only in bringing down miniature landslides of the soft, rich ground. Most of the night he slept. He ate from a supply of fruit in his knapsack when morning came. All day he waited, expecting to hear the soft tread of the young man who had haunted his footsteps and who could have been no farther behind him than a day's travel at the most. He wondered, too, about the builders of the pit. What would they do to him if they came first? Strangely, the possibility of an elephant falling in with him did not occur to Dr. Ambers, yet this was the first sound that he heard.

Gigantic feet plodding against the earth made the wall of the pit tremble against Dr. Ambers where he sat, sending loose clods down upon his head. Horror of being crushed by the mighty

bulk stabbed through the doctor's brain, and he screamed and yelled warnings in maniacal frenzy for the great beast to avoid the pit dug for him. The rumbling of many great feet slowed and stopped. The doctor realized that more than one elephant stood above. He hoped they would hear him, be alarmed and suspicious, in this way discovering the unnatural menace prepared for them. Recovering his breath, he continued yelling.

A scratching around the edges of the layer of earth and vegetation brought new ingresses of daylight. Small objects blotted off the light. They were heads, human heads. A strange clacking talk issued from them and rang hollowly in the pit. Dr. Ambers became quiet. Here were the pit builders. His hand stole to the revolver at his side, yet immediately he recognized the futility of it. He must first get out of the pit, and they could help him. He walked into the weak aura of light spread by the gaping hole through which he had fallen. He spoke ingratiatingly in Chinese, using also what he knew of the patois of the coastal Cambodian.

A rope was lowered, and Dr. Ambers fastened it loosely under his arms. Hauled out, an astonishing sight met his blinking eyes. Elephants carrying strangely built howdahs were his first impression. Men, nearly naked and wearing sandals, crowded up about him with javelin-like spears aimed at him in profusion, their keen and not unhandsome faces anything but friendly.

They were a type never before seen by Dr. Ambers who had traveled extensively through Asia. Medium in height, their Oriental lineage was but lightly suggested. They were brown-skinned, were possessed of smooth, black hair, and most startlingly divergent of the true Oriental were their

straight, slender noses. In the howdahs of the four elephants, helmeted warriors directed the slaves. They wore bronze cuirasses and carried swords.

Dr. Ambers found himself quickly tied up and made to walk ahead of the elephants whose drivers continued to follow the game trail. Forced to take a faster pace than formerly, the doctor soon slumped down in exhaustion. Jabs from the spears of the slaves aroused him, and he stumbled on, his senses reeling from heat and exhaustion.

HE recovered to a jogging sensation, his eyes encountering a wall of slate gray which undulated and changed shape before him. Lifting his head weakly, he saw that he was tied on the back of one of the elephants behind the howdah. He found that his pistol was gone. The empty holster lay between him and the elephant.

Periods of oblivion and periods of consciousness passed as the procession moved on through the jungle to a walled city outside of which were clustered in the shadow of the wall mean, thatched hovels directly in variance to the looming turrets and towers within the city. Raising himself on one arm, Dr. Ambers gaped in stupefaction at the temples and palaces of stone he nor no one else had ever believed existed in this waste of untracked jungle.

As they passed the walls, the doctor saw that it was such a city as those which had existed in the ancient East with their markets and bazaars. People on the streets, of all walks of life, jabbered and pointed excitedly at the captive. There were many poorly dressed. Others, especially some individuals who passed in howdahs on elephants richly caparisoned, or in sedan chairs borne by slaves, were ornately and gorgeously attired. Soldiers in bronze helmets, leather jerkins and

bronze cuirasses were passed.

To the musical cacophony of the trotting slaves, glad to get home from the jungle, they penetrated toward the center of the city. The afternoon shadows were long. Produce in bullock carts rumbled by. Dr. Ambers could not believe his eyes, almost believing that delirium had claimed his tired senses. Yet the jogging elephant and the wounds from the spears were only too real. The huge beasts continued on through a large, arched entrance of a stone edifice, and semi-gloom replaced the waning sunlight.

They came to a stop. Dr. Ambers was roughly hustled off the elephant once the ropes strapping him on were untied, and he was pushed along through a damp, dirty alley and into a dark corridor where helmeted attendants shoved him into a dimly lit cell and slammed shut the door. A lock grated and squeaked rustily.

## CHAPTER II

### Bora, the Slave Girl

AT that moment, far back in the jungle on the trail of Dr. Ambers, Jack Lynworth shuddered in stiffening pain as a chemical combat raged through his system. The cobra which had bitten him lay dead from a revolver bullet. Having taken the antidote given him by native doctors on the coast before his plunge into the interior, he found that in his haste and anxiety he had taken an appallingly multiple overdose which now threatened his end almost as much as had the bite of the cobra.

His gray eyes mirrored the exquisite pains wracking his body, and his dark hair lay lank and sweaty. For more than a day, he lay helpless and in recurring spasms of pain in the rudely constructed shelter which he had con-



structed and slept in the night before his disastrous encounter with the snake.

Still weak, he was able to forage for food on the following day. Periods of semi-consciousness still menaced him, and for three more days he rested and grew stronger before he took up the trail of Dr. Ambers once more.

The jungle progresses rapidly, however, and the change of plant life which goes on in damp, equatorial regions had obscured and somewhat blotted the trail, making it difficult to follow. Again and again, Jack Lynworth lost it. His tanned, handsome face, however, never lost its grim determination which had spurred him on over land and sea after Dr. Ambers. His steel-gray eyes remained as hard in their purpose as though the wandering cobra had never interrupted the quest.

So it was a long time before he came to the elephant pit which had now been repaired. The difficult following of Dr. Ambers' trail had made him more observant than usual, and Jack Lynworth at once recognized the elephant pit for what it was. He paused and made an examination.

Marks of elephants had recently cut into the doctor's trail and had obscured it again.

He saw something glittering on the ground near the elephant pit. It was a revolver, partly concealed by leaves of a trailing vine. He knew, now, that the doctor had come that way.

Peering down into the pit, he saw only blackness. He lighted wood and dropped it down. The bottom was a veritable hodge-podge of footprints, all those of Dr. Ambers. Examination of faint, sandal prints along the game trail told how Dr. Ambers had been rescued. Jack Lynworth wondered what a caravan could be doing so deep in the jungle. He could only follow it. He must follow it. Dr. Ambers had gone

that way.

The rest of that day, he traveled a long way.

He had hardly composed himself for the night in his crude shelter constructed against the bole of a giant tree when he was suddenly leaped upon and held by many arms. He was tied up and left that way until morning. Until then, he saw little of his captors whom he could not make out in the darkness, but he listened to them talk in a language which sounded like Chinese but which he could not understand as such from the smattering of the language he possessed.

At dawn, he was aroused, his ankle bonds released, and he was pushed along the game trail he had been following. He saw only semi-naked slaves, and there were seven of them.

Less than two hours walking brought them to the walled city into which Dr. Ambers had ridden a captive strapped on the back of an elephant eight days previously. It was Jack's turn to wonder and marvel at the unbelievable sights he saw. Soldiers in light armor took over his charge once he was led within the city walls.

King Moratk of Quandbu was in audience, and instead of being taken to a cell like Dr. Ambers, Jack Lynworth was taken directly before him. The young man gasped at the wealth and barbaric splendor of his luxurious surroundings as soldiers stood guard over him in an ante room of the palace.

Into the throne room he was escorted. Here, he saw evidence of even greater grandeur. On the throne sat a middle-aged monarch tending slightly to obesity. Jack listened idly to the strange jabber of words by the leader of his conductors. His eyes wandered about the magnificent throne room and over the richly attired dignitaries and officials who either sat or stood in at-

tendance, according to their social status or duties. Several wore long robes and ornate headdresses. Several slaves, both male and female, were in attendance, and these were, like all the other slaves he had seen, but scantily clad, the amount of clothes worn being suggested as a barometer of caste.

One individual, more Oriental in features than the rest, stood close by the king and regarded the young adventurer critically from slanted eyelids, and pulling idly at one of his drooping mustachios.

Tal Ufieh had reason to be interested in people from the outside world who occasionally penetrated to the mystery city of Quandhu. He made no remark, however, as the king ordered Jack Lynworth into slavery and did not intervene as in the case of the older man who had preceded this newcomer eight days before. The other had understood their language, partly, and had told of his occupation in the outer world.

King Moratk had no use for the civilization he knew existed beyond the thick jungles, even as traditionally had none of his forebears for two or three thousand years past. Not even the far-flung legions of Ghengis Khan had found this stronghold. Occasional explorers from time to time down through the long centuries had stumbled upon the ancient, thriving city, but they had never left it to tell of their discovery.

Dr. Ambers had been ordered into slavery, but Tal Ufieh had stayed the order. With personal ambitions of his own to realize, the high priest had recognized a kinsman of his own caliber in the rascally surgeon and believed the latter might serve him well in some capacity or other. He asked as a favor from King Moratk that the man be given him for his personal slave, and the favor was granted.

So it was not at all surprising that

from behind a set of draperies masking off a corridor to the throne room, Dr. Ambers, now attired in the more sedate habiliments of Quandhu, looked out with less trepidation than formerly, and with evil schemes of vengeance forming in his head.

Dr. Ambers was something of a favored slave, yet more like a trusted and respected aid of Tal Ufieh. Already, he had won the high priest's lasting admiration by removing from that worthy several unsightly and disfiguring warts.

The high priest had taken the doctor into his confidence, and Dr. Ambers was aware that Tal Ufieh coveted the throne now held by King Moratk, recent founder of a new dynasty as yet none too firmly established in the eyes and hearts of the people. Only King Moratk and his little son, the Prince Lai Kom, stood between Tal Ufieh and the rule of Quandhu. It might be added that the reason for King Moratk's slow popularity was due to the spreading of dissension among the city's twenty thousand or more inhabitants by agents of the designing high priest.

Jack Lynworth was immediately hurried into service among the slaves of the palace, being directed by shoves and motions in the matter of his chores in lieu of understanding the jabbered orders of guards.

He was put to work carrying bales of dried flower petals with several others for what he learned by watching was a distillation of scented bath water for royal use in the palace. Dumped into a vat of prepared liquid, the flower petals were treaded and worked by the bare feet of slave girls.

One of these girls was especially attractive, yet Jack, absorbed with these new circumstances, and wondering if Dr. Ambers had been brought to Quandhu, paid her little heed in spite of the fact that several times he caught her

stealing covert glances at him. Yet he did not consider this especially significant. He was a stranger from outside.

It was the second day of this work that the incident occurred which brought the girl and Jack closer together. It was her misfortune to slip and stumble against the inside of the vat just as one of Jack's fellow carriers was undoing his bale on the edge of the vat. She struck the loosened bundle, sending a shower of dried petals to the floor in a purple and brown pattern much to the rage of the carrier who seized her by the hair and dragged her close against the side of the vat, striking her repeatedly.

Turning him around, Jack hurled a tanned fist full upon the worker's chin and followed it quickly with a cross blow before the latter slumped to a limp heap on the strewn flower petals.

Then Jack lifted the dazed girl from the vat. Holding her in his arms, he looked down into the eyes which spoke so silently and yet so eloquently of her thanks and enduring devotion. For the first time, he really saw her as she was and gave his mind the consideration of her charm and beauty.

She was Bera. That much, from the little smattering of words he had picked up, he was half consciously aware. So much had beaten through his thoughts of vengeance and plans he had half formed. Now, he saw that by all western standards she was beautiful and charming. A wave of jet black hair cascaded away from the border of a brow the color of old ivory. Soft brown eyes spoke mutely of thanks.

A cuirassed guard came, and learning the trouble put them all back to work, hoisting the beaten workman to his feet and glaring his annoyance at Jack which it was useless to put into words. It was just one of the occasional brawls.

But when the work was over, and it came time for the slaves to eat, Bera came close to Jack and, putting her hand tenderly upon his arm, offered her thanks.

In the days which followed, Jack and Bera saw much of each other, and from her he learned the language which was not too far removed from true Chinese but what one versed somewhat as Jack was in the yellow man's language was able to master it. He developed a true affection for her, and she became the bright light in the monotony of his labor as a slave in the palace of King Moratk. He never forgot his quest, and he asked her if another like himself, yet older, had come to Quandhu or had been brought there. Bera knew nothing of Dr. Ambers, and Jack did not confide in anyone else, choosing to watch and wait awhile.

Dr. Ambers, on the other hand, was not ready to strike and was also content to watch and wait awhile. He had now disguised himself so effectively as a native of Quandhu, especially in raiment and hirsute effects, that Jack did not know him one day when the doctor passed with Tal Ufieh down a corridor Jack and several other slaves were scrubbing. Dr. Ambers was satisfied. But not Tal Ufieh. He wanted action, for he felt that the time was fast becoming ripe for him to make his bid for power.

### CHAPTER III

#### The Reptilian Transformation

"THE time is ready when King Moratk must be gathered to his ancestors, great wart remover."

The high priest regarded the doctor speculatively.

"And he shall die, as you wish," Dr. Ambers promised. "And then after a suitable period of time has passed, little

Lai Kom will follow his father, and no one will ever suspect us."

Tal Ufieh parted his lips in a sly grin and rubbed his hands together in self satisfaction.

"And I shall rule, and you will be a high official."

"With plenty of opportunity to experiment and test out my theories upon subjects of my own choosing," added the doctor.

"Most assuredly, worker of wonders. Might I inquire the manner of the king's unfortunate passing? Have you concocted the subtle poison I suggested?"

"No—for I have a much better idea than that, one better suited to my talents, one which will please me to accomplish," Dr. Ambers replied. "No suspicion will be cast upon anyone. It will not be at all unseemly if the king dies from the bite of a cobra."

"Ah! But is there not difficulty in being assured that the snake will bite the king even if we are able to successfully liberate one in his chambers? We must strike and be sure."

"We shall be sure, for the snake will be disguised as a woman and will be readily admitted to the king's quarters." You are aware, of course, of the king's weakness for feminine loveliness."

"You speak in riddles, schemer of miracles! Whoever died from being bitten by a woman?"

"No one, as I know," admitted the doctor, "but they would if they were bitten by such a woman as we shall turn loose upon the king."

Tal Ufieh wilfully held his patience.

"How so, wielder of little spears?"

"Her bite will be a bite of death!" the doctor exclaimed, his eyes glowing. "I shall make her so!"

Tal Ufieh was visibly impressed. He held his breath in amazement, too stupid to speak.

"I want an attractive girl," Dr. Am-

bers continued. "She must be attractive and one the king has not noticed before this. I can make her even more attractive than she already is. There are many attractive slave girls who could be made more beautiful by my skill. In fact, I have already decided on the one I want, and I know who her first victim will be—our first experiment, let us say."

A cruel smile settled upon the doctor's dark face, for in his mind's eye he saw a slave girl in the arms of Jack Lynworth, the son of the man he had killed and who had sworn to kill him.

"Whatever you desire is yours, great wart remover," Tal Ufieh offered. "I can procure for you a slave girl, any that you want. As for her first victim, let us wait for that until the time when we are ready to try her. Have you all else you need?"

"I must fashion a few more instruments from metal. That will not take long. Then I shall of course need cobras."

Bera was pointed out to Tal Ufieh by the disguised surgeon, and the high priest brought her to the chambers where Dr. Ambers had fitted up a laboratory.

"How would you like to work for us?" the doctor asked suavely. "You will no longer have to work hard and may enjoy luxuries you have never before had."

"I am happy enough now," replied Bera truthfully. "I ask for no more than I have."

"Would you be more beautiful? I can make you so."

That spark of vanity in every woman, from Eve on down, flared up. Bera's eyes sparkled, yet she maintained an attitude of shy distrust.

"He can do all that he says," Tal Ufieh assured her. "Remember my warts? He removed them so that now

you cannot even find where they once were. No one shall be able to resist your beauty. Any lover can be yours."

"I would like to be more beautiful," breathed Bera softly, modestly unaware of her present attractions. "But there is only one on whose account I would like to do this."

"He shall be dazzled!" swore Tal Ufieh enthusiastically.

Bera looked wide-eyed at the doctor. "Why should you do this for me, a poor slave girl?"

"We would have you dance before the king. He would see new faces, beautiful faces."

Bera was won over. From the secretions of poppy blooms and other herbs whose effectiveness for unconsciousness Dr. Ambers was well acquainted, he fashioned a makeshift anaesthetic. Bera lay unconscious on a laboratory table, and Dr. Ambers was enjoying the first fruits of satisfaction in realizing his young enemy's bewilderment and concern over the strange disappearance of the pretty slave girl. This was but a morsel to whet the doctor's appetite for what he further planned.

Bera knew recurrent periods of alternating wakefulness and more merciful oblivion, for these periods of wakefulness were often painful ones. The drug destroyed all balance of mental continuity, and often she did not know who she was or where she was—only that she existed and that indescribable pains wracked her, and in her vision appeared, faded and reappeared the cold, fanatical face of Dr. Ambers.

During the several weeks of her amazing transformation, Bera was subjected to a dual operation. True to his promise, Dr. Ambers made her more beautiful, employing all his skill and knowledge of plastic surgery. There were alterations to her eyelids which made her glance more alluring and sug-

gestive of mysterious charm and power. Slight changes to her nostrils gave her nose a more classic touch, and the doctor raised her hairline ever so slightly to give her a higher brow. A hallucination of longer eyebrows was artfully created, and things the doctor knew how to do to the muscles around her mouth gave Bera a ravishing smile.

At the same time, Bera was being made into as deadly a killer as had ever stalked the jungle, or, to be more apt, had ever glided menacingly through the tall grasses. Dr. Ambers used many costras in this, his crowning achievement, Tal Ufieh always ready to supply his every need. Glands from the deadly reptiles were grafted into Bera at various points of her body to give the desired effect. Improvised hypodermic needles made from long, hollowed thorns fitted with tiny wood forcers, or plungers, injected reptilian secretions in large quantity into various active glands already possessed by the girl.

A thrill of triumph vibrated through the doctor as he one day found the development of the poison sac in Bera's throat commencing to take form, and as it grew larger, his feeling of power increased to a sense of omnipotence. Tal Ufieh came to regard the doctor almost as a genie about to deliver him magically the power and possession of Quandhu.

Nothing which Tal Ufieh had promised the doctor, however, could bring him the satisfaction realized through this master stroke of surgical genius. He was attaining his greatest desires already in the anticipation of Jack Lynworth's exquisite death and in the dynamic realization of his surgical wizardry. The wealth and power promised him by Tal Ufieh were but secondary to his main obsession, presenting a fitting anti-climax to the fulfillment of his schemes and labor.

A bit of dentistry was required of the doctor who was not found wanting for ingenuity in the lack of the proper instruments. Again an important chemical combination was created in order that Dr. Ambers might fashion rather laboriously two tiny channels in the upper front teeth of Bera. He had no drills, but the chemical placed on the tip of a needle at regular intervals over a long period of time finally produced the proper ducts. Tincture of iron formed one important chemical constituent of the concoction employed by the doctor with his patience of a tunneling Monte Cristo.

To do the work which Dr. Ambers and Tal Ufieh desired of her required mental oblivion to the facts of her past life, with a retainment, however, of her instinctive habits and subconscious knowledge, and the doctor's next task was more delicate and fraught with the chances of disaster, yet he never faltered in his zeal, bulged egotistically as he was with success. Fully aware of the dire possibilities, he never once doubted himself capable of the desired results. Bera's memory had to be erased, at least temporarily.

This called for an operation on her brain, a tiny incision into the skull through which the doctor might insert a drug from time to time to maintain her forgetfulness of past events. He employed a slightly changed formula from the anaesthetic he had been using.

Bera came to her senses, nearly healed all through her body, yet in somewhat of a daze. She was weak and a bit frail from the ordeal, but Dr. Ambers, her evil recreator, saw that her physical well being did not stay long neglected. Not until Bera was her beautiful, radiant self, once more in the full glow of health, did the doctor prepare her for the fateful experiment. Patiently and artfully, Dr. Ambers refash-

ioned her mental status and train of thought. The doctor's rechristening of her was ironic and suggestive of a ghastly humor. To him, her name had suggested a sinister anomaly.

"Your name is Kobera," he told her.

Tal Ufieh missed the suggestive equivalent of the English word "cobra." It was Dr. Ambers' grim joke alone.

The girl's beauty was doubly enhanced by the artifices of the criminal-surgeon, but she was unaware of it. She had forgotten who she was, that she had ever been anyone, in fact. The doctor and the high priest saw to it that her distinction between right and wrong was an ill-defined one, for she was to be used for murder, violent and deadly. She was virtually a prisoner and made to stay in her own quarters which were fitted luxuriously near those of the high priest and doctor in a remote corner of the great palace.

Dr. Ambers became faced with the first setback to his plans, yet he regarded it philosophically and adjusted his plans accordingly. Jack Lynworth was no longer a common slave but had been promoted to the guard of the little prince, Lai Kom. The doctor had anticipated using him as the experimental victim of Kobera's deadly bite. He knew what would happen and had joyously lingered over the anticipations of what Kobera's kiss of love would turn to once her emotions were aroused.

"No matter," he told Tal Ufieh who stood in great respect of the surgical wizard's strange and exacting means of procedure. "We shall get him after King Moratk is dead and we are ready to kill Lai Kom."

The stage was laid for the test of Kobera's power. Behind a curtain, the doctor and the high priest stood and watched as a strong, well-muscled slave beat a chiselled pattern with a flat hammer into the side of a large metal in-

cense burner Tal Ufieh had recently purchased. Kohera had her instructions as she softly entered the chamber.

Out of the tail of his eye, the slave caught sight of her, and his hammer paused as his mouth fell open in mixed surprise and admiration. His eyes dropped, however, and he paid more concentrated attention to his work as his hammer beats increased slightly to a faster tempo.

Leisurely, and with luxurious grace, Kohera settled herself upon a nearby divan to watch him at his work. Discreetly, as any good slave in the presence of his betters, never once did he glance up at her.

"Stay your hammering for a moment," Kohera bade him graciously. "I would talk with you. Be not afraid. I am a slave, too, even if richly appraised."

#### CHAPTER IV

##### The Bite of Kohera

HE seemed scarcely to believe his eyes as he dropped the hammer gently into the heavy pile of a thick rug and walked dumbly to a position beside her where she had beckoned him. She slid up close to him with all the sinuous grace of a snake. Dr. Ambers was thrilled to observe, and laid one arm about his bare shoulders.

The chest of the startled slave rose to faster breathing as he felt her warm, fragrant breath upon his cheek. In her eyes, he recognized the surrender she offered, and he seized her passionately. Kohera's lips slowly and deliberately sought his neck, and her teeth gripped him tightly, even more tightly until her teeth penetrated into the flesh.

With an exclamation, the slave shook her loose with a brief remonstrance against such extreme playfulness. He again seized her, however, and this time

her bite was quick and decisive.

"Her passions are aroused!" hissed the doctor in Tal Ufieh's ear. "See how rapid her reaction was. The first bite was because of our instructions. The second one she couldn't help!"

The effects of the first attack were manifesting a potency on the slave who rose unsteadily to his feet, a puzzled look upon his face. He passed his hand first across his neck and then rubbed his eyes. For a moment he stood swaying. Then he fell shuddering and twisting, and his body writhed in pain upon the floor.

Kohera watched him curiously and strangely impassive. Satisfied with what they had seen, the doctor and the high priest left their concealment. Dr. Ambers made a rapid examination of the dying man; then turned his professional attention to Kohera. Tal Ufieh proceeded to carry away the corpse of the slave for secret disposal.

Both Tal Ufieh and Dr. Ambers knew the time to be ripe for their attack upon the king, and Kohera was fully instructed. Every slave girl learns to dance, and this instinctive ability had been in no way impaired by the memory-destroying drug.

Through the devious and subtle means of Tal Ufieh, the master politician of Quandhu, King Moratk came to see the flaunted charms of Kohera, and he immediately wanted her. She went alone to his quarters as he had requested.

Jack Lynworth harbored thoughts of escape from Quandhu, in spite of the dangers and difficulties he knew such a move would encounter. If he escaped over the wall, there were still the people outside the wall and the outposts beyond. He had found no trace of Dr. Ambers in the city. If the doctor had ever reached Quandhu, he had evidently been killed.

SICK at heart from the loss of his only friend, Bera, he had nothing more to detain him. The girl had just mysteriously dropped out of sight, and he could discover no trace of her. Strange possibilities existed in this ancient city which knew no intercourse with the outside world. He had much time for meditation as duty in the guards of Prince Lai Kom were light.

Two weeks had passed since the strange death of the slave within the palace grounds. Lynworth was patrolling his station directly opposite the side entrance to the young prince's chambers. Suddenly, he caught sight of a strange figure slipping past the royal quarters stealthily receding down the corridor.

Instantly the guard challenged, and the figure froze motionless. The corridor lights were weak, but he saw that it was a woman. He advanced to where she stood and his heart gave a bound. There stood Bera whom he had missed for so long a time. How lovely she was. She seemed even more lovely than before. She was changed somehow. Where was the quick smile, the adoring light in her eyes?

"Bera! Where have you been for such a long time?"

Confusion reigned in the girl's mind. She knew not what to say. Who was this strange person, she wondered, who spoke to her so familiarly and used her name in such a clipped fashion?

"I do not know you," she said simply.

"You are so changed!" said Jack, looking into her eyes and finding no recognition there. "What has happened to you? Have you been sick?"

"Yes—I have been sick," she replied in a tone suggesting uncertainty.

Something within her brain groped for explanation and found only a gray emptiness where there should have been

an answer to this enigma. She seemed to know the young guard, yet she could not place him, could in fact remember nothing. The mental effort brought before her the fanatical face of the doctor as she recalled it during the painful, conscious phases of the operations, not as the kindly, instructive person she knew him to be.

"Bera, don't you remember me?"

"My name is Kohera. No, I don't remember you," she replied, and then she listened in puzzlement to Jack's efforts to recall certain events and happenings to her confused mind.

"I cannot remember—but I know that I like you."

"There is blood on your tunic!" Jack suddenly called her attention to his discovery, pointing out a deep red splotch of color. "Are you hurt?"

"No—I am all right."

"Bera, where are you staying? Where were you while you were sick? Are you—"

Jack never had an answer to the flood of questions, for an officer of the guard came along and gruffly reprimanded him for consorting with a woman while on duty. The captain, however, saw fit to be lenient, for he had done the same thing times before this. Kohera melted into the gloom.

The following morning, a horrifying discovery rocked the palace and spread its stunning effects throughout Quand-hu. King Moratk was found dead in his quarters fully clothed. His death had evidently occurred before he had retired for the night.

He had died from a cobra bite, bearing all the usual symptoms, yet the bite itself was a strange one, as if the snake had bitten more than once in the same spot. It appeared, too, as if King Moratk had pulled at the snake while its fangs were still sunk in his neck.

The furore was unimaginable as a



grand hunt was constituted for the cobra which had somehow gained admission to the palace. Such an occurrence was not unprecedented. Snakes were known to enter public and private buildings alike, even the palace. They were usually found and killed, however.

Prince Lai Kom was too young to reign, and a regency was hastily formed. This was incidentally headed by no other than the high priest himself, Tal Ufieh, and another step in power and an advantageous position was gained.

The high priest and Dr. Ambers congratulated each other on this initial phase of their rise to power. The intensive hunt for the cobra which had killed King Moratk put an idea into the mind of Tal Ufieh.

"Immediately after the death of Lai Kom, a cobra will be found," he told the doctor. "We cannot direct the snake to do our bidding as Kobera does, but it will make things look more natural."

Dr. Ambers nodded agreeably and considered it a wise suggestion. Already in his mind, he was figuring their next move, and in this further step towards the realizations and ambitions of himself and the rascally high priest Jack Lynworth figured prominently. Kobera very innocently told of her meeting him while leaving the king's chamber by the route outlined to her by Tal Ufieh as the least likely avenue of meeting anyone.

"You like him very much?" queried the doctor.

"Yes, very much," Kobera admitted. "It almost seems as if I had known him before. Do you think I'll ever be able to remember things which happened before I was taken sick?"

"I am sure of it, my dear," said the doctor kindly, and that very night he gave her another application of the

memory-erasing drug.

With as little attention to the circumstance as could be brought to bear, Kobera was kept in ignorance of the fact that she was a prisoner. In reply to her wonder, and the new desire to see again the young palace guard who had talked with her so familiarly, the doctor and Tal Ufieh were at no loss to recount numerous dangers existing in the palace. At such times, her lack of reasoning and the acceptance of their every word was pathetic.

The excitement over the king's death subsided. The cobra was never found, and it was generally accepted that the snake had slid out of the palace as quietly and mysteriously as it had come. Many of the more superstitiously inclined subjects regarded the affair as a heavenly intervention against a possible misrule by King Moratk. And Tal Ufieh did nothing to discourage such rumors. He played his hand well.

He and Dr. Ambers waited for a reasonable time to elapse before they made their attempt on the life of little Lai Kom. It was here that the doctor inserted a personal interest, urging Tal Ufieh to wait until Jack Lynworth's turn came to stand duty in a certain passage leading into the little prince's bed chamber.

"I want to see what happens to him," said the doctor, his eyes taking on their fanatical glow, "when Kobera gives him her love."

"We shall go by way of a closed and little-used corridor which is quite dark," said Tal Ufieh. "In fact, I now know of no other one who has keys to it other than myself."

Their patience eventually bore fruit. The circumstances they awaited reached a zenith. Kobera was told that she might now see her lover and that afterward she was to do their immediate bidding."

"Just as soon as she has disposed of the guard, I shall watch while you take her in and have her bite the little prince before her passions and desire to bite have receded," instructed the doctor.

Tal Ufieh nodded wisely. "It shall be even as you say, great creator of sudden death."

Now that he knew Bera was somewhere in Quandhu, Jack Lynworth had decided against escaping, at least not without Bera.

Kohera. It was strange she had not told him the full name before. But it was just a trick of the amnesia which affected her, he believed. She had been sick, yet she now looked to be in perfect health. Something was decidedly wrong somewhere.

No one but Jack Lynworth held a slight suspicion regarding the girl and the dead king. She had come from the direction of the king's chambers that night on which he had been bitten by a cobra. Had she been there and seen the snake bite him? Had she tried to help him, only to realize that he was fast dying, and had she fled in terror? There was the blood stain on her tunic to account for.

Again she dropped from sight, and this second disappearance became more of a mystery to him than ever. He wandered about the city in his off hours, yet he never found the slightest trace of her. Dr. Ambers was taking a less important place in his mind. He commenced to believe that vengeance had been taken from him already.

It was nearly a fortnight after the death of the king that Jack saw Bera once more, and even as on the other occasion she came like a ghost into the corridor. This time, however, she advanced straight to him before his wondering gaze.

"Bera! You're back again!"

"I have wanted to see you so badly,"

she told him, "but they wouldn't let me."

"Who wouldn't?"

"Tal Ufieh and the great healer who brought me to health once more."

"Tal Ufieh! So it is he who has kept you hidden!"

"They have been very kind to me," she reproached his bitter tone, laying her head against his shoulder in the old way she had been accustomed to do.

His arms crept around her, and he looked down into the beautiful face which looked adoringly into his own. No sickness could have made her so much more classically lovely than she had been. He detected the traces of plastic surgery and wondered.

"Bera—think hard! Can't you remember anything which happened before your illness?"

The girl struggled mentally, her forehead wrinkling with the effort, yet she remained bewildered. From the shadows of a dark corridor whose little doors had opened inward, Dr. Ambers watched, a satisfied expression on his saturnine face. At his elbow, Tal Ufieh waited, a box beneath his arm, a box with a fine grating across several small openings.

## CHAPTER V

### Kohera's Last Victim

"CAN'T you remember me, Bera?" they heard the young man plead. "All those happy hours together?"

"Oh!" she shuddered. "All I can remember is an awful face filling my sight! How it hurt! I remember now, because sometimes my throat hurts, and there's a bitter taste, and I breathe with difficulty! He did something to my throat!"

Kohera was breathing hard in excitement as she clutched her lover tightly at the recurrent memory of the frightful ordeals of the operations.

"Who did something to your throat?" Jack demanded.

"The doctor! Tal Ufieh's doctor! Oh, Jack, don't let me go back there! It comes back to me now, more and more! Of all that is clear to me, I remember you best of all! I loved you!"

Jack was tenderly embracing her as her breath came pantingly. He kissed her and felt her freeze against him in uncontrolled frenzy. Then suddenly her warm, passionate lips were gone from his and he felt them against his neck which she seized quickly in her teeth and bit viciously.

He exclaimed in sudden pain and surprise as she flung herself from him and staggered back. Blood started out upon his neck. He did not hear the gleeful chuckle of Dr. Ambers nor see the unholy joy on his face. Holding the caged cobra, Tal Ufieh looked on in grim satisfaction.

Her back to the two conspirators, Kobera stood like a statue, her eyes wide in horror upon the involuntary handiwork of her fatal power. She knew what had happened, what she had done, and she knew that her lover was doomed. A strange stupor crept over her, a spell in which dumb misery and a wild groping for substantial facts dulled her faculties.

She saw the man she loved still unaware of the fact that he was soon to die. Unbelieving and uncomprehending of her wild and uncontrolled instinct, he passed a hand to the wound on his neck as he struggled to speak.

"Bera—what made you—do that?"

She saw strange expressions change in his eyes, and she saw him sway dizzily against the wall to which he groped for support.

A realization of powerful forces at work in his bloodstream broke suddenly in upon Jack's chaotic thoughts as a weakness assailed him. Pain gripped at him, the old familiar pain back in the jungle when the cobra had bitten him and he had worked feverishly at the antidote given him on the coast and had mixed too much of it. This time, he had no antidote. He realized this much before oblivion swept away his thoughts and he fell heavily to the floor of the corridor.

A moan of despair escaped the lips of Kobera, and for a moment she was unaware that Tal Ufieh was shaking her arm, whispering that there was important work to be done that night.

Admonishing Dr. Ambers to keep a watch for the captain of the guards from his point of concealment, Tal Ufieh, with the box under his arm, urged the dazed girl toward the bed-chamber of Lai Kom. They passed slowly through two rooms before coming to the bedside of the sleeping prince. Peacefully, little Lai Kom, scarcely past his eighth year, lay sleeping, his head lolled to one side facing them, his neck fully exposed for the teeth of Kobera.

"Do what you are supposed to do," came the sibilant whisper of the high priest as he pushed Kobera gently



He felt her lips against his neck, then staggered as her teeth bit viciously

toward her intended victim. "Do as you did to King Moratk, his father."

In a daze, Kohera stood above the sleeping child, her mind a tangle of fighting emotions. She realized and felt the urge to hite that unprotected neck, yet more insistent instincts rose up in revolt to counterbalance the horrible urge. The firm and compelling insistence of Tal Ufieh drowned momentarily her natural instincts in favor of those acquired by the skilled surgical hand of Dr. Ambers. She knelt before the slumbering child who lay in dreamless sleep.

Suddenly a terrible loathing seized her, and she trembled as with the ague. Forcing herself away from the bedside, she fell in a half faint stretched out upon the floor.

Tal Ufieh muttered a curse, yet he was not at a loss to cope with the unforeseen situation. He fumbled at the catch of the box which held the cobra, standing so as to release the excited snake upon the inert body of little Lai Kom. Slowly he lifted the lid.

A darting, reptilian head arose, beady eyes flashing cold anger at so much bumping and jogging in its confined cage. Tal Ufieh took a step toward the bedside, but as he did so a haggard figure lurched and staggered into the room.

His face a deathly white, Jack Lynworth lunged desperately for the high priest, tipping him sideways away from the bed. Out of the box flew the startled cobra upon the floor of the bedchamber, and upon the snake fell Tal Ufieh as the gaping jaws closed angrily into the high priest's shoulder.

Kohera rose to her knees to see Jack looking down at the little prince who had become restless. She also saw Dr. Ambers come into the room with a knife upheld in murderous anticipation. She screamed a warning and leaped to stay

the wicked blade from its downward plunge into the half turned body of the prince's guard. The diverted blade clashed harmlessly against the bronze cuirass he wore.

Kohera saw before her the same fanatical face she remembered in her semi-conscious moments during the pains of the surgical operations. With all the hatred in her soul, she seized with her teeth the hand which strove to force her back out of the way. Like the striking cobra which the doctor had fashioned her to emulate did she seize the hand which had made her what she was, and her teeth grated against bone.

The doctor screeched in pain and anger, aiming a blow at her with his free hand. A hard fist smashed into his face as Jack Lynworth recovered balance, and he went down.

The doctor, who had scarcely believed his eyes when he had seen the supposedly dying youth rise valiantly to his feet in the corridor, lay unconscious beside the high priest who was suffering the pains of the cobra's venom. The snake had retreated to a corner where it waved and bobbed menacingly, ready to defend itself.

Little Lai Kom arose as from a nightmare, screaming lustily in fear. Excited voices and many footsteps approached from every direction.

Unmindful of the hubbuh, Jack held Bera close to him and stared fascinatedly into the face of the doctor on the floor whom he now recognized for the first time. The mystery of Bera and her strange bite became less mysterious, yet there was much that he could not understand. He did realize, however, that the overdose of antidote he had taken back in the jungle had saved him from Kohera's bite, for the excess medicine which had made him sick for so long was still potent.

With his sword, he slashed the reptile

to hits as palace officials and attendants quieted the shrieking prince. Guessing Kobera to be the innocent killer of King Moratk, Jack knew that it would never do for the truth to be known about the unfortunate girl.

He told of a swift attack by Tal Uñeh and the doctor and how he was hit over the head in the corridor and left laying there while the two conspirators brought in the caged snake with which to kill Lai Kom like they had killed King Moratk, his father. He had recovered in time to prevent them from their design, and in the fight which followed the liberated snake had bitten them both.

Kobera's presence he explained as a clandestine love affair in which she came and met him secretly while he was on duty. The captain of the guard substantiated this fact by having seen her on the previous occasion. This trifling irregularity was overlooked in the wild acclaim and hero worship accorded Jack Lynworth for his defense and saving of little Prince Lai Kom, the future sovereign of Quandhu from the murderous designs of Tal Uñeh.

Jack was glad to find that Kobera had been kept hidden by the conspirators since her transformation, for recognized association with Tal Uñeh and the doctor would have occasioned embarrassing investigation and questions. Jack Lynworth was offered anything he wanted in gratitude for what he had done. He was offered wealth and high positions in Quandhu, but he declined, asking instead that he and Kobera be allowed to return to civilization. He was sworn to secrecy never to tell of the existence of Quandhu, and having done this he was given his wish.

In howdahs on lumbering elephants, Jack and Kobera were taken even beyond the outposts past which none of the natives of Quandhu had penetrated for several centuries. Not until they reached the Mekong River did the escort stop, and then they constructed a large raft with a comfortable cabin into which was stocked all manner of provisions and necessities for their journey. After seeing them on their way, the escort turned back again to the forgotten city of Quandhu still pursuing happily its ancient ways and content to remain unmolested and free from the progress of the outer world.

The last hails of farewell still rang in their ears, and the leafy jungle still swayed gently to the passage of the slate-backed elephants as Jack and Kobera looked down the tropical river. Jack maneuvered them into midstream with the steering paddle at one end.

"When I get you back to my world," he promised her, "a surgical operation inside that lovely neck of yours will make you Bera again instead of Kobera."

"No—no!" she protested, clutching him wildly. "No more cutting!"

"But this won't hurt, you'll never know anything about it, and it will all be over easily and quickly inside a big hospital which will have everything for your comfort," he told her. "Then we can be married, and you'll be my wife."

A perplexed frown momentarily replaced the terror on her lovely face, and then the frown relaxed. She looked up at him trustingly and smiled, and in her eyes shone an infinite and enduring love.

"To be your wife, Jack, I guess I'd even be willing to go through once more all I have gone through already."



Moren roared with laughter, while the men cursed in fear



By MORRIS J. STEELE

No prison had ever been built that could hold Mugs Moran, but chance plunged him into a trap that was escape-proof

#### CHAPTER I

##### A Break for Liberty

"THEY'LL never catch me!" Mugs Moran, stratosphere mail robber, had boasted. His rocket ship was too fast; nothing like it anywhere on earth—and the inventor was dead. Mugs had seen to that.

But Mugs was wrong. They caught him, and he became number-3,549 in the Inter-Federal prison in Antarctica.

Tough place, that new pen. You spent twelve hours a day, every day, deep down in those damned iridium mines, not more than twenty miles from the pole, in the coldest spot on Earth. You got plenty to eat, but you *worked*

for it—and you worked it *off*. A hell of a place, and Mugs didn't like it. Not one little bit. And he wasn't going to stay there. Not Mugs. Maybe they could catch him, but they'd never hold him. And they didn't.

Here's how it came about:

A MONTH'S observation revealed to Mugs the one weak spot in the great penitentiary. Twice during the twenty-four hour period designated as a day in Antarctica's six months long periods of light and darkness, the strato ship which carried him to the mines traversed the barren two hundred miles long journey. It took about twenty-

five minutes to make the trip.

Mugs knew strato ships; given fuel enough that ship could go to the moon.

And the weak spot in the penal institution's impregnability lay in a catch lock on the heavily barred door between the control room and the prisoner's quarters on that rocket ship.

Carefully Mugs planned. Then one morning he was ready. In his pocket he carried a small lump of putty filched from the supply room. Inconspicuous that tiny piece was, and even if it were discovered, no significance would be attached to it. But they didn't discover it and as he plodded along in the line entering the ship, a tiny piece of that putty was stuck to his thumb inside his horny fist. The guard missed the quick unclenching of that fist as Mugs approached the barred door, which, when closed, would form an impassable barrier between the prisoners and the control room. Nor did he see the quick motion as Mugs passed the doorway. And thus, the putty and a tiny wedge of iridium were pressed into the lock.

Mugs grinned mirthlessly at the success of his hair raising task. The lock wouldn't snap now when they closed the door. It took a slick, steady hand to pull that piece of work; a mere hairs-breadth to aim at and he'd met it squarely with one swift motion.

Still grinning, Mugs took his seat next to the door and clung to the leather strap in preparation for the take-off. The guard looked at him queerly as he swung the door shut. Mugs' grin widened as his straining ears failed to detect the faint click of the lock.

"Whatcha grinnin' at?" The guard stared at him hard.

"I've just heard good news," replied Mugs.

"Yeah?" The guard's voice was sarcastic. "Mother-in-law kick off?"

"Better than that," grinned Mugs.

The guard took his post and settled his weapon before him. The ship took off.

Inadvertently, it seemed, Mugs' right foot slid over against the bottom of the door as he saw the pilot depress the starting lever.

Until the ship settled down to the two hundred mile trip on an even keel, Mugs' face dripped sweat with the exertion of holding that door in place. But his face remained impassive except for that fixed grin. Not by the slightest quiver did he betray the muscular strain he was undergoing. Again iron muscles and steel nerves proved their quality and the door remained closed under the surge of acceleration.

And then, as the ship leveled out, he withdrew his foot nonchalantly. To all appearances he might have been merely bracing himself against the start.

Mugs seemed to sink into a reflective abstraction. He seemed to be dreaming, or thinking. He was thinking numbers. One thousand and one, one thousand and two, one thousand and three—Mugs was counting the seconds. As each minute passed a finger bent slightly until one great fist was clenched. At last only one finger remained outstretched on the other hand.

Abruptly Mugs stood up.

"All right boys," he said.

"What's the matter with you?" said the guard. "We ain't half way there yet."

"Well," drawled Mugs, drawing his big body up to full height, "this is special . . . see?"

The guard did see. He saw Mugs' whip-like body plunge like a streak through the miraculously yielding door; he saw his first shot miss the swiftly plunging figure; he saw a great ham-like fist whip up toward his chin; and he saw stars.

Then, while Mugs leaped upon the



pilot, crumpling him to the floor with a single heavy blow, the rushing flood of released prisoners overwhelmed the remaining guards.

In fifteen seconds it was all over, and forty convicts found themselves in possession of a fast strato-rocket ship with Mugs Moran, most daring rocket pilot on Earth, at the helm. Freedom was in sight.

They crowded to the ports as Mugs bent over the controls. Exclamations and oaths escaped them, moments later, as they discerned the hateful shapes of the low-lying mine houses. Downward the ship zoomed as Mugs depressed the steering lever. With rockets thundering a defiant roar of derision the prison ship roared over the mines and then rose steeply upward, climbing for altitude.

And then it happened.

The steering lever stuck. Frantically Mugs jerked at it, but it remained immobile. He tried the firing lever. That control refused to budge, also inextricably jammed.

Upward the ship climbed, rockets roaring unchecked.

## CHAPTER II

### An Unexpected Destination

AFTER a moment of furious effort Mugs sank back into his seat. For long seconds he regarded the controls in exasperation. Then he began to grin.

Still grinning he turned to his fellow fugitives. They were standing tensely, white-faced and anxious.

"What's wrong?" queried one of them in a voice that was squeaky and nervous. "Why are we going so high?"

"Nothing much," grinned Mugs. "The controls are jammed and we're going up. We'll keep right on going up until the fuel gives out, and then we'll come down—maybe."

"My Gawd!" exclaimed another. "We'll be killed!"

"Maybe," returned Mugs briefly, that mirthless grin still frozen on his features. He seated himself once again at the controls and wrenched at them with all his might. One came away in his hand and he flung it from him. He sat still and watched the dials in sudden interest. He stroked his chin reflectively as he noted their readings.

Long minutes passed and suddenly the rockets ceased firing.

The convicts, released from their horrified rigidity, rushed to the portholes and looked out. A staggering sight met their eyes.

Shining dimly in a jet black sky a huge globe hung beneath them. In the incredible blackness of airless space, a myriad of stars shone with an uncanny brilliance. Flaring blindingly, the fiery sphere of the sun swept into view as the strato ship left the earth's shadow. From it flared the magnificent flames of the corona.

With cries of agony they stumbled back from the ports, blinded and confused.

"We're out in space!" shrilled the squeaky one in terror. "Out in space, away from the earth!"

Mugs sat stolidly before the controls looking out ahead of the ship. The smirk on his face widened as he pointed.

"There's where we're heading, boys . . ." he indicated, "and we'll hit it dead center!"

Exclamations of awe and fright escaped the majority of the convicts as they beheld a huge pock-marked sphere looming up ahead of the vessel.

"The moon!" cried one. "We're on our way to the moon!"

"Yes," said Mugs, nodding. "We're going to the moon. The first men of Earth to traverse space itself; the first men to penetrate beyond the stratos-

phere; the first men on the moon! Just think, boys, we are doing what no man has ever done before!"

"An' we'll be killed doin' it," whined the squeaky one.

Mugs flashed his mirthless grin. "Maybe we will," he said cryptically.

Hope sprang up in the eyes of the thirty-odd men at his enigmatic terseness.

"You mean you think you can land us safely?"

Mugs turned to his controls. "We'll see," he returned shortly. "Just hold thumbs that we've enough fuel in the forward rocket tubes to break our fall. The bow rocket controls are still in order."

He began to scan the approaching surface of Earth's satellite interestedly. Surface details were beginning to stand out with startling clarity and he could see each of the thousands of craters distinctly.

For several hours no one spoke, held silent by the gripping sight that spread itself out before them. An occasional gasp escaped them as they beheld the incredible depths of some monster crater, then again the shining, mirror-like areas that reflected the sunlight in glaring flashes.

"We're falling!" cried one convict as he became aware of the sudden proximity of the grim surface, now obviously below them, rather than ahead.

"Do something!" cried another. "We'll be killed!"

Mugs sat immovable. "Not yet," he said tersely and silence descended again.

With increasing speed the rocket ship dropped toward the moon. The ship was only a dozen miles or so above the surface when Mugs depressed the forward rocket firing lever.

A welcoming shudder became evident as the rockets, vibrating the ship, sent

a dull thunder through the hull. A mushrooming sheet of flame spread out before them and their speed lessened visibly. Mugs depressed the lever still further. They dropped very slowly now.

Off to the left the first towering peak rose past them; then the rim of a giant crater slid slowly upward. And still the rockets flamed.

A half mile above the surface Mugs depressed the lever to its limit. Fifteen feet from a landing the fuel gave out. With a crash the ship landed in a sandy plain, sending a great cloud of dust upward, to settle almost immediately in oddly rapid fashion.

Although considerably shaken up no one was hurt and they scrambled to their feet with cries of joy. One of them made for the entrance port.

"Hold on!" Mugs' voice was sharp. "Don't open that port if you want to live for a little while yet. There's no air on the moon!"

A horror fraught silence descended upon the convicts. The whimpering one began to whimper again.

"No air?" he squeaked. "Then—" but he did not finish. The inference was too overwhelming.

Mugs' grin widened. "Yes," he said, "but before we die we might as well enjoy the scenery. Gather around, boys, and look at the moon as seen from the moon."

Several of the men cursed, but they turned to the ports nevertheless and gazed out with growing interest. A bleak landscape met their eyes and many of them groaned.

Mugs' frigid grin widened still more. "Don't worry," he pointed out, "you won't have to go out there."

For several moments they gazed in silence, then a loud cry echoed through the ship. The whimpering one pointed excitedly.

"Over there," he shrieked, "something's moving!"

An incredulous expression crossed Mugs' face as he beheld the queer creature that came gliding across the sands toward the ship. He rose to his feet and stared with the rest.

"It's a man!" gasped one.

"No," contradicted another. "Did you ever see a man with four legs?"

"Whatever it is," observed Mugs thoughtfully, "it's alive."

"Alive . . . ?" began another, and stopped.

"Air!" screamed the squeaky convict. "There's air outside!"

Mugs grinned again. "Maybe," he said. "Maybe."

The men stared at him a moment and then one of them laughed derisively.

"You've been squawking 'maybe' ever since we left the earth," he derided, "but this time you're wrong. There is air out there and we're going out!"

"Go ahead," Mugs grinned pleasantly.

With a shout the men swarmed for the exit port. In a moment they had loosened the bolts. Several of them seized the handles and pulled mightily. The door refused to budge.

Mugs grinned at them. "No use, boys," he rasped. "Air pressure of sixteen pounds per square inch is holding that door shut. I told you there was

no air outside."

"But that critter out there," objected the whimpering one. "It must be breathing, or it couldn't live."

"Maybe," said Mugs, "but I don't see any nose on its ugly face," he pointed to one of the ports.

A cry of horror came from the convicts as they beheld the horrid face of the moon creature, pressed against the glass of the port as it stared in at them.

"My Gawd!" the whimpering one exclaimed. "It's one of the devil's ban-shees itself!"

"Maybe," grinned Mugs, "but it can't get in and we can't get out. And pretty soon it'll be looking in at a bunch of dead ones. The air is getting stale."

Suddenly to the horror of all, his grin became a laugh. He roared until the tears rolled down his cheeks.

"What in Hell's wrong with you?" cursed the whimpering one. "Don't you know we are going to die here, trapped like rats—unable to escape?"

"I know it," gasped Mugs. "That's what I was laughing at. On Earth all the steel and concrete in Antarctica couldn't hold me from freedom, but here an unlocked door is doing the trick—because there's Death on both sides!"

And outside, a grotesque monstrosity looked in while Mugs Moran, the man no prison could hold, laughed—and died!

## COMING IN THE JANUARY ISSUE BLACK EMPRESS THE SCIENTIFIC GHOST

John Russell Fearn

Ed Earl Repp

She wielded unlimited power and a whole world hated her with fervent bitterness.

A scientific detective tracks down the mystery of a ghost who threatens to kill.

## INTERPLANETARY GRAVEYARD

R. R. Winterbotham

Before there was a planet where no planet should be, its grip of death inescapable.

EANDO BINDER presents a thought provoking human psychology yarn told from the viewpoint of a robot. STANTON A. COBLENTZ returns to science fiction with a story based on a new principle of cross-country travel. FREDERIC ARNOLD KUMMER, JR., brings a tale of space woven around a great treasure of radium in the asteroid belt. MANLY WADE WELLMAN brings to life before your eyes the ancient battle between Homo Neanderthalensis and Homo Sapiens, an accurate and absorbing story of man's beginning.

# QUESTIONS — and — ANSWERS

This department will be conducted each month as a source of information for readers. Address your letter to Questions & Answer Department, AMAZING STORIES, 608 S. Dearborn St., Chicago, Ill.

**Q.** *Is it true that the insect commonly known as the Earwig burrows into people's ears?*—G. L. Barkley, Toledo, Ohio.

**A.** Undoubtedly you are referring to the species of beetle known as the Dermaphera. This insect is an elongate beetle with a pair of heavy, pincer-like jaws at the tail end of the body. However, it is entirely untrue that they burrow into people's ears, this being another of the myths attached to insects and other wild creatures.

\* \* \*

**Q.** *Do salamanders really have the ability to go through flame unscathed?*—Wilmer Ayles, San Pedro, California.

**A.** Salamanders are commonly confused with lizards, which are capable of living in hot sunshine and conditions of drought. However, the salamander, and the newt, are rather delicate, to be accurate, and the same conditions that a lizard endures would kill them in an hour. Therefore, it is entirely fictitious that the salamander can go through flame. There are eight or nine common kinds of salamander, and all are very delicate in constitution, and even a slight drought and heat wave would kill them off very quickly.

\* \* \*

**Q.** *How do plants capture sunlight?*—N. R. Nilsson, Austin, Minnesota.

**A.** A green leaf is a few cell-layers thick, and is traversed by veins, the transport system by which water enters the leaf and elaborated food is carried away. Their branching network provides for the effective distribution of water to all the living cells. The lower skin of the leaf is pierced by numerous openings—called stomata—so numerous that there may be one hundred thousand to the square inch. Through these minute openings water vapor flows out, and carbon dioxide flows in. They communicate with a system of air spaces in the leaf which allows a supply of the gas to reach every cell. The leaf-cell is the actual laboratory in which the upbuilding of food takes place; it includes, embedded in the living matter, numerous biscuit-shaped green bodies (chlorophyll corpuscles), whose function is to absorb and transform the light energy.

The flatness of the leaf means a large absorbing surface, and the arrangement of the leaves is suited to avoid mutual shading, and consequent loss of light.

To the leaf-cell, then, there flows water with salts through the veins, and carbon dioxide through the stomata and air spaces. In the cell there is an energy transformer and absorber, the chlorophyll. In the cell, too, there is protoplasm, the physical basis of life, which utilizes the raw mate-

rials and the energy of light, so as to transform the carbon dioxide and water into simple organic compounds of carbohydrate nature. In this process there is a liberation of oxygen, which passes out by the little openings. The formation of these simple carbohydrates is the fundamental process of plant nutrition, and indeed of life in general on our globe, for from them are derived all other organic compounds whatever, in animal as well as in plant.

\* \* \*

**Q.** *In meteorology, what is meant by the "Stevenson Screen"?*—Arthur B. Dennis, Madison, Wisconsin.

**A.** The "Stevenson Screen" is a device used to ensure accurate temperature readings. All thermometers are housed in a box of special design, usually about 20 inches wide from east to west, 13 inches deep in north-south direction, and 14 inches high from floor to roof, inside measurements. The roof is double with an air space between, and the sides consist of a double set of louvers, while the bottom is also constructed so as to provide free ventilation to the thermometers within, though at the same time preventing sunshine from falling upon them. The screen is placed over grass at a height of 4 feet, and the site is so chosen that it will be as open as possible to ensure the true atmospheric temperature being recorded. The screen and stand are always painted white both inside and outside as a further precaution against the effect of the sun's heat.

\* \* \*

**Q.** *How many candle-power are the lights used in lighthouses?*—Robert Majchrzak, Benton Harbor, Michigan.

**A.** Arc lights of up to 90,000,000 candle-power are used in lighthouses.

\* \* \*

**Q.** *Who was John Dalton, and what did he do?*—W. Dixon, Atlanta, Georgia.

**A.** John Dalton, born in 1766, was one of the greatest of early British chemists, and famous for his development of the Atomic Theory. He maintained that atoms are minute particles of matter, which cannot be further subdivided; that atoms of the same element are all alike and of equal weight. He also made important discoveries in gases and vapors. He died in 1844.

\* \* \*

**Q.** *What is the "Isle of Wight Disease"?*—John Richard Dunning, Oklahoma City, Oklahoma.

**A.** It is a disease afflicting bees, and is peculiar to Britain, having appeared first on the Isle of Wight. It is associated with the presence of a very minute mite.

# DISCUSSIONS

**A**MAZING STORIES will publish in each issue a selection of letters from readers. Everybody is welcome to contribute. Bouquets and brick-bats will have an equal chance. Inter-reader correspondence and controversy will be encouraged through this department. Get your letters in before the 15th of each month.



## OVERWHELMED!

Sirs:

I am overwhelmed! In fact I'm speechless with joy. Because I see by the November issue that you have gone monthly.

Why don't you publish short articles from time to time informing the readers how the plans for the International Convention of Stf fans at the 1939 World Fair are progressing . . . I'm sure all fans would appreciate any news.

*N. Gilbert Dancy,  
123 Lancaster St.,  
Albany, N. Y.*

● If those fans in charge of affairs for this interesting convention care to inform the editors of their progress, we shall be glad to pass on any information to those of our readers who are interested.—Ed.

## THE "OLD DAYS"

Sirs:

The new AMAZING is reminding me more and more of the "old days"—the stories I mean.

The November issue is by far the best of the new. What a set-up! Thornton Ayre bangs through again. "Remember that name—." Are you telling us? "Secret of the Ring" tops everything including anything else written by Thornton Ayre. What a story—what an author—!!! The Weinbaum serial ends in happiness. Not the end, I hope, of further Weinbaum stories. You must publish "The New Adam," and what other science fiction of his that has not so far seen print. McCusky, Repp, Tooker, Hamilton, Kummer—all did their share to put the November issue across.

The art work continues to improve. The cover being much better than the previous one and the black and whites for "Secret of the Ring" and "The Man Who Lived Twice" being especially well done. Fugate is an up and comer.

*Jack Darrow,  
3647 N. Francisco Ave.,  
Chicago, Ill.*

● Your opinion on publishing any of Weinbaum's remaining novels has been echoed by quite a few of our readers, and we have selected your letter as typical of those others from which the request has been deleted. If response continues, we shall do our best to secure what we can.—Ed.

## TAKES THE CAKE

Sirs:

Without a question of doubt, the new AMAZING STORIES takes the cake. At the moment it is THE

magazine in the science-fiction field. Certainly, it outstrips all other science-fiction publications. It has that extra something that puts it in a class by itself.

The reasons why I heap such praise on the new AMAZING STORIES are that I both read it and sell it. I know it's good, and what's more important, to me, at least, is that my customers are equally satisfied. They think the world of the magazine. And I agree with them. One cannot help succumbing to AMAZING's new set-up. Such stories as the Revolution of 1950, the Song of Death, and the Monstrosity of Evolution raise the magazine to an unequalled level in science fiction. Keep up the good work. I'm rooting for you, and at the same time I am boosting the new and amazing AMAZING STORIES.

*Irving M. Smith,  
763 McDonald Ave.,  
Brooklyn, New York.*

● Certainly this opinion is a valued one, since it comes not only from a reader, but a man who sells AMAZING to other readers. We intend to keep it THE magazine in the field, and we hope you keep on boosting it.—Ed.

## TRIMMED EDGES

Sirs:

In the November number have had time so far to read only the Discussions and I want to agree with Byron Ingalls of Foxboro, Mass., that the untrimmed magazine is an "ugly pimple" on an otherwise very interesting magazine. I note in the editor's answer no reference is made to this untrimmed business. I note also that Harold Bell of Montreal voices objection to the untrimmed edges of the magazine. Without naming them I recall a continuous kick by one or two nearly every month on this same matter.

I have no idea how much trimmed edges adds to the cost of publication, but if it is not too much, for heaven's sake start doing it. I like the back covers, but had trouble in trimming the November number without cutting off some of the information.

*J. H. Barley,  
Rife, Colorado.*

● Your editors are seriously considering trimmed edges, and we may have a definite announcement to make concerning this in the near future. At least, our readers, of whom so many request us to consider this angle, may be sure that their voices are being heard, and that we are making efforts



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to carry out their wishes in all respects. You may be sure that when it becomes possible, it will be done.—Ed.

## ILLUSTRATIONS—SERIALS

Says:

Your new cover artist, Fuqua, is good, so good, in fact, that I hope you'll let him do every cover. Color-photos are okay as a new type of art, but they can't compete with good painting as a medium for s-f illustration. . . . And while I'm on the subject of illustrations, this guy Krupa shows a steady improvement. His illustration for "F-rates of Eros" is excellent. I prefer his work to the interior work of Fuqua. . . . I noted a request for the return of Paul and large format. Hope you don't yield to such requests. Paul has always been over-rated; he was never as good as Wesso or Dold; sometimes as good (though often worse) as or than Morrey; superior only to Marchioni; certainly not as good as Krupa.

Serials? Why not go after some of the unpublished John Taine novels? That man hasn't written anything which isn't classic science fiction—yet the short-sighted policy of magazine and book editors keeps them out of print. I know of six Taine novels which are begging for printers' ink: "Red and Yellow"—"To Be Kept"—"Satan's Daughter"—"The Forbidden Garden"—"G.O.G. 666" and "Tomorrow."

Lloyd Arthur Eschback,  
118 W. Buttonwood St.,  
Reading, Penna.

● Your opinion on both the subject of illustrations and of serials is very interesting, since you, as an author, would seem to be qualified to present a very authentic opinion. We have received very many letters voting on the two questions, and quite definitely the results have pointed toward the desire for serials, although none but you has given any specific mention of the kind of stories wanted, or of authors. What do the other readers feel? Are there any particular authors whose serial work you consider outstanding? Your comment on our new artists is typical, and we feel quite gratified to know that our artists are receiving such an excellent welcome by our readers. We appreciate your opinion on our covers, and we certainly shall keep Fuqua, however, we do intend to vary the cover artists from time to time, since we are sure that we have still more up our sleeves in this regard. However, you will note that Fuqua again presents his skilled technique on this month's cover, and the editors feel that here is his best work to date.—Ed.

## FUQUA VERSUS PAUL

Says:

What's the matter with Fuqua? I think he has the things and stuff of a first class science fiction artist in his brush! Can anyone pick out a more amazing cover than the one on the November issue? Can you tell me where I can find a more truly amazing use of colors than that vivid green

and black on deep pink? I think not. Can you show me such life-like scientific detail than that which occupies the background of Fuqua's work? I think not. Notice the fresh, NEW viewpoint, style, "taste" that Mr. Fuqua has. And I believe he has only been "in" science fiction a few months too.

Skip to the November issue of a new science fiction magazine and look at the cover by Paul. He hasn't changed enough in a half-dozen years to make his covers worth while!

Suppose that only one author wrote for all the science fiction magazines. Only one, no other, no newcomers. Those magazines would soon grow boring, would they not? Now if you have one man illustrating all the covers on all the science fiction magazines, those magazines would be better off without covers! If you prefer Paul, buy the magazine that features him. But let the other magazines have their Fuquas, Delds, Browns, Thomsons, etc. Don't try to have one man create a "monopoly" on covers.

Fuqua appears on one and only one science fiction cover that I know of. It isn't probable that he will appear on others. Now why erase him? He does fine work, fresh work, and if Paul succeeds him, where must we turn for the utterly different style that is his?

Sudden thought for the day: Can it be that fans chip for Paul since time immemorial, not because they actually want him on each new magazine, but because that is the customary thing to do?


Don Wolfheim comments long and loud about this propaganda in *Amazing*, and laments it. (Lament is a polite word to use.) He decries you permitting it. Yet, Don himself believes in a certain "ism," and I have heard charges that he spreads this faith all through science fiction; which, if true, sort of makes him, and his recent letter . . . well!

I have read of just as many political systems as Johnson and Goldstone, and they neither converted me, nor bothered me, for I try to believe I have a mind of my own; and no author can make it up for me that his system is best!

In this month's *Observatory* I read with great interest Dr. Shapley's discovery of the "black hole" in the center of the Universe. My dear friend, dost thou dream of the bombastic possibilities of a real "classic" science fiction story there; the kind they used to rave about in them thar good old days? I suggest that you pick a word-master and suggest this suggestion into his eager ears.

Bob Tucker,  
P. O. Box 260,  
Bloomington, Ill.

● We believe this letter, which we have selected from among a great many which repeat and coincide with the opinions expressed by Mr. Tucker, is quite typical, and expresses our own opinion, and seems to quite definitely point the way toward our future policy. It has always been a good idea to



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**FORDS GIVEN**

let the majority of the readers rule in formulating a magazine's policy. And thus, it would be very hard on our part to replace our two new artists with the work of Paul. It is safe to say that Paul has not been able to hold up his reputation beside these two newcomers, and considering that added experience is bound to add to their ability, it would seem that the matter is quite definitely settled. And yet, the following letter presents an angle that seems good, and at the same time would seem to give those followers of Paul a break. Therefore, if possible (depending on the availability of Mr. Paul) we will present from time to time a Paul illustration.

Concerning ideas for stories contained in our Observatory, or in any other article in AMAZING STORIES, maybe an author will take your hint. But darned if we can think of a good idea off-hand about that center of the universe thing—Ed.

### "PESTERING" (?) LES CROUTCH

Sirs:

Remember me? I'm the guy who's been pestering you every month for the last three issues of the "fallen aristocrat."

Do I want Paul? Well, that takes a bit of discussion. I can't answer right off the bat, but I'll give you my side of the thing. Paul is called the dean of sf. artists. We've had Paul ever since we've had the first sf. magazine, and naturally we would like him back with the magazine with which he made his name. BUT—Paul can't draw humans! You know what I mean. His people look all alike, they have a distracting sameness. One man is like another, and the same with his females. But I will say this for him: he could use his imagination in painting alien scenes, his spaceships were real, and his machines had detail to them. So this I say: give us Paul, but have him do illustrations that contain more machines and ships than humans. I'd say Paul should draw scientific machines and spaceships and alien worlds.

With or without romance? Well—what are the readers all squabbling about? We don't want a romance or love book. Neither do we want a dry as dirt magazine with no human interest in it. In the future the women will play as big a part as will men in the role of science. Woman's influence on man is great. She can wrap him around her little finger and make him act like a blasted monkey! Certainly I want romance. Not enough to make it mushy, but not so little as to make it dry and uninteresting.

When do you give us the month and year date on the back of the book? I file mine, I don't want to have to pull it out every time I'm looking for a story that isn't in it.

Les Croutch,  
41 Waukeet St.,  
Perry Sound, Ont.,  
Canada.

● We think we've anticipated your ideas about romance in AMAZING STORIES, and that will be our policy in the future. The readers in general seem to approve of such a "happy medium" as you



outline.

Concerning that month and year line on the back of the book, you'll note that with this issue, we are presenting just exactly what you want, and what many other readers want. Again, we comply with requests with all possible speed. We want to keep **AMAZING STORIES** the reader's magazine.—Ed.

### ATTENTION, MAURER AND VALLEY

Sirs:

I read with interest the letter from Messrs. Maurer and Valley in the November issue of **AMAZING STORIES**. While they made a good beginning in their reasoning, they stopped far short of the final conclusions which I have no doubt they have reached by this time.

Although it is true that the beta particles of radioactive materials have a velocity approaching that of light, it will be seen that in the equation

$$M = \frac{M_0}{\sqrt{1 - \frac{v^2}{c^2}}}$$

(where  $M_0$  is rest mass,  $v$  velocity of mass  $M$ ,  $c$  the velocity of light, and  $M$  mass at velocity  $v$ ) the mass of the electron will be infinite if the electron reaches the velocity of light  $c$ . Therefore by the laws of elementary Physics we come to the conclusion that the closer the electron approaches the velocity of light, the more energy it takes to accelerate it for each added mile per second. To accelerate one electron to the velocity of light would take more energy than is present in the Universe, in fact an infinite amount.

Harry C. Morgan, B.S.  
1528 W. Shawnee St.,  
Lansing, Michigan.

### THE STRATOSPHERE AIRLINER

Sirs:

About your stratosphere airliner of 1933. Mr. Krupa has prepared a very attractive picture, but he catered much too much to the old gadget theory—you know—the more there is the more scientific it looks? The ideas are very good, but Mr. Krupa's layout would waste a tremendous amount of horsepower that a few simple changes would save.

For example, those eight enormous radial engines, which are enough to give any aerodynamics expert green horrors. It shouldn't take fifty years to get engines that will fit entirely inside the wings. And while we're about that, the wing might as well be thickened slightly so that that prehistoric strut that is absorbing about 75 horse power in friction and interference drag can be scrapped. And you don't have to wait until 1938 to bring the passengers up into the wings. All of the large manufacturers have that idea on the boards, yet it has been neglected in Mr. Krupa's ship. Just think of all that waste space!

That control room is very pretty but increases the fuselage drag thirty per cent. Boeing's stratosphere liner with perfectly unbroken fuselage lines is much

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more like tomorrow's airplane. Likewise those little round windows which seem to be actually sunk into the hull should be brought up perfectly flush. And the television projector and what seems to be a shielded radio loop don't even belong outside today's airplanes. Those landing wheels squatting in perfect positions to build up turbulence, advance the boundary layer transition, and even cause complete breakdown of the flow pattern at the abrupt change in fuselage contour, are pretty bad, not to mention the fact that they have no travel at all for absorbing landing shock. How about making them tricycle type anyhow?

I don't believe the Sperry Gyroscope company would approve of those quaint "gyro wing stabilizers." I suggest you check up on your gyro theory. A sphere is pretty rotten streamlining anyhow, but aside from the bad aerodynamics of the position, I personally object to the freedom with which Mr. Krupa assumes that a "gyro" will provide complete stability. I don't understand why the robot controls have to be "photo-electric." Why not just electric? Catchwords don't make scientific facts and the most maligned mechanism in all science fiction is the gyroscope. Writers have even had it pulling at its own shoestrings and "conquering gravity." Actually, it's a logical gadget and follows definite and well known natural laws.

But two gyroscopes sitting out on the wing of a stratosphere airplane will not, through any possible linkage—even including photocells—make the ship independent of air disturbances. I'll argue that with anyone who's interested, but their reasons had better be good!

Actually, the tremendous mass (not weight) of the ship will be its best insurance against bumps.

The weight of the ship does not increase as the cube of a dimension, and you are siding with the old pessimists who limited airplane sizes to Curtiss Condor amplitudes up to a few years ago. I refer you to Mr. Sikorsky's figures on that in a number of publications including the Journal of the Aeronautical Sciences.

For the real ship of 1938 I refer you to some of the ships which are on the boards of the major plants, especially the Sikorsky company, pictures of which ships Mr. Sikorsky occasionally exhibits at his lectures. It is too bad that Mr. Krupa couldn't have used them as references instead of the practically obsolete Armstrong Whitworth that seems to have been inspiration for his conception.

One other item,—Mr. Krupa entirely neglected the mention of boundary layer control, high lift devices, and improved control organs, which are the real frontiers of aerodynamics. Since the Armstrong Whitworth is C. G. Grey's pet, it is surprising that Mr. Krupa didn't also adopt Mr. Grey's "Venetian blind" system of slots and flaps for low landing speed. And the boundary layer control research is the real Amazing story of aeronautics, devices that produce negative drag, wings that can be raised to eighty degree angle of attack without stalling, and all of the real advances that have and are taking place.

No, Mr. Editor, I don't think your airplane is





## SCIENCE QUIZ ANSWERS

(Continued from page 107)

### TRUE OR FALSE

1. True.
2. False. Some bacteria would die in an atmosphere of oxygen.
3. True.
4. False.
5. False. Lithium is.
6. True.
7. False. The nickel content is only about 25%. The rest is copper.
8. False.
9. False.
10. False. The nicotine content has nothing to do with the strength.
11. False. The *sun* is.
12. True. Gold has a specific gravity of about 19. Pb is only 11.34.
13. True.
14. True.
15. True. Both are  $H_2O$ . The difference is in the constitution of the hydrogen atoms.

## SCIENCE TESTS

1. Hematite is the right one.
2. Fluorine.
3. Stratosphere.
4. Ethanol, or ethyl alcohol.
5. 2,000,000,000.

6. Graphite.
7. 500 seconds.
8. Photography.
9. Sodium Thiosulphate.
10. Nobel invented it about 1900.

STRIKE OUT THE WORD THAT DOES NOT CONFORM

- (a) Carbon—not a metal.
- (b) Chord. First four are trigonometrical ratios. The last isn't.
- (c) Solar system.
- (d) Mandatory. The others have to do with vibration.
- (e) Ossify—turn to stone, or to bone.

### SCRAMBLED SCIENCE TERMS

1. SODIUM.
2. VOLCANO.
3. PERIGEE.
4. EARTH.
5. KEROSENE.

MARK THE WORD THAT HOLDS TRUE

1. Phases.
2. Craters.
3. Radium.
4. Aluminum.
5. Manganese.

## PROBLEMS

1. He must select three socks.
2. Forty-nine trains.
3. You will pass the Hiawatha at exactly 6:37 $\frac{1}{2}$  P. M. or 2 $\frac{1}{2}$  minutes after passing the Chipewewa.

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# Meet the Authors

## JULIAN S. KRUPA

### Illustrator

I was born in Poland on January 7, 1913, and came to America long before my ability to remember was developed. However, I do remember that I was interested in drawing from the first, and even before I was four years old I was at it, using up a lot of white paper with drawings that had significance only to my own mind.

The first time my mother took me downtown, I saw a drawing set in a store window, and there was nothing else for her to do than buy the outfit for me—or else. The “or else” consisted of kicking and yelling and a firm decision to remain right there until I got what I wanted. It didn’t matter much to me that I promptly proceeded to wreck the outfit the minute I got home. I knew there were more where that came from.

However, even with this early start, I didn’t get much of anywhere with art work until about 1933. At that time I took a correspondence course and discovered that art was one thing you couldn’t master through the mail. I decided to get a teacher, and it proved to be a good idea, because I progressed rapidly thereafter.

For nearly three years I free-lanced, with some rather ordinary success, then I secured a job with a Polish newspaper doing rotogravure layouts, lettering, and all the routine work that goes with art work, and which the public doesn’t even realize is art work.

It was while I worked for this publication that I finally put down on paper an idea that had been boiling in my brain for a long time. The result was a cartoon strip done in Polish, patterned after “Flash Gordon.” I called it “The Adventures of Richard Arnold.” I believe I had the most fun of my early career working on this strip, and I put a lot of work into it. Especially since I wrote the story also. I often wished all I had to do was illustrate a story already written. It would have been much easier, because I don’t think I’m such a good writer.

I’d always been a science fiction fan, and when I saw the first issue of the new AMAZING STORIES, I decided right then and there to call

on the editors and try my own hand at this kind of work. And I found out that I liked it immensely. I get a great kick out of illustrating these stories, and an even greater kick out of reading the story before I illustrate it. These science fiction authors sure do have plenty of imagination, and it gives me a lot of opportunity to use my own imagination in creating illustrations to fit the story.

Each illustration I do proves more and more interesting to me. I think my favorites to date are the illustrations to “Monstrosity of Evolution,” “Pirates of Eros,” and “Kiss of Death.” As for the stories I liked best, I think “Locked City” and “Secret of the Ring” were great.

I am very much interested in what the readers say about my work, and I am anxious to know what they think, and to receive any suggestions they might offer. I believe they want an illustration which is “every inch a picture” and I try to make each of them concise, definite, and different. I

don’t like these hazy, hurriedly sketched drawings I’ve often seen in other pulp magazines. I use a brush exclusively, and there is no crayon shading, etc., in my work. I don’t like solid blacks either and prefer to stipple in my shadows, and to use a definite technique of cross-hatch or design in any shading either light or dark.

I have one fault (the only one I’m willing to admit, although I’m ashamed of it) and that is, laziness. However, I work from five to eight hours on a drawing, so I have that much to my credit.

I am also interested in music, and can play several instruments. I have played with several orchestras, and have conducted my own band. I have also played in a symphony orchestra, and I like good music. However, my greatest hobby now is photography, and I own two movie cameras in addition to other ordinary cameras. Amateur movies are my hobby, and I run off many thousand feet of film at every opportunity. I never go anywhere without taking my camera along.

At present I am discontinuing my cartoon strip, and going in full time for magazine illustrating.



And of course, this means AMAZING STORIES as my first love, because of all my work, I've never enjoyed any of it more than this. I think I'll continue to improve and as I discover the kind of illustrations the readers like, I'll give them more and more of the same.

I welcome the suggestions of the readers of AMAZING STORIES and I promise that I'll do my best to follow any helpful criticism.

At any rate, it's been great fun so far—*Julian S. Krupa, Argo, Illinois.*

\* \* \* \* \*

**FESTUS PRAGNELL** Author of  
**GHOST OF MARS**

I FIRST opened my eyes on this quarrelsome world on January 16th, 1905, which makes me 33 years old. My interest in Science Fiction dates from when I was nine years old, and read *First Men on the Moon* and others of Wells' stories in some bound volumes of old English magazines. When I was twelve I won a prize for a series of essays based on a course of lectures on Electricity and Magnetism. I was bracketed second best among the schoolboys of Southampton (pop. 170,000). A desire to emulate Wells was born in me then, and in spite of all discouragement, never left me.

Like most authors, I have seen life from many angles. I have been a railwayman, a printer, a factory hand, an umbrella repairer, a gentleman's valet, an agricultural laborer, a policeman, a telephone operator, a totalisator clerk and a qualified accountant.

My first published story was "The Essence of Life" in *AMAZING STORIES*. My novel, "The Green Man of Grayspec," was published in England, somewhat shortened, as a book.

For a while I had dropped Science Fiction, but recent developments in this field have given me fresh hope, and I decided to exercise my imagination on these lines again. "The Ghost of Mars" is a picture of exactly what I should expect, with luck, to find on Mars, and is peopled with human beings as convincing as I can make them with all due respect to scientific fact.

Signing off now. Yours till science and the humanitarian principles expressed by your great President have provided a healthier and happier life for everybody in the world.—*Festus Pragnell, Southampton, England.*

\* \* \* \* \*

**EANDO BINDER** Author of  
**THE MASTER OF TELEPATHY**

"THE MASTER OF TELEPATHY" is a story inspired by Professor J. B. Rhine's great book, *FRONTIERS OF THE MIND*. Experimental telepathy has been almost certainly achieved at Duke University, and it seems logical that in the next few years some startling things may be discovered about mind. Mental phenomena are the least catalogued and the most elusive of scientific data. A start has barely been made. It is unpredictable what may unfold. It is like Madame Curie discovering radium, or Marconi flashing his first wireless signals.

I've taken the liberty, in this story, of outlining a possible (though not probable) course for future research to follow. Using Rhine's famous ESP experiments as a take-off, the narrative carries out another, but fictitious, scientist's discoveries in psychic exploration. Since the psychic gift seems to vary with individuals (see Rhine's statistics) the most advanced psychic perception might just as well reside in any ordinary, average person, independent of his other attributes. I've used such an ordinary character, and tried to show its effects on his personal life.

Personally, I've tried the standard ESP tests, with rather negative results. I could never average more than 5.5 (within the limits of chance) by pack-reading. However, my brother Jack achieved some remarkable results. In his first ten trials, he averaged 7.8, well above chance. He averaged slightly above that with myself as sender. Which ought to prove my mind is easy to read.—*Eando Binder, New York, N. Y.*

\* \* \* \* \*

**NEIL R. JONES** Author of  
**THE KISS OF DEATH**

STILL in my late twenties, I am single and live not very many miles from Lake Ontario. In the science fiction world, my name has become more or less synonymous with that of Professor Jameson to whom I feel that I owe a great deal.

Meanwhile, out of the mellow past of departed centuries comes the tale of Kobera, the recreated slave girl. Untouched and regarding civilization like a plague, Quanzhu, a city of ancient Cambodia, has lived out an unchanged existence down the time stream. Why did I write this? Because I am a romanticist, and the idea of Bera's reptilian transformation appeared to me as a practical though fantastic possibility. Anything fantastic which nevertheless appears feasible is quite apt to prove intriguing.

This department is an assumption that readers are interested in the authors as well as their stories. They probably wonder how we devote our leisure, what our enjoyments are. During the summer, I swim a good share of the time, being qualified as a life guard. I occasionally play baseball and softball. In the winter, I ski and play basketball. An all year round occupation of mine is bookbinding of science fiction magazines. I dance considerably and also go to moving pictures quite often.

Science fiction of recent years has shown a tendency towards extreme brainstorms. Every author has tried, it would seem, to think of something even more preposterous, as long as it was original, to set to words, and editors have encouraged and even demanded it, creating a race suicide among the readers of science fiction and placing at least two magazines on a bimonthly basis. Yet without going extreme, the light science fiction books by Burroughs and others continue in popularity. The new *AMAZING STORIES* is a refreshing step towards a well balanced formula, and with the help of the readers in pointing a popular prescribed course the magazine is bound to improve and surge to the front.—*Neil R. Jones.*

MORRIS J. STEELE

Author of

## POLAR PRISON

**O**UTSIDE of being a regular science fiction fan I have little to say about myself from a science fiction angle. "Polar Prison" is my first science fiction attempt, although I've written other pieces which have had some mediocre success.

In matter of years, I'm quite on the young side, having still to see the shady side of twenty. Which makes me a rank amateur in both reading and writing.

I like to play baseball, basketball, and golf. Always have been active in athletics, both in and out of school, but right now I must admit my favorite sport is that strenuous one, sleeping.

"Polar Prison" was written one evening without any definite idea in mind. I just picked out a character, a stratosphere mail-robbler, put him in prison and proceeded to get him out. And could I help it if the controls went wrong and he landed on the moon instead? Incidentally it was written before Corrigan pulled his famous stunt, so please don't pin that on me.

Anyway, I hope you like it.—*Morris J. Steele, New York, N. Y.*

\* \* \* \* \*

HARL VINCENT

Author of

## PRINCE DERU RETURNS

**B**ORN in Buffalo, N.Y. forty-five years ago. At the age of five displayed strong inclination for drawing locomotives, umbrellas, coffee grinders, and other mechanical objects. The Lord Fauntleroy suits and the curls were eliminated after this.

Went through grammar school and Technical High School. Started mechanical engineering course at R. P. I. but quit this in favor of an early marriage after a few months. Naturally had to go to work, so the engineering education was finished in three years of night school work and hard study.

Worked at drafting for several years, then became a full-fledged engineer, specializing in steam power generation. Twenty years of this included design of steam turbine apparatus, supervision of tests and field troubles, then into the sales engineering of the same sort of installations. Finally became manager of a local steam division in the Sales Department of one of the largest manufacturers of such equipment.

\* \* \* \* \*

ARTHUR R. TOFTE

Co-authors of

LEO A. SCHMIDT

## PURGE OF THE DEAF

**A** RTHUR R. TOFTE and Leo A. Schmidt, co-authors of "The Empire of the Silent," are members of the Milwaukee Fictioneers. While this is their first attempt to collaborate, they have often exchanged ideas and plots for the full benefit of each other.

Mr. Tofte, whose biography appeared in the August issue with his story, "The Meteor Monsters" was married in June of this year and now

lives in Milwaukee. He has had stories in *Esquire*, *Family Circle*, and other publications.

Mr. Schmidt is a professor of Accounting at Marquette University, and has written a number of textbooks as well as fiction appearing in *Top Notch* and other action magazines. While this is his first venture in Science Fiction, he has scattered his ideas in the science field aimlessly about for the full benefit of his associate members of the Milwaukee Fictioneers.

The story, "Purge of the Deaf," was germinated through an idea for a plot based on human reactions to physical phenomena. Schmidt suggested the strongest of all human reactions—habit, to be the basis of a good science fiction story, and the idea of reversing or removing habits from people and studying the results.

\* \* \* \* \*

BENSON HERBERT

Author of

## GHOST OF MARS

Benson Herbert was born at Wallsend-on-Tyne twenty-six years ago.

Introduced to science fiction just about the time he entered college at Newcastle-on-Tyne, and after several attempts, published "The World Without." Later, its sequel, "The World Within" was written, and he was launched into the science fiction field.

Having first gained his B. Sc. with honors in physics, at Armstrong College, he obtained his degree of M. Sc. for radio research at Birmingham University.

A few months of practical experience in radio factories dampened his scientific ardor, and he proceeded to Oxford, where he added to his literary qualifications by reading for the B. A. degree, with honors in English. He is now teaching physics and mathematics at a school in Kent.

He combines mountain climbing with the investigation of prehistoric earthworks, being interested in anything which appertains to the Bronze Age and ancient British mythology.

Joining the local Aero Club, he gained his "A" certificate at the age of 19.

His latest work is a serious novel of philosophy, derived from the works of Emily Brontë.

## CORRESPONDENCE CORNER

Attention. G. C. Milburn, Van Der Spiegelstr. 38, Delft, Holland, wishes to secure June and October, 1937, and February, 1938, *AMAZING*. . . J. M. Rosenblum, 4 Grange Terrace, Chapeltown, Leeds 7, England, will swap copies of British S. F. items (see 1930), books, "Tales of Wonder," etc., for early issues of American science fiction magazines. . . James V. Taurasi, 137-07 32nd Ave., Flushing, N. Y., would like to buy the cover of the first issue of *Miracle, Science, & Fantasy Stories*. . . Warwick Hockley, 73 Marshall Street, Ivanhoe N. 2, Victoria, Australia, wants "Skylark of Space". . . John Cunningham, 2050 Gilbert Street, Beaumont, Texas, has *AMAZING* to trade.



# SPACESHIP OF 2038

(SEE BACK COVER)

Conceived and Designed by Julian S. Krupa

**R**OCKET travel is not a new idea. As far back as 1805, Sir William Congreve, an English general, who saw them in the orient, suggested that rockets might make good weapons. About 1850, Col. Konstantinoff, of the Russian army, began experimenting with a rocket glider.

Shortly before the World War, people began to talk seriously of flights to the moon and the planets. It soon became evident that if flight through space was ever accomplished, it would be a rocket that would do it. No other type of motor has enough speed.

However, it is easy to calculate how much initial speed would be necessary to send a "single-shot" rocket away from the Earth. Scientists estimate it to be 7 miles per second. At that speed, everything in the ship, including occupants, would be instantly ground to powder by acceleration shock at starting. Thus, it becomes evident that speed build-up must be gradual. Many plans have been made to accomplish this.

Professor Piccard and Professor Goddard, both eminent scientists, struck on the idea of using oxygen in addition to the regular fuel. Piccard wanted only to reach the stratosphere, and when he found he could do it with a balloon, he gave up rocket experiment. However, Goddard and others carried on, only to find that liquid oxygen is highly dangerous, and explosion hard to avoid. It takes enormous pressure to keep oxygen in a liquid state, and when the heat of the combustion or the exhaust begins to reach the oxygen tanks, something usually lets go.

Max Valier was killed in one oxygen tank explosion. Esnault-Pelterie (who worked out to the last decimal point the characteristics a rocket would need to get to the moon) was seriously injured in another. The rockets of both Oberth and the American Interplanetary Society came to Earth prematurely when their oxygen tanks blew up.

Rocket planes by Oberth and Tiling, using powder fuel, worked perfectly in atmosphere. Tiling was later killed. Nebel's liquid fuel rocket was more successful, and went to its ceiling at enormous speed, then dropped back on its parachute when its fuel gave out. Goddard is carrying on this last and more promising line of experiment. Even the American Navy has a rocket plane designed, which awaits only development of a suitable fuel.

In designing our conception of the ultimate result of these widespread experiments, we have been greatly aided by the staff of POPULAR AVIATION, by articles by the American Interplanetary Society, and by records of the old German Verein für Raumschiffahrt. In presenting a model ship design, we have taken into consideration many things which pertain to the construction of such

a ship in addition to the main problem of motive power.

They are problems suggested by our partial knowledge of the conditions space-travelers would meet out in the void between the planets. They are many, and they must be solved with great engineering skill and clever application of old and new principles.

First, out in space there is no air. Naturally this is an advantage to the flight of the ship, since there will be no friction to combat. The rocket motors, whose efficiency has been proven to increase at higher altitudes and at higher speeds, would attain 100% efficiency in space. The ship could be driven forward until enormous speeds were reached, even speeds of many hundreds of miles per second, depending on the goal. Theoretically, there is no limit to the speed possible, although Lorena and Fitzgerald have formulated a principle of contraction that implies a body shortens in the direction of its motion, reaching zero length at the speed of light. However, this is open to grave doubt, since Einstein has formulated (and apparently proved) that light has mass, in which case its speed would annihilate its own existence. Somebody is in error there.

Steering a ship would be easy in space, since even the slightest firing of a tiny rocket tube in any other direction would result in a slow swerving of the ship, which would have to be halted by a compensating charge in the opposite direction when the amount of turn was sufficient, since with no slowing down through friction, a motion once started must continue. A great deal of space flying would simply be "coasting" at a constant speed. A ship could "coast" to the end of the universe at a steady speed, not allowing for the possible slowing (or speeding) effect of planetary gravity of worlds and suns passed by. Such gravity would influence "course" too, and such a flight would not be straight. However, beyond any gravitational influence, the flight would be perfectly straight.

As a secondary consideration of the lack of air, it is evident that a spaceship must carry its own atmosphere. The air in a ship would soon be depleted, unless apparatus were supplied to replace the oxygen, remove the carbon-dioxide, and purify it for re-breathing. Such apparatus is already available, and could be quite efficiently placed in operation. However, the apparatus would have to be kept in perfect order, and run at a set rate, since a release of too much oxygen would result in a condition among the passengers very akin to "drunkenness" or lightheadedness. Too much carbon dioxide would swiftly induce lethargy and sickness.

Secondly, out in space there would be no gravity. No passenger would be able to walk, but would float about helplessly, unable to rescue

himself once he floated free of a wall, or an object, and came to rest. Such absence of gravity would certainly result in a sickness infinitely more horrible than sea-sickness. In the human ear there exists a gland which orientates the human being's sense of up-and-down, and gives him equilibrium. When it is disturbed, he becomes dizzy, and sick. That is why planes, roller-coasters, boats, etc., make many people sick.

Out in space, that balancing organ would be absolutely disturbed. The person would experience a dizzy sensation such as he could never imagine. He would experience a sickness that would absolutely overwhelm him. True, after a time he could adapt his body to these new conditions, but perhaps only regular passengers and the crews of space ships would eventually permanently overcome it.

Thus, we must produce artificial gravity. Centrifugal force has been suggested as a means, and certainly rotating the ship rapidly would produce an artificial gravity which could not be distinguished from the real thing. But it would be impossible to navigate a ship rotating so swiftly. No observations of the stars could be made.

Thus, we have designed a passenger section in our ship, taking up the central portion of the ship, entirely enclosed by the outer hull, which is rotated like a huge drum around a magnetic rotor. The passenger staterooms would be grouped about the outer rim of this inner hull where greatest gravity would be maintained, together with lounges, theatres, and all other quarters requiring Earth gravity. Sports, such as swimming, etc., would require Earth gravity. At the bowels of the ship, other sports, where absence of a great deal of gravity might be conceived as enhancing the game, could be held. Contact with this rotating portion of the ship and the other two, non-rotating sections in the nose and tail, would be made by means of a connecting elevator running the length of the ship in the central shaft about which the whole revolves. It would be there that the speed would be slowest and the change could be made without difficulty.

In the forepart of the ship we would have no gravity, no rotation. Here, of course, no passenger could venture, unless he first underwent a "conditioning process" which would enable him to fight off space-sickness, or else was insured to it by previous voyages. An artificial gravity would be created, so that the crew could move about on their feet, by use of magnetic shoe plates. However, such gravity aids would not prevent sickness, since they would not restore balance to the delicate organs in the ears. It is an inaccurate term to refer to these as gravity shoes, since in reality, they are only attraction shoes to aid progress.

Third, out in space, cosmic rays, ultra-violet rays, and perhaps many other unknown emanations are present in unfiltered form. There exists no 200 mile atmospheric blanket to shield them off, to reduce their potency. A space traveler would soon find himself hemarded by harmful rays. Thus, the outer hull of the ship would need to be insulated in a powerful manner. All ports

would need to be a type of glass or polarized quartz which would filter out ultra-violet, otherwise even momentary exposure to sunlight would result in severe burns.

Fourth, space voyages will take a long time. Many months may be required. And large stores of food and water would need to be carried. Water is a great problem, because of its weight. However, no water would be wasted out in space. It would all be used over and over again, through a distillation process.

Navigation of a spaceship would not be the simple matter of navigation on an ocean. Every body in space has a motion which must be taken into consideration. It wouldn't do to aim for the planet you want to visit. It wouldn't stay there to wait for you. You'd have to aim at the place where it would be when you got there.

And the gravity attractions of every nearby body would need to be accounted for in the course plotted out by the navigators. The engineers would need to carefully calculate and execute the necessary steering blasts by the proper steering rockets, and compensate them with a measure of exactness that would drive an ordinary engineer to distraction. Even a fraction of an inch deviation at the start of a voyage would result in millions of miles deflection from the proper course at the end of the journey. Of course, constant course correction would be necessary.

The tail of the ship would contain its driving motors. Probably it would consist of a main hasting tube, tapered to gain the utmost of concentrated repulsion, and made of a special hardened and heat-treated metal.

This main rocket would only be used on taking off and landing. Smaller auxiliary rockets would be used mostly, out in space, since little power would be needed to send the ship forward without any force of gravity to overcome.

Fuel will be some super fuel, possibly a new liquid fuel, used in connection with liquid oxygen, liquid hydrogen, etc. Explosive fuels would be kept in compartments where the cold of space was allowed entrance, thus obviating danger of explosion due to heat expansion. They would be mixed in gaseous form in a special preparatory chamber, then released into the firing chamber of the rockets. An electric spark would fire the rockets.

The outer hull of the ship would probably be furnished and possess a reflective power. Travel in the sunlight would mean intense heating up of the hull unless it had the power of reflecting the rays rather than absorbing them as heat. Heat inside the ship could escape only by radiation, and thus would be lost only very slowly. It would be an easy matter to maintain a comfortable temperature.

Radio and television will no doubt play an important part in the navigation and recreational functions of the ship. However, what sort of radio waves will be used in space we can only guess, since the Heaviside layer has thus far prevented any definite knowledge of the efficiency of their operation in empty space. Theoretically it would be almost unlimited.

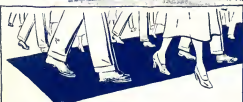
# Believe It or Not!

by Ripley

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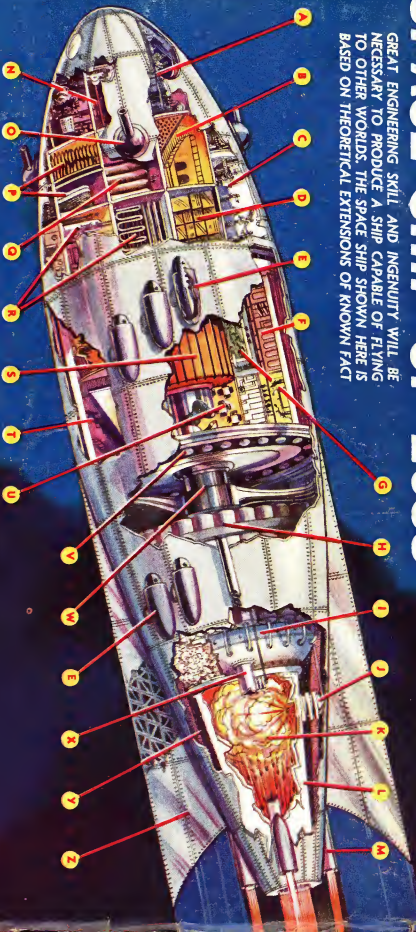
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# SPACE SHIP OF 2038

GREAT ENGINEERING SKILL AND INGENUITY WILL BE NECESSARY TO PRODUCE A SHIP CAPABLE OF FLYING TO OTHER WORLDS. THE SPACE SHIP SHOWN HERE IS BASED ON THEORETICAL EXTENSIONS OF KNOWN FACT



Man, in his science, has begun to realize that he can travel to other planets. Scientists have set their minds to the problems that confront space travel, seeking a means to overcome them. True, they are many and complex, but not unsurmountable. First, and most important, is the matter of escaping the colossal pull of Earth's gravity. Science tells us it would be necessary for a body to attain an initial speed of 7 miles per second in order to completely escape the influence of the Earth. But for that we need a tremendous amount of power—more power than any fuel we know today can give us. Out in space, too, there are problems. How will the human body react to gravity-less existence? How will we produce and maintain healthy Earth conditions out in space—atmosphere, pressure, equilibrium, protection against harmful rays, etc.? In designing this imaginary vessel, we have taken all this into consideration, and it seems very likely that space travel, when it comes, will be accomplished by ships such as this. (See page 145 for further details.) Copyright 1938, AMAZING STORIES

- A Pilot & Robot Control Rooms
- B Stairway & Corridor Foyer
- C Navigation Rooms
- D Freight & Storage Section
- E Lifeboat & Launching Tube
- F Passenger Staterooms
- G Gymnasium & Recreation Rooms
- H Fuel Tanks
- I Cry-Hydrogen Mining Chamber
- J Ejector Caps
- K Major Explosion Chamber
- L Tapered Main Rocket Tube
- M Auxiliary Rocket Tubes
- N Engine Rooms
- O Steering Rocket Tubes
- P Air Conditioning Equipment
- Q Oxygenation Chamber
- R Water Condenser Units
- S Magnetic Gravity Rotors
- T Theatre & Lounge
- U Dining Rooms
- V Gravity Deck Main Bearing
- W Main Shaft & Elevator
- X Auxiliary Blast Chamber
- Y Insulation Hull
- Z Atmospheric Rudders