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THRILLING WONDER STORIES

## VOL. 8 <br> No. 1

AUGUST, 1936

| IN THE NEXT ISSUE | Table of Contents - EDITORIAL |
| :---: | :---: |
| DICTATOR OF THE ATOMS | INTRODUCING THE NEW THRILLING WONDER STORIES by the Editors ......................................... |
| A Uipipping Novedette of Science Gone Mad | - COMPLETE NOVELETTES |
| ARTHUR 1. BURKS | BLOOD OF THE MOON <br> by RAY CUMMINGS |
| - | THE HORMONE MENACE <br> by EANDO BINDER $34$ |
| AN-JEWELS | THE CIRCLE OF ZERO <br> by STANLEY G. WEINBAUM ...................... 48 |
| XOTHAR | THE LAND WHERE TIME STOOD STILL <br> by arthur leo zagat ....................... 78 |
| rauders from space in Quest of Treasure | DEATH DIVES DEEP <br> by PAUL ERNST |
| By | - THRILLING SHORT STORIES |
| - | THE DRONE MAN <br> by A. Merritt |
|  | THE Nth DEGREE <br> by MORT WEISINGER . . . . . . . . . . . . . . . . . . . . . . . . . 61 |
| A Novelette of Fantartic Menace | REVENGE OF THE ROBOT <br> by OTIS ADELBERT KLINE |
| By | - SPECIAL PICTURE-STORY FEATURE |
| RALPH MILNE FARLEY | ZARNAK <br> by max plaisted |
|  | - DEPARTMENTS AND FEATURES |
| SHADOW COLD | TEST YOUR SCIENCE KNOWLEDGE............... 77 |
| in an Exciting Novelette | SCIENTHETLM REVIEW |
| By | SCIENCE FICTION LEAGUE ............................. 116 |
| AY CUMMINGS | ANNOUNCEMENT OF "'SWAP" COLUMN ......... 127 |
|  | - |
| - | - ON THE COVER |
| -and many other unusual Novelettes and Storias | Men of the past, present and futupe in strange combat. This scene depicts the climax of Arthur Leo Zagat's novelette of a vortex in time, THE LNND WHERE TIME STOOD STILL. |

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## 



## CHAPTER I

## Fall of Five Thousand Miles

HE stood before Georg Frear's metal desk, with the blue Morral tube-light shining upon him. He was small and slender, pale as all Lunites, with ringlets of dark hair clustered on his forehead. He had just come through the pressure lock from the airless Moon surface; his air suit hung in deflated baggy folds; his helmet thrown back.
"I am registered here," he said timidly. "I have brought my dust for you to buy." He took from his belthooks two small bags of insulated themacoid and proffered them.
"What name?" asked Georg Frear.
"Lohlo Wills."
Georg found the record card. Parentless, under-age boy miner.
"Your age now? It isn't here."
"I am seventeen Earth-years."
"Do you live alone? No guardian?"

## Raiders from the Planet Mars Wage a

# MOON Brpactummings <br> Author of "Giar in the Golden Atom," "Brigands 

 of the Moon," etc.the dome exploded outward
"I live alone. My Father, who is dead now, left me the little mine. It is legal? There is one-eighth decimar* on deposit with you in my name? You will buy my dust and add it?"

His timid voice carried an anxious, frightened note. He stood shifting his weight from one foot to the other while Georg examined the records and tested his offering.
"All correct," Georg said, finally. "This values two hundred five and sixtenths gold dollars. Do you want the currency?"

The lad brightened. "Oh, thank you."

He was a romantic-looking young fellow, pinched of face from overwork alone in his tiny mine down on the plains of the Mare Imbrium; but his features were delicately moulded; his big dark eyes had lashes as long as a girl's.

- Decimar: Platinum stamdard-the approximate equivalent of ten thousand gold-dollars.

Georg Frear, six-foot, blond young manager of the Archimedes Radium Corporation, had just come in from outside and was still wearing his air suit. By Lunar time-routine it was now just before the evening meal.

The Archimedes Mine, here midway up in the giant mountain crater, was shut down for the time of sleep. Strange little settlement clinging to the airless, waterless, naked crags of the precipitous mountainside! All under glassite domes, within which Earth's normal air pressure was maintained. There was a huge spread of glassite over the mine workings, with the electro-borers beneath domes of the mine shelters and refineries; and around them, on ledges above and below, hung the honeycomb domes of the workers and their families.

A cluster of government domes was here also, for this was the seat of the Colonial Moon Government. Two thousand mine workers, government officials, and police garrison were housed here, their dwellings all connected by low-lying little air galleries.

FROM the open door oval in the rear of Georg Frear's office came a shouting voice:
"Georg! You, Georg, come here! By the gods - the transport ship at-tacked-"

Georg leaped to his feet. He had not yet donned an indoor weighted belt or weighted shoes, and the incautious movement flung him perilously upward in the low-vaulted metal office cubby.*
"What's that?" he called.
"The transport ship-come look!"
The small space-flyer of the Archimedes Company had left for Earth only a few hours ago. It carried semirefined radium dust to the value of some forty decimars. And Governor Allen of the Moon was a passenger on it, making the trip to confer with the President of the World Federation, in London City.

The corridor was only some fifty feet long. Georg, with Lohlo Wills

[^2]after him, dashed through it, into the low-vaulted rectangle of one of the mine instrument rooms. The Morral lights were ultra dim. Around a small electro-telescope a group of officials was gathered. The telescopic image was magnified through a prism series, and was spread upon a little two-foot mirror grid so that in the gloom all might see it. The mirror with its moving image was a bright spot in the darkness; the figures of the dozen men and the one young girl were a blur, faintly lit by the blue tubes and by the earthlight and starlight which shafted slantingly in through the room's side bull's-eyes.

John Vane, governor in Allen's absence, had called Georg.
"Look! Rob Grant spotted itaudiphoned it from the Crater-peak Observatory," he said. "A Nomad ship-"

The silent drama of space had almost reached its climax. The little transport ship, Queen of the Starways, showed clearly etched against the starfield of the mirror grid image. And behind and above it was another shape-a long, black, queerly domed vehicle. A Nomad ship.

No lights were upon it save the faint radiance of its interior glow, visible through the transparency of the glassite double-peaked dome. No signal clusters gave it nationality. An outlaw.

Georg found himself in dimness beside the girl. Her hand reached and clutched him. They peered at the mirror, breathless, wordless. For more than a decade now no Nomad ship had dared to roam the starways. Yet here was one, coming mysteriously so that no telescopic warning of its nearness to the Moon had been given -mysteriously appearing and attacking the little Moon-to-Earth oretransport.

The attack was already a reality. A bolt, with a rush of blue-green electrons, had already flashed and struck the Moon ship. And now came another, with the transport's short-range answering bolt crossing it like a puny sword dashing against a leaping cutlass in the sky.

THE transport already was in distress. The telescopic image on the mirror grid steadily clung to it; but the starfield of the image was shifting, whirling; a limb of the yellow Earth-disc came into view, and passed with a swoop out of the field. The transport was rolling, out of control-falling-

The Nomad ship had vanished. Out of the narrow vista of the mirror grid. Then Vane swung the telescope barrel. The heavens swooped with a streak of light-points across the little mirror: stopped, and showed the poised black shape of the enemy vessel. Then Vane swung the image back.

The transport was visibly so much larger now 1 Closer. A rolling, swayIng shape. Georg knew it had reached a scant five thousand miles of its Earthward journey. And now it was coming back. Falling for the Moon
surface like a crashing meteor.
Vane gasped. "Its dome may be punctured. That first electronic bolt -air rushing out-all of them dead now-"

Georg felt the girl beside him trembling. "No, Aura-I don't think so," he murmured. "Blake will wait-conserve his power-use his repulsive ray later-at the end."

The minutes passed. Half an hour. Silent, rushing fall.

On the mirror, the tumbling little transport seemed poised, motionless, and only the background of stars was moving. But there was that horrible, constant enlargement of visual size. A thousand miles altitude now, as the stricken vessel rushed and tumbled downward. And details were showing up with its nearness. The dome did not seem to be punctured. Perhaps the air on board was still breathable. With clenched hands Georg sat star-

The recent (June 15, 2536) scathing statement of Senator Rathe in the World Congress of London City to the effect that all Martians should be deported from our Moon Colony as undesirables, has stirred an enormous controversy. Fortunately the Goverument of the Martian Union has accepted Earth's official apology; but nevertheless, the Ilton newscasters of Mars have stirred up much public feeling against Earth people which cannot but be harmful to the friendliness outwardly existing between the two worlds.

Senator Rathe's suggestion is impractical, of course. There is too much Martian capital invested in Lunite industry. And too much Martian blood is mingled in the veins of native-born, loyal Lunites. It is unjust also, for all Martians on the Moon are not trouble-makers. Yet it does seem that of recent years, the human blood which has been spilled upon the Moon has all been caused by Martian lawlessness. Blood of the Moonl The phrase seems destined to go down in history as the symbol of this decade. Humans killing each other on our small bleak satellite, when all the rest of the civilized Universe momentarily is at peace.

Out of this controversy one good undoubtedly will come. There is no question but that the Moon has been inadequately armed. So isolated a post, so rich with mineral treasure, it always inevitably has been a temptation and a target for lawlessness. This will be changed now, of course. In the recent disturbance, which cost the lives of many, and very nearly brought death to Governor Allen and his daughter, the Archimedes Radium Corporation stood to lose radium dust to the value of some 440 decimars, the equivalent of four million, four hundred thousand gold-dollars. The action of the company's young Moon Manager, Georg Frear, in protecting the governor by freely risking such a sum, has been justly applauded. And undoubtedly now, after such an experience, the Archimedes Company will see the wisdom of fortifying the Moon at its own expense, if our World Government does not do it.

In the brief but tumultuously tragic affair, there was one unsung hero-the little parentless Lunite boy miner named Lohlo Wills. Of Earth parents, he was born in the Archimides foothills, at the border of the Mare Imbrlum. He gazed with humble adoration on the face of a girl to whom never could he aspire. Gazed and loved. And that humble love urged him to heroism without which the whole affair would have had a very different ending; and the fiery Senator Rathe might now have public sentiment back of him which would plunge us into war with Mars.

I tell the story as young Georg Frear lived it. But really, it is the story of the little Lunite hero, Lohlo Wille.
ing, tense, waiting for the inevitable soundless crash. A fall of five thousand miles.
So close now that it was swaying on the mirror. A glow was upon itenveloping it; and Georg knew that its velocity, even in the near-vacuum of space, was heating its dome and hull; that probably the temperatureequalizers were not working.
"But if he doesn't use emergency repulsion soon," someone said, "they'll be smashed to splintered molecules in the crash. The governor killed-"

It made the girl gasp. "Father-"
Blake quite evidently was trying emergency repulsion. A faint beam of radiance streamed downward, swayed drunkenly from the tumbling movement of the falling vessel. Then Blake seemed to catch the range. From the side bull's-eye of the room, Georg saw the direct, actual glow of the beam as it momentarily swung downward and struck the Moon surface. The transport must be almost over Archimedes; it would land somewhere close to them on the mountain probably.

Vane was saying something like that. A rescue party must be made ready. Men with air suits, to rush to the wreckage and try to save what survivors might still be alive in it.
"If only Blake can steady her," Georg murmured to Aura. "His gravity plates can't all be out of commission. Get her steadied, hull down. Check this fall-"

T
EORG became aware that beside him the little Lunite boy miner was crouching, peering wide-eyed, breathless like all of them. And plucking now at Georg's baggy sleeve with gloved fingers of his air suit.
"The governor of the Moon-is he on that ship? Is this-is this his daughter?"
"Yes. This is Aura Allen."
The lad murmured, "Oh."
He peered. But now it was not at the swooping, tragic image of the falling ship, but at the white, strained face of Aura Allen. A shaft of Earthlight came from a side window, tingeing her head and shoulders with its
warming, mellowing, golden glow.
She was a tall, dark-haired girl of seventeen. Her figure was boyish with slim immaturity; her face pretty, but not unduly so. It was a strained, contorted face now; and upon it, through minutes of tense horrified silence, the Lunite boy miner gazed as though star-crossed by its beauty.

Fifty miles of altitude now. There was no change in the image of the falling Queen of the Starways save that it was gruesomely larger, and gruesomely falling end over end. But not falling free. Blake's radiance streamed downward, rhythmically with each rotation. But it would crash, of course. Crash somewhere here on the mountain of Archimedes.

The men in the room were on their feet now. "Get your air suits on!" Vane shouted. "A dozen of us. Toms! You, Toms, get one of the big volplane platforms ready! Quicker than going on foot."

The audiphone on the room wall was buzzing, but no one heeded it. In the confusion Georg became aware that Aura was gone from beside him; and across the room he saw the baggily-garbed figure of the Lunite boy darting into a door oval. Georg ran after him, awkwardly, with long flat leaps; and in the adjacent air corridor caught up with him.
"You-Lohlo Wills-what are you doing in here?"

The boy miner instantly stopped. "She-the daughter of the governorshe came this way." He gestured toward a descending narrow crosspassage. Georg hastened on.

The cross-passage led, he knew, to a small air-pressure lock-an exit to the outer mountainside. Behind him, Lohlo Wills was following. They came, within a hundred feet, upon Aura. She was donning an air suit.

On the rack of the corridor wall by the small air-lock entrance lay a tenfoot long volplane.* Her personal

[^3]vehicle. She had her suit on, with helmet dangling, and was hauling down the volplane when Georg dashed up.
"What are you doing?" he demanded. He seized her. "You're not going out alone-all in a rush like this."

She flung off his hold. Her luminous dark eyes were blazing. "Am I not? Cast me loose, Georg Frear."

AGAINST the wall the Lunite boy stoad gazing, breathless.
Georg said, "Well, you're not. You'll kill yourself. You're all in a panic. You'll crash."
"Will I?" She eluded him and shoved the light bulk of the volplane with a grinding slide over the threshold of the air-lock entrance; and, panting, swung to face him. "Will I? You know how skillful I am." Her voice turned to pleading. "That flyer falling-my Father in it-I-we can be there first. Before any of the others."
"But it may be a hundred miles from here. Suppose even a minor mis-hap-this tiny volplane-"

She made a gesture of violent impatience. "Let the others come after us. No one can volplane with a speed like mine." She seized him; shook him. "Georg, please! My Father, suppose-suppose he is lying suffocat-ing-and you stand here keeping me away. At least I can share my air with him until the others come."

She spoke the truth in that, and Georg knew it. He shoved her into the air lock.
"All right, we'll go. Rig your suit. I'll switch on the pumps."

Again the little Lunite boy miner was with them; his gaze was still on Aura's face as though in all the Universe there was nothing else at which he could look. And he was humbly pleading:
"Oh, please let me go with you. I have handled my Father's volplane. And I know so well all the country of the Mare Imbrium."

Georg shoved at him; but he, like the girl, stubbornly resisted. "You let me go with you, please."
"Oh, well-" Georg said, and closed
the air-lock of the inner door. The pumps hissed and thrabbed, pumping the air out of the lock. The three hooked their helmets, and switched on their mechanisms.

The air bloated their suits grotesquely; the batteries and mechan-isms-all the tiny equipment of airgenerators, oxygen renewers, carbon dioxide absorbers, the circulatory system, and the Erentz pressureequalizing current - were lumped across the back and shoulders; the helmets were huge, with a round, single-eyed visor-pane.

Georg touched the metal tip of one of his bloated, gloved fingers to the metal plate on Aura's shoulder to give audiphone contact.
"All working correctly?"
"All correct, Georg."
And Lohlo answered the same. The air in the pressure lock was soon exhausted. Georg slid open the outer door. Together the three moved out into the airless, soundless darkness of the Lunar night, dragging the volplane after them. A dark, iron-railed ledge of rock was here. Beyond it, a precipice dropped off, with the tumbled rocky ramparts of the giant crater of Archimedes widening out down in the lower darkness, six thousand feet down to where the rippled, undulating, rocky expanse of the Mare Imbrium stretched off to the distant horizon. A dark area, dotted with the occasional light clusters of the scattered, privately owned Lunite mines. A few thousand people hereand all over the rest of the Moon, only bleak deselation.

A URA stood gazing upward, with A Lohlo beside her. Georg slid the volplane to a small take-off platform, unrailed at the brink. Then he found Aura with him, her hand on his shoulder, her audiphoned voice microphonic in his ears.
"Georg! Look quickly-"
The falling Queen of the Starways was visible for just an instant, up against the starfield with the great yellow haff-quadrant Earth-disc behind it; and to the side, the shaggy upper terraces of the circular narrow-
ing mountain loomed another six thousand feet or more up to the giant crater lip of its summit.

Georg held his breath. The whirling, tumbling little blob which was the falling vessel came swooping down with a streak of radiance after it. Just for an instant, then it was lost behind a huge overhead rock projection nearby. Now must have come the crash. Soundless here. Soundless, even if it had been only a score of feet away.

Aura's voice quivered. "Oh, Georg, it did crash-" she gasped.
"Yes. Here on the mountain. A little lower down-I can guess about where."

They found Lohlo stretched waiting on the volplane and they crouched with him. Aura took the controls.
"You guide me, Georg. Where you think it struck. And then we-we'll probably see it."

The tiny volplane vibrated, lifted, moved from the ledge. They sailed in a crescent arc, outward and upward into the Lunar darkness.

## CHAPTER II

The Pyroprint Message

PRECARIOUS business, this volplane riding; to Georg it had always seemed hazardous in the extreme, for he had never been skillful at it. He crouched now, close under the tiny forward hood, clinging to the handles of the foot-high side rails; and occasionally raising himself to peer forward and down at the shadowed expanses of rocks beneath.

As they circled, the huge mountain ramparts were always to the left; occasionally they barely skimmed upstanding crags, or again were a thousand feet or more above the mountain's lower slope where it widened into the reaches of the Mare Imbrium. Uninhabited mountain fastnesses, everywhere here. The grey-black, porous rocks were inky shadows in the hollows, and the ridges, spires, and peaks were tinged with white starlight and the soft yellow glow of
the Earth-disc. All was very still.
Ten minutes or more passed. The platform was seldom level, for it was a frail, unstable little vehicle. To handle it was far more than mere management of the controls. Georg, at Aura's suggestion, crouched fairly motionless; but behind him he could feel Aura and Lohlo shifting their weight sideward, or forward and back, to make the draft lift or dip as the controls altered the gravity pull in Its tiny plate sections.

Like a bird, wheeling, soaring, swooping. Presently, far ahead and down, on a broken ledge of rock with a precipice on one side and on the other a great broken ramp of steeply sloping mountain lay the wreck of the little transport.

The Queen of the Starways lay bow down, wedged into a cradle of rock. Georg went cold. The ship's back was broken on a ridge; a jagged spire, like a huge needle, had penetrated the stern-hull and dome; the bow-dome was shattered and gone, exposing the small forward deck triangle on which a litter of wreckage was strewn.

No lights were on the ship, no air save perhaps down in some small compartment cut off from the rest by safety air bulkheads, where a little fetid atmosphere might yet remain. A ship of death. There would be only the dead remaining here.

Georg, turning, saw through Aura's visor-pane, her white, strained face illumined by the tiny interior light within her helmet. She did not speak; but crouched alert, busy dropping the volplane to land beside the wreck. They landed with a soundless little thump. The broken hull loomed above them-a narrow, jagged rift was here near them, with the broken gravity plates dangling, and the interior darkness solid black inside.

Georg shoved his companion away; like a giant of strength with only the moon gravity holding him, he seized a broken, loose segment of metal, lifted and heaved it aside.

The interior of the wrecked vessel was black; Georg's tiny torch darted with an eerie beam. The silence and the deadly chill of death already
were here in these dark, broken corridors and rooms. The three prowled like ghouls, their bloated air suits and goggling helmets monstrous travesties of the human form. Nothing but the dead here in this airless litter.

THE Queen of the Starways was a scant sixty feet long. Georg knew that only eight men and Governor Allen had been on board. One by one he was finding the bodies, gruesomely diverse in attitude, each fighting for his life to the last.
"Aura, stay back! Lohlo, you hold her. Keep behind me."
"But, Georg, you--you haven't found Father yet?"
"No. Not yet."
They prowled to the steeply slanting upper deck. Another body here. Governor Allen? No. This one was Commander Blake. All eight were now accounted for; but Aura's father not found yet.

Through a dangling, shattered segment of the glassite dome a dark blob showed overhead against the starfield. Georg stared. A circling, swiftly moving blob, and Georg saw that it was the larger volplane bringing the others. The rescue party coming here from the mine. But why did it not come down? It passed in a semicircle. Then suddenly it rose higher and swiftly made off, and in a moment was lost behind a mountain crag.

Something very strange about all this. Governor Allen's body not here-

In a corner of the small central salon was a railed, barred enclosure. Commander Blake's office, containing the ship's small vault, within which Georg knew the forty decimars of semi-refined ore was kept. Upon impulse he cleared away the litter which now lay around the metal vault. The vault door stood dangling, melted by a heat-torch, its lock and hinges fused and broken. The interior was empty, save for a few scattered papers. The insulated little box containing the forty decimars of dust was gone!

Robbery! But how? When? The Nomad ship!

In all that tense time of horror, watching the transport's long tragic
fall, Georg had hardly thought of the attacking enemy vessel. The image of it had faded upward as the Queen of the Starways fell back to the Moon. Presumably the Nomad ship had made off into space. Georg and all the others had ignored it. But where did it go? Where was it now? If it had swooped down, unnoticed, it could have landed here on the Moon by now.
"We've got to get out of this!" Georg said. "No right to be here-like this!"

Vane and the rescue party on the larger volplane had suddenly decided not to come down to the wreck! Why? Georg shoved Aura toward the broken doorway of the salon. Then he saw the grotesque, bloated figure of Lohlo, stooping over Commander Blake's desk. Lohlo's arm gestured.

They all bent over the desk-over a little pyroprint, scrawled book-cylinder. Commander Blake's writing. His last notes, made while the vessel was falling.

> Eight hundred miles of altitude. We will crash-these probably my last written words.

A fragment followed-Blake's goodby to his loved ones on earth. Georg read it hastily. Then came other brief entries, written obviously at hasty intervals as Blake saw inevitable death so swiftly approaching.

THE explanation of the robbery was there, the Nomad ship's attack, the disappearance of Governor Allen.

> Nomad ship enveloped with darkness bombs, contacted and boarded us five thoussand miles out. I surrendered at Gov. Allen's order, to avoid loss of life by futile resistance. Nomads appear to be Martian outlaws. They melted vault took tust box. And took Gov. Allen unharmed with them for hostage-protection. Cast our vessel loosecthen from neary suddenly bombarded wrecked us. Am trying repulsive emergency- seems uuselessfear- Almost the end. You watch out -enemy vessel-

Blake had written no more. Georg's
mind flung back. What they had seen on the telescopic mirror grid was the end, not the beginning, of the transport's encounter with the murderous Nomad.
"A warning to us!" Georg gasped. "We should not be here-"

They climbed hastily out of the wreckage; stood down on the ledge of rock, with the precipice beside them and the upper reaches of the giant mountain towering overhead. The starfield seemed empty. Then Georg made out the tiny moving black dot which was Vane's volplane. It seemed to be heading back toward the mine, out of sight behind the mountain's curving ramparts.

And as Georg stared, from an inkshadowed mountain ledge no more than a mile away, a narrow curving bolt leaped up. It spat past the speeding volplane and missed. The Nomad ship had landed, and was firing now, at Vane's volplane, which was trying to maneuver out of danger !

Another curving flash. A hit! A puff of light showed briefly out there against the stars-gruesome light to mark the shriveling of the tiny sailing vehicle and its human occupants. A few fragments glowed briefly as they fell.

Then the empty vessel turned its weapons on the mine. A stabbing searchlight shot out. Then a penetrating, revealing Zed-ray, which would disclose the interior of the domebuildings. And at a few seconds' intervals the curve-bolt, and a wide, intensely violet beam, with a direct electron rush which, if it struck the mine dome and persisted for a minute or two without neutralizing interference, would melt through. Or derange the Erentz pressure-equalizers so that the mine buildings would explode outward from their interior air pressure like an old-fashioned, bursting powder bomb.

The assault on the mine had begun! These Nomads, not satisfied with their forty decimars of loot, were trying to wreck the mine where, Georg knew, was housed some five hundred decimars of ore-dust in various stages of purification!

## CHAPTER III <br> Attack of the Nomad

$T^{\text {B }}$EORG and his companions stood beside their volplane, staring stricken at the distant, silent drama. And now the mine was answeringits bolts crossing those of the enemy, bursts of silent, lurid light, with showers of interference sparksbrilliant pyrotechnics against the stars, dimming them and painting all the jagged precipices of the mountain with brief electric glares. The glare disclosed the Nomad ship. It lay comfortably cradled on a broad ledge of rock with a precipice on one side and a vertical mountain wall on the other. Whatever artificial darkness had enshrouded its arrival was not being used now.

A bolt from the mine struck the Nomad full on, and for a moment clung. Georg held his breath. Under the shower of interference sparks the lights of the vessel went dim; but the dome held unscathed. The mine-bolt yielded; snapped off.

Georg suddenly was aware of Aura and Lohlo clutching him. And the Lunite boy miner's voice saying:
"But her father is on that enemy ship! Your men at the mine do not know it. If they fight like this her father will be killed."

True enough. Greggson and Smith were in charge of the government buildings and the mine, now with John Vane killed and Georg away. They would fight; and if they shattered the Nomad ship, it would kill Governor Allen. And they did not know he was there; they of course believed him dead in the wreck.

But Georg knew it-and he was standing here inactive! "We'll have to get back to the mine-" he gasped.

Their volplane started; they headed outward over the Mare Imbrium; but almost at once the speck of their volplane was discovered. A bolt leaped with a dazzling radiance past them. Then another-closer, horribly close for all that Aura hastily swung back toward the shadows of the mountain
crags to avoid a horrible death.
"Land us! Too dangerous!"
They dropped wildly into a shadow; landed with a thump that bent the frail bow of the volplane and knocked the breath from them all even with the bloated protection of their air suits.

Again they crouched on the rocks. No bolts followed them. A search-ray tentatively swung, did not reveal them, and then, as though uninterested, turned away.

They were closer to the Nomad ship now, and from their new point of vantage they could see the mine, ten miles or so beyond the enemy. Dwarfed by distance, the cluster seemed a fantastic little model of human habitations-the main low government dome; the spread of glassite over the mine workings; the groups of workers' dwellings scattered at different levels on the mountain ledges; and the whole strung together with a snakelike tangle of airconduits and corridors.

FOR a moment now there was a lull in the crossing electron streams. . . . Georg stood trying to determine what he should do. To move from here with the volplane was too utterly dangerous-they had just proven that . . . The bleak rocky darkness of the scene ahead abruptly was rifted by a shaft of signal-light. It leaped from the Nomad vessel's bow-peak-a narrow white beam. For a moment it stood straight up, into the black void of star-strewn space. Then it began waving.

And Georg, staring, gasped back to Aura: "A signal! Inter-planetary open code! Look-it's in English!"

He read it:
Another flash from you, we will kill Governor Allen. He is here captive. Still to now he is unharmed. He commands John Vane and Georg Frear raise signal-lights of surrender.

Had the governor really said that, even to save his own life? Georg doubted it. What would Greggson and Smith reply? Georg and the silent Aura and Lohlo stared. Minutes passed; but from the dark inactivity of the mine no sign came. Then, out
there, close over the government domes, it seemed to Georg that he could make out several tiny moving dots. Volplanes already issuing from the mine portes! Greggson and Smith taking the aggressive! They thought the signal was a bluffing lie!

A Zed-ray sprang and clung to the wheeling group of dots. Then a bolt leaped at them, seeming to miss and striking the main government dome with a shower of interference. The volplanes vanished.

The enemy signal spelled:
"Unless you raise surrender signals in five minutes, Governor Allen will die."

But Greggson and Smith wouldn't surrender. Georg knew it. If only he could signal them. It left him only one course of action. He had full authority to act for the Archimedes Company.

He whirled on Aura. "You and Lohlo stay here! Don't move-don't show yourselves! You'll be safe. I'll end this affair in an hour. Those pirates want only money."

She gasped; and he saw her strained white face behind her visor-pane. "What are you going to do?"
"Never mind. I'm going to try to save your father. You do what I tell you. Lohlo, you and she will keep the volplane. But don't use it! Stay hidden here."

Aura clung to him, but he flung her off; crouched, sprang upward, and, sailing with only the slight moon gravity to hold him, crossed a black, yawning gully and landed on a higher Earth-lit projection some thirty feet away.

The shadowed volplane with Lohlo and the girl was invisible from here. He waited a moment to make sure that they did not try to follow him. Then he leaped again. Another thirty feet. Swift, fantastic progress, these Moonleaps! He headed for the Nomad ship, his heart pounding with the knowledge that every moment in the Earthlight might bring a bolt upon him.

[^4]light revealing him, and the arms of his baggy suit raised above his head. Awaiting discovery, breathless with the fear that his attitude of surrender would be misunderstood.

For a moment there was no discovery, no bolt. His small hand searchtorch hung at his belt. He held it over his head, waving its tiny beam; and in another moment the white glare of a searchlight swung from the Nomad ship and clung to him as he slowly moved forward-moved with flat, lazy bounds from one jagged pinnacle to another. The Nomad search-beam persistently clung to him; the Nomads were awaiting him, curious. Doubtless also, he was seen by the mine telescopes. The mine remained dark and inactive.

At last he reached the ledge upon which the enemy ship was cradled. It was a crag-strewn space, with the precipice on one hand, and on the other the wall of the mountain rising sheer for a hundred feet or so, smooth as polished grey-black marble. The Earth-light illumined the precipice brink; but Georg's final bound landed him between the ship and the wall-a forty-foot wide area of deep inky shadow. It was strewn with jagged, pitted boulders, among which Georg threaded his cautious advance.

A stern quarter of the ship was toward him now; the bulging black hull loomed up some thirty feet above him. The dimly illumined deck was up there, with the peaked dome of glassite bulging another thirty feet or more upwards. Georg now was in darkness; the bow searchlight could not reach him here; it had swung away and then snapped off.

He saw near the stern, at the bottom of the hull, a small bull's-eye pres-sure-porte entrance; and there were a few observation bull's-eyes, all of them dark. He gathered himself for a bound to the pressure-porte; but from the soundless blackness near at hand, a bloated helmet figure leaped upon him. An attack!

He recoiled from the contact, reaching for his knife; but the figure's gloved hand gripped his shoulder, and a voice said:
"Georg!" He whirled in amazement.
It was Aura! He gasped.
"You-but I told you- Where is Lohlo?"

She stood gripping him. "Georg, if you-if you're going to offer yourself as a hostage, $I$ am better than you. You let me go in to Father-"

He could see that her face was white and grim; and there was upon it a faint ironic smile as he gasped again.
"But I told Lohlo-"
"Still, I am the daughter of the governor," she retorted. "No little Lunite boy miner can tell me what to do. I ran from him, You never once looked behind you, Georg!"

He protested with an agony of apprehension, "But I don't want you in this! It may work and it may not! You get away from here!"

T00 late 1 From a porte beside one of the stern bull's-eyes a faint beam shot out and caught them. And persisted, clinging. Georg felt the tingle of it; felt his feet gripping the ground, fastened as though by a giant electro-magnet. The paralyzing ray. He saw Aura's figure waver from the shock; then stiffen, erect, as she stood immovable beside him. The physical effects almost instantly passed. Georg's whirling senses cleared as his body absorbed the current. And he and the girl beside him stood rooted.*

For a moment they stood helpless. The grey Bolar beam snapped off; a white search-ray took its place. The pressure-porte opened. A huge helmeted figure emerged with leveled weapon. The blob of another showed in the pressure-porte doorway.

The figure seized Georg. He saw, behind the faintly illumined visorpane, a broad, flat-nosed Martian face.

[^5]"We are friendly. I speak no Ilton,"* Georg said instantly.
"English spik the ship-" the Nomad retorted.

The Bolar current effects were passing. Georg's feet came loose from the rocky ground.

Docilely he and Aura followed the towering form of their captor into the tiny pressure lock. The door slid closed. The ship's interior air hissed into the cubby; the interior door slid open. Georg and Aura were seized by a jabbering group of men, all of them huge.**

With deflated suits and doffed helmets, they were shoved along a corridor, up an incline passage to the vessel's dome-covered deck. It was a confused, noisy scene of milling figures in a dim blue-tube radiance. A score of the Nomads were clustered here, evil-faced giants in a variety of tasseled, leather garments. One, who seemed to be the leader, shoved his way forward and confronted Georg. Along the deck at the dome portes, other figures stood aiming the projector weapons.

And nearby, against the superstructure wall, the grey-haired governor of the Moon stood staring with astonished horror at his daughter.

## CHAPTER IV <br> On the Nomad Ship

THE Nomads on the deck stood in a ring around their prisoners. They were all big men-apparently all Martians-dressed in leather jerkins and short leather breeches, with bare knees and flaring, tasseled boots. Swaggering fellows, with broad belts from which a variety of hand weapons dangled. Their faces were grey-white, heavy-joweled, flat-nosed, some with scraggling, unshaven beards. To him who seemed the leader, Georg said:
"I come friendly. You are Ilton, but you speak English?"

The fellow grinned. "You read my

[^6]signals. I handle your language with much ease. Who are you? Why do you come here, risking your head with an enemy?"

His voice was heavy, harsh and guttural, like all Martians. But quite evidently he had had an Earth education, or at all events had mingled with Earth-people in Ferrok-Shahn.* A dashing giant, handsome by Ilton standards.

His coarse hair, long to the base of his muscular grey throat, was almost solid black, shot only with occasional strands of white. A fellow of perhaps thirty Earth-years. His garments were fringed and tasseled. His hair was bound around his forehead with a redhued thong. He wore an Ilton peaked cap, with a huge scarlet feather. He seized the cap now and swept it down with a courtly gesture. He added:
"And I have a lady come to me. So charming a lady-"

His darkly glowing gaze went to Aura.
"My name is Georg Frear. I am manager of the Archimedes Mine. I have full authority, and that is why your demands were not answered."
"So?" But his gaze was still on Aura. "The lady star-crosses me. Your daughter, Sir Governor?"
"My daughter," Allen said shortly.
"It is decimars, I want," the giant said. "Nothing else. You, Georg Frear-"
"I came to fix it for you," Georg said quickly. "My men at the mine do not know that you have the governor here-they think he's dead. And they have no authority to give you oredust."

The Nomad's face brightened, but still carried its ironical smile. "But you have the authority? What will you do?"

Georg briefly, vehemently told him; and the Nomad added, "Very well, I send the message."

They watched while from the little tripod portable sender erected near him he waved his signal lights.

[^7]"Allen, daughter, and Frear safe here. Frear commands prepare four hundred decimars ore-dust for ransom. He will send proof of authority."

And this time, from the mine Greggson and Smith answered:
"Will await proof. Send what you like."

The giant laughed. "We are progressing."
"You send us now with one of your men and we'll send back the ore-dust," Georg said.

THE Nomad raised his heavy brows. "So? You joke with me. My man will take gour pyroprint order. How is that? And when he returns safely with the treasure, then will I release my three prisoners. Write the order."

Georg's heart was pounding as he wrote it. If only he could get Aura and her father safely out of here.
"Here's your order. You hold me till you get the treasure. Send Gowernor Allen and his daughter now."

The Nomad took the pyroprint. "I thank you. Come, Governor, my man will take you."

He added a few swift words of Ilton, and four of the Nomads sprang to his command. Two of them seized Georg, two others gripped the governor. And the giant said shortly:
"The girl stays here as hostage with Frear."
Allen was suddenly struggling. "Miserable swerol! Quitah Ko ilts wara swerol!* You think I'll trust her with you?"

Georg futilely struggled-the huge powerful Martians held him. Allen was shoved, fighting and raging, across the deck and into the superstructure cabin where an air suit was forced upon him. Georg yielded; and found the pale Aura beside him. The Nomad leader had not moved, and still was smiling.
"You make a blazing star from a tiny meteorite. You and the girl came here very bravely; now you want to trick me into releasing all my hostages."

[^8]It quieted Georg. "The decimars will come," he said. "You will release us then?"
"But of course."
There was nothing else that could be done but to trust him. He ignored Aura now, and busied himself with sending one of his men to the mine with Governor Allen. Georg and Aura, still garbed in their deflated air suits, stood together at one of the deck bull's-eyes, gazing down thirty feet to the Earth-lit narrow strip of rocky ledge between the ship and the nearby precipice. From a lower porte the bloated figures of Allen and a Nomad came out, dragging a queerly shaped Martian volplane. And in a moment they had sailed away toward the mine, dwindling to a speck against the starfield.

The Nomad came now and stood beside his prisoners, waiting for the return of the treasure. He was in a high good humor; the thing was coming out better than he could have hoped. Half an hour passed. No signal came from the mine. No sign of activity showed out there. The governor must have arrived there before now. The ore-dust, at Georg's order, would come back, of course. The Nomad leader was volubly, jovially talking. A well educated Ilton, undoubtedly.

fEORG said abruptly: "So you had information that forty decimars were leaving here for the Earth on the Queen of the Starways?"
The fellow shrugged. "That transport carries your ore-dust regularly. What I did not know was the presence of so great a personage as Governor Allen."
It had changed his plans. Without the governor as hostage he would not have dared come back to the Moon for additional loot. He was exceedingly pleased with himself, this Nomad.
"Very soon you shall have seen the last of me." His smile was ironic.

Georg's mind was on the coming of the treasure. The release of Aura. Would this outlaw release her? If not-the thought made Georg shudder. He had been stripped of his weapons and every moment he had
been here, he was closely watched.
"I was Ilton-born, no use to deny that. But now I am Nomad-roaming the starways-"
"Until the patrol gets you," Georg said. "You fooled the Queen's commander with your darkness bombs-"
"And with my lights." The giant chuckled. "He thought me a patrol ship. I can go almost where 1 like. Official ships especially, are not too curious."
"You mean especially Martian patrols," Georg said. He stared through the dome-portes at the distant rocky cliffs. The Nomad volplane should be returning by now. He added: "Of what use, your treasure? You can't market it."

The Nomad leader smiled imperturbably. "Can I not? On Earthno. But in Ferrok-Shahn they are not too curious. I have a way of landing secretly-and what Ilton company cares where radium dust came from, so that it is pure and will run their engines, and cure disease, and do the million other things of commerce? We have no radium on Mars, as you very well know. Your Moon here controls the market-and you do not sell to Mars very cheaply."

Aura suddenly spoke. "The volplane is coming. See it now?"

They saw it. A speck in the Earthlight, skimming close beside the mountain ramparts. The Nomad jumped to a small electro-telescope, mounted in the ship's bow, with its finder here on the deck near at hand. Georg and Aura crowded after him. Now, Georg knew, he could seize one of the weapons from the giant's belt. But a fight here was unthinkable-a last desperate measure.

The two towering fellows who seemed to be detailed as guards, moved close after Georg; but their interest and attention were more on the arriving volplane than on their prisoner.

Georg took a quick gaze at the spiral ladder here on the deck. It led vertically upward some twenty feet into a turretlike peak of the dome. A little platform-grid was up therean observation platform with a rack
which seemed to hold a few instruments and weapons. Close above the platform was a small trapdoor giving access to the little turret which projected above the flatly rounded glassite dome-roof. Would there be a pressure exit up there?

THE Queen of the Starways had a turret something like this; and it was equipped with an exit porte. Perhaps one was up there; the trap-door was open, but the interior of the turret was dim-lighted only by Earthlight and starlight which filtered through its bull's-eyes. A man was on the underneath platform; he called something in Ilton now, and came down the incline, joining his fellows on the deck who were all regarding their leader expectantly.

Georg said, and he tried to hold his voice steady: "Your man, returning? I guess he has the treasure, hasn't he?"

The Nomad straightened from the telescope. "It does seem so. My volplane. A single figure, and a box."

The tiny vehicle came swiftly. Georg now could see its single crouching figure; and a three-foot oblong metal case lashed beside it. One of the mine's pure-dust caskets. The volplane circled, came down and landed on a strip of Earth-lit ledge between the ship and the precipice.

On the deck a tense silence fell. To these Nomads it was a crisis-the arrival of four million gold-dollars of loot-or some trickery from the mine? The leader issued swift commands. Several of the men went down into the hull to admit the messenger. Others stood here at the deck weapons, alert and ready for any hostile move that the distant occupants of the mine might make.
"I hope no trickery is tried," the Nomad leader said. "We will check the decimars-then quickly I will release you." He gave a tense laugh. "And quickly too, we will be gone. I hope Sir Governor does not try firing at us as we rise. You, out on the rocks, will be within my range and I shall destroy you if he does."
"He will not," Georg said. "He's
not such a fool," Georg told him.
The men from below were coming up now. Their heavy tread sounded. They appeared, carrying the box. Relief flooded Georg. The messenger was here, with deflated air suit and doffed helmet. He was smiling triumphantly.

They put the box on the deck. Georg showed them how to open it. The pyroprint on the interior of the lid stated: "Decimars 398 Purity average per centum 62.5."
"I told them four hundred," Georg said. "Evidently three ninety-eight is all there is on hand. You have stripped us."
"I am satisfied; have no fear," the Nomad laughed. "If the label does not lie."
It did not. There was no question of that. The forty small cylinders in the box were quickly counted.
"Correct," agreed the Nomad. He stood up. Georg's heart was pounding; he was tense and cold with apprefension. He and Aura stood in their deflated air suits, side by side. Georg saw the girl flash him a look.
"Correct," the Nomad repeated. A strange smile plucked at his wide thick-lipped mouth. "You have done your part, Frear. You may go. My men will lead you to the hull-porte, and turn you out. Good luck to you."

Georg's mouth and throat were suddenly dry. "Come, Aura."

And then all his premonitions leaped into reality. The Nomad's smile turned upon Aura.
"Not you. Your eyes have starcrossed me. You will stay."
"Why-why that's crazy-" It seemed that Georg's brain suddenly cleared, as though all his thoughts of the past half-hour had been preparing him for this, so that now he could think clearly-and act.

## CHAPTER V

A Lunite's Heroism
EORG was futilely stammering-
fused, frightened expression made his
action wholly unexpected as both his gloved hands shot out to the Nomad's belt. No fumbling. He knew what he reached for; and he seized them-two weapons - gripped them, snatched them all in a second from their clipped fastenings. A flash gun; and a glass bomb. He hurled a tiny fragile glass bomb to the deck-grid at his feet; darkness sprang like a shroud, through which Georg fired the flash gun with a succession of stabbing, unaimed bolts. There was a man's scream, and a wild confusion in the blackness.
Aura's hand had clutched at him ; and now he dragged her forward. They stumbled; a man's groping hands gripped them but Georg shoved him violently away. A bolt from nearby stabbed and hissed against the domeside; and the Nomad leader shouted a warning to his men not to chance it again.

The spiral to the dome-peak was only a few feet away. In a second or so, Georg found it, pushed Aura up it ahead of him. They mounted; the lightweight gas of the artificial darkness mounted with them. The turmoil of the deck now showed dimly down below. They reached the platform grid; but the dissipating gas had thinned so that they were discovered. A bolt stabbed up, missed and spat, with a shower of sparks upon the grid-bottom.
"Up, Aura! Hurry!"
They scrambled the few steps further, through the trap and into the turret. Men were mounting the spiral after them; Georg sent a hasty bolt downward, and then banged the trapdoor. But it had no fastenings. What matter? If no pressure exit was here then this was their death-cubby.

But the exit was at hand. They squeezed into the tiny recess and slid its panel. There were no air pumps. Georg paused only while he and Aura connected their helmets and bloated their air suits. He touched her.
"Correct, Aura!"
"Correct," she panted.
He swung for the outer door panel. The air in the tiny porte went out with a puff and they followed it.

The dome-top bulged with a whaleback rounded convex surface. Dimly Earth-lit-the Earth-disc and the stars were overhead; to one side were the jagged mountain ramparts; to the other was the precipice. The rockledge was thirty feet down from here, Earth-lit on the precipice side, but dark between the ship and the mountain wall.

Georg turned toward the darkness. "We'll have to leap. Thirty feet. Not too far for safety, if we're careful."
"Leap together? Hand in handit's better balance that way."
"Yes, I think so."
They advanced to where on the sloping dome-top they could go no further. A jump outward and downward. Far enough to clear the ship's bulging side; not too far or they would strike the wall of rock.

Only a few seconds had passed. The Nomads had gained the turret, but it had no firing portes. From the turret controls they had already slid closed the pressure door. There was another turret sternward, some forty feet along the dome-roof. Its interior light showed men crowding there. But none was attempting to come out. And now the vessel was quivering; its gravity current was on.

CEORG realized it was preparing to rise. The Nomad leader had decided that he could not recapture Aura alive. He had his treasure and to linger would be too dangerous.

The ship trembled more violently; the bow gave a premonitory lift. Georg knew that in a brief time more he and Aura would be carried upward. Too late then to jump safely. They advanced a step or two further; hand in hand, they peered downward into the darkness. This ought not to be too difficult, so often they had practised tandem jumping.

Georg's fingers were ready to give the signal. Then out beyond the bulging dome and no more than ten feet down in the darkness, he saw a hovering, slowly moving blob. Familiar narrow oblong, with hooded bow. Aura's volplane; and the helmeted boy miner Lohlo Wills crouching up-
on it! Georg stared, then gasped.
Realization swept him. All that time Lohlo had been lying with his tiny vehicle, hidden in the blackness between the ship and the mountain wall! Lying waiting, watching for some chance to helpl

His chance had come now. He poised the platform; and over a space of only a few feet Georg and Aura bounded and reached it. The platform rocked; almost overturned. Then it steadied as they stretched themselves prone.

Georg gripped the Lunite. "Good enough, Wills."

Lohlo clung to the controls.
"Keep us down by the rock shadows. The ship will rise in a few seconds. If they see us, they'll fire at us."

They dropped and poised low by the base of the wall. The ship was ready to lift; its bow went up. Relief swept Georg. The Nomads were too busy to bother with them. They were safe. He held Aura.
"Safe, Aura, dear," he murmured. His hand was on Lohlo's shoulder, pressing it reassuredly.
"Safe!" Aura whispered. "Oh, Georg, I love you so, and I thought it was the end for us. Safety-but you bought my life with four million gold-dollars-your employers' money-"

Georg abruptly felt the volplane wavering.
"Careful! A crash-" Lohlo gasped.

They fell suddenly to the rocks. But it was only a few feet. They were hardly shaken. And then Georg realized that Lohlo had purposely crashed them. The little boy miner was on his feet, bending his knees, straightening, hurtling upward with a sailing leap.

The ship's hull bulged almost oves them here, and the vessel was slowly rising. Ten feet up; then twenty feet. But Lohlo's spring carried him up to it. Too late for Georg to stop him, or to leap after him. His hand caught a finlike projection of the hull-bottom. He clung. The horrified Georg and Aura gazed upward at the now swiftly
rising vessel. The figure of Lohlo showed as he scrambled to the ledge. And a radiance showed. A stab of electric flame.

IE had a miner's electronic heattorch. He was melting the ship's lower gravity-plates. Being carried upward-clinging, persistently melting. The molten metal dripped now, with momentary puffs of falling radiance.

Another few seconds. The ship was almost vertically ascending. A hundred feet now above Georg and Aura, so that they could not see Lohlo, but only his spreading torch-radiance on the dark hull-bottom. Then the heat ate into the thickness of the hullplate; reaching the gravity-plate current; short-circuited-

All in a second or two, electric fire leaped the whole length of the hull. Electric derangementinstantly spreading, so that in a second more the ship was enveloped in spark-showers and a vivid glare. The gravity plates were all deranged. The vessel wavered; turned over and began falling. Slowly, then faster, with the free-electron radiance streaming upward from it. Then the derangement must have spread to the Erentz current. The pressure equalizers
broke. Like a bursting bomb the interior air-pressure exploded the dome outward-

The figure of Lohlo had fallen from the hull and crashed hardly forty feet away from Georg and Aura. They bounded to where he lay motionless, his air suit gruesomely deflated. They bent-and found him still alive. The mechanisms within his suit were still working though the fabric itself was punctured. He would have strangled for lack of air; but Aura flung herself down, sharing her oxygen with him. He revived a little. His blurred, confused gaze stared through his visor and hers-stared at her face, and his pallid lips were smiling.
His audiphone still was working; she heard his faint, gasping words:
"I have-saved all those decimarshis employers' money as you said, they would have been very angry at you and him-"

The falling shattered Nomad vessel struck at a distant edge of the ledge. Soundless crash. It hung for a moment, bursting with explosions; then it tipped over the precipice brink; fell and vanished into the abyss, with only its brilliant fiery glare coming upward.

Then it ceased altogether.

> In Next Issue

SHADOW GOLD, a Novelette of an Amazing Lost Dimensional World where Fantastic Treasure Beckons, by RAY CUMMINGS-and Many Other Stories!


## In Quest of the Queen Bee, Ferguson Takes Refuge in the Society of the Hive-and Undergoes a Miraculous Transformation



There was mon at the window. Only a great drone buzzing and humming

# The <br> DRONE MAN <br> <br> By A. MERRITT <br> <br> By A. MERRITT <br> 'Author of "The Moon Pool," "The Ship of Ishtar," etc. 

FOUR men sat at a table of the Explorers' Club. Hewitt, just in from two years' botanical research in Ethiopia; Caranac, the ethnologist; MacLeod, poet first, and second the learned curator of the Asiatic Museum; and Winston, the archeologist, who, with Kosloff the Rus-
sian, had worked over the ruins of Khara-Kora, the City of the Black Stones in the northern Gobi, once capital of the Empire of Genghis Khan.

The talk had veered to were-wolves, vampires, fox-women, and similar superstitions. Caranac, who had
brought up the subject originally, said:
"It is a deep-rooted belief, and immeasurably ancient, that a man or woman may assume the shape of an animal, a serpent or a bird, even an insect. It was believed of old everywhere; and, everywhere, it is still believed by some. Always there has been the idea that there is a borderland between the worlds of consciousness of man and of beasts-a borderland where shapes can be changed, and man merge into beast or beast-and-man."

MacLeod said: "The Egyptians had some good reason for equipping their deities with the heads of birds and beasts and insects. Why did they portray Kheper, the Oldest God, with the head of a beetle? Why give Anubis, the Pschyopomp, Guide of the Dead, the head of a jackal? Or Thoth, the God of Wisdom, the head of an ibis, and Horus, the Divine son of Isis and Osiris, the head of a hawk? Set, God of Evil, a crocodile's, and the Goddess Bast a cat's? There was a reason for all of that. But one can only guess."
"I think there's something in that borderland, or borderline idea," Caranac agreed. "There's more or less of the beast, the reptile, the bird, the insect in everybody. I've known men who looked like rats and had the souls of rats. I've known women who belonged to the horse family and showed it in face and voice. Distinctly, there are bird people-hawkfaced, eagle-faced, predatory. The owl people seem to be mostly men, and the wren people women. There are quite as distinct wolf and serpent types. Suppose some of these have their animal element so strongly developed that they can cross this bor-derline-become at times the animal? There you have the explanation of the were-wolf, the snake-woman, and all the others. What could be more simple?"
"But you're not serious, Caranac?" Winston asked.

C
ARANAC laughed. "At least half serious. Once I had a friend with an uncannily acute perception of
these animal quallies in the human. It was an uncomfortable gift. He was like a doctor who has the faculty of visual diagnosis so highly developed that he constantly sees men and women and children not as they are but as diseases. Sometimes, as he would describe it, when he was in the subway, or on a bus, or in the theater -or even sitting téte-à-téte with a pretty woman-there would be a swift haze; and when it had cleared he was among rats and foxes, wolves and serpents, cats and tigers and birds, all dressed in human garb, but with nothing else at all human about them. The clear-cut picture lasted for only a moment-but it was a highly disconcerting moment."
"Do you mean to suggest," Winston said, incredulously, "that in an instant the musculature and skeleton of a man can become the musculature and skeleton of a wolf? The skin sprout fur? Or in the matter of your bird people, feathers? In an instant grow wings and feathers? In an instant grow the specialized muscles to use them? Sprout fangs-noses become snouts-"'
Caranac grinned. "No, I don't mean anything of the sort. What I do suggest is that, under certain conditions, the animal part of this dual nature of man may submerge the human part to such a degree that a sensitive observer will think he sees the creature which is its type."

Winston raised his hands in mock admiration. "Ah, at last modern science explains the legend of Circe! Circe, the enchantress, who gave men a drink that changed them into beasts. I agree with you, Caranac-what could be more simple? But I do not use the word simple in the same sense you did."

Caranac answered, amused: "Yet, why not? Potions of one sort or another, rites of one sort or another, usually accompany such transformations in the stories."
Hewitt interrupted the general discussion at this point to relate a strange, and apropos, adventure that he had experienced some years before in Ethiopia-a really startling experi-
ence that he had never had the courage to reveal to anyone.

Hewitt was a fluent and convincing narrator, and his sober tone imbued his tale with an almost hypnotic air of plausibility. With his own eyes, so he said, he had seen the native priest of an Ethiopian tribal village change himself into a hyena and lope, animal jaws agape and slavering, into the bush to hunt for food.

Not only Hewitt, but his badly frightened native bearers, had been witness to this startling transformation. And to top the whole thing, to remove it definitely from the realm of illusory phenomena, Hewitt claimed that the man-beast had left, startlingly clear in the soft, wet ground, the prints of the paws of a hyena!

There was an uncomfortable pause as Hewitt finished. The other three glanced at each other uneasily, as if not knowing what to believe.
"Mass hypnotism," Winston suggested tentatively.
"We followed the brute's tracks, I tell you," Hewitt insisted doggedly, "to the edge of a pool, where they disappeared. Returning from the pool were the prints of human feet, the left one bearing a missing toe. The priest had such a crippled foot. We all saw the tracks. All of us."

Then MacLeod spoke, the precise diction of the distinguished curator submerged under the Gaelic burr and idioms that came to the surface always when he was deeply moved:
ee $\triangle$ ND is it so, Martin Hewitt?
4 Well, now I will be telling you a story. A thing that I saw with my own eyes. I hold with you, Alan Caranac, but I go further. You say that man's consciousness may share the brain with other consciousnesses -beast or bird or what-not. I say it may be that all life is one. A single force of which the trees, the beasts, the flowers, germs, and man, and everything living are parts, just as the billions of living cells in a man are parts of him. And that under certain conditions, the parts may be interchangeable. And that this may be the source of the ancient tales of the
dryads and the nymphs, the harpies and the were-wolves as well.
"No, listen. My people came from the Hebrides, where they know more of some things than books can teach. When I was eighteen, I entered a little Midwest college. My roommate was a lad named-well, I'1l just be calling him Ferguson. And there was a professor with ideas you would not expect to find out there.
"'Tell me how a fox feels that is being hunted by the hounds,' he would say. 'Or the rabbit that is stalked by the fox. Or give me a worm's-eye view of a garden. Get out of yourselves. Imagination is the greatest gift of the gods,' he said, 'and it also is their greatest curse. But, blessing or curse, it is good to have. Stretch your consciousness and write for me what you see and feel.'
"Ferguson took to that job like a fly to sugar. What he wrote was not a man telling of a fox or hare or hawk -it was a fox or hare or hawk speaking through a man's hand. It was not only the emotions of the creatures he described. It was what they saw and heard and smelled, and how they saw and heard and smelled it. And what they-thought.
"The class would laugh, or be spellbound. But the professor didn't laugh. No. After a while he began to look worried, and he would have long talks in private with Ferguson. And I would say to him: 'In God's name, how do you do it, Ferg? You make it all seem so damned real.'
"'It is real,' he told me. 'I chase with the hounds and I run with the hare. I set my mind on some animal, and after a bit I am one with it. Inside it. Literally. As though I had slipped outside myself. And when I slip back inside myself-I remember.'
"'Don't tell me you think you change into one of those beasts!' I said. He hesitated. 'Not my body,' he answered at last. 'But I know my mind - soul - spirit - whatever you choose to call it-must!'
"He wouldn't argue the matter. And I know he didn't tell me all he knew. And suddenly the professor stopped those peculiar activities,
without explanation. A few weeks later I left the college.
"That was over thirty years ago. About ten years ago, I was sitting in my office when my secretary told me that a man named Ferguson, who said he was an old schoolmate, was asking to see me. I remembered him at once and had him in. The Ferguson I'd known had been a lean, wiry, dark, square-chinned and clean-cut chap. This man wasn't like that at all.

"HIS hair was a curious golden, and extremely fine-almost a fuzz. His face was oval and flattish, with a receding chin. He wore oversized dark glasses, and they gave the suggestion of a pair of fly's eyes seen under a microscope. Or rather-I thought suddenly-of a bee's. But I felt a real shock when I grasped his hand. It felt less like a man's hand than the foot of some insect, and as I looked down at it I saw that it also was covered with the fine yellow fuzz of hair.
"'Hello, MacLeod,' he said. 'I was afraid you wouldn't remember me.'
"It was Ferguson's voice as I remembered it, and yet it wasn't. There was a queer, muffled humming and buzzing running through it.
"But it was Ferguson all right. He soon proved that. He did more talking than I, because that odd inhuman quality of the voice in some way distressed me, and I couldn't take my eyes off his hands with their yellow fuzz, nor the spectacled eyes and the fine yellow hair.
"It appeared that he had bought a farm over in New Jersey. Not so much for farming as a place for his apiary. He had gone in for bee keeping. He said: 'I've tried all sorts of animals. In fact, I've tried more than animals. You see, Mac-there's nothing in being human. Nothing but sorrow. And the animals aren't so happy, either. So I'm concentrating on the bee. A drone, Mac. A short life, but an exceedingly merry one.'
"I said: 'What in hell are you talking about?'
${ }^{\text {"He laughed, a buzzing, droning }}$ laugh. 'You know damned well. You
were always interested in my little excursions, Mac. Intelligently interested. I never told you a hundredth of the truth about them. But come and see me next Wednesday, and maybe your curiosity will be satisfied. I think you'll find it worthwhile.'
"Well, there was a bit more talk and he went out. He'd given me minute directions how to get to his place. As he walked to the door, I had the utterly incredulous idea that around him was a droning and humming like an enormous bagpipe, muted.
"My curiosity, or something deeper, was tremendously aroused. That Wednesday I drove to his place. A lovely spot-all flowers and blossomtrees. There were a couple of hundred skips of bees set out in a broad orchard. Ferguson met me. He looked fuzzier and yellower than before. Also, the drone and hum of his voice seemed stronger. He took me into his house. It was an odd enough place. All one high room, and what windows there were had been shuttered-all except one. There was a dim, golden-white light suffusing it. Nor was the door an ordinary door. It was low and broad. All at once it came to me that it was like the inside of a hive. The unshuttered window looked out upon the hives. It was screened.
"He brought me food and drinkhoney and honey-mead, cakes sweet with honey, and fruit. He said: 'I do not eat meat.'
"He began to talk. About the life of the bees. Of the utter happiness of the drone, darting through the sun, sipping at what flowers it would, fed by its sisters, drinking of the honey cups in the hive-free and careless, and its nights and days only a smooth clicking of rapturous seconds.
eee HHAT if they do kill you at the end?' he said. 'You have lived-every fraction of a second of time. And then the rapture of the nuptial flight. Drone upon drone winging through the air on the track of the young queen! Life pouring stronger and stronger into vou with
each stroke of the wing! And at last -the flaming ecstasy of the fiery inner core of life-cheating death. True, death strikes when you are at the tip of the flame-but he strikes too late. You die-but what of that? You have cheated death. You do not know it is death that strikes. You die in the heart of ecstasy!'
"He stopped. From outside came a faint, sustained roaring that steadily grew stronger. The beating of thousands upon thousands of bee wings, the roaring of hundreds of thousands of tiny planes. Ferguson leaped to the window.
"'The swarms! The swarms!' he cried. A tremor shook him, another and another-more and more rapidly -became a rhythm pulsing faster and faster. His arms, outstretched, quiv-ered-began to beat up and down, ever more rapidly, until they were like the blur of the humming bird's wingslike the blur of a bee's wings. His voice came to me-buzzing, humming. 'And tomorrow the young queens fly . . . the nuptial flight. I must be there-must-mzzz . . mzzzb ... bzzz . . .bzzzzz . . zzzmmmm ...'
"For an instant there was no man there at the window. No. There was only a great drone buzzing and humming, striving to break through the screen-go free
"And then Ferguson toppled backward. Fell. The thick glasses were torn away by his fall. Two immense black eyes, not human eyes but the multiple eyes of the bee, stared up at me. I bent down closer, closer. I listened for his heartbeat. There was none. He was dead.
"Then slowly, slowly, the dead mouth opened. Through the lips came the questing head of a drone, antennae wavering, eyes regarding me. It crawled out from between the lips. A handsome drone-a strong drone. It rested for a breath on the lips; then its wings began to vibrate. Faster, faster . . .
"It flew from the lips of Ferguson and circled my head once and twice and thrice. It flashed to the window and clung to the screen, buzzing, crawling, beating its wings against it. There was a knife on the table. I took it and ripped the screen. The drone darted out-and in a moment was gone!
"I turned and looked down at Ferguson. His eyes stared up at me. Dead eyes. But no longer black: blue, as I had known them of old. And human. His hair was no longer the fine golden fuzz of the bee-it was black as it had been when I had first known him. And his hands were white and sinewy and-hairless."

## Next Issue: LIQUID LIFE, a Complete Novelette of a Czar of Intellect who Strives to Bend Natural Forces to His WillBy RALPH MILNE FARLEY

## (c) HRIT

# The HORMONE 

## A Complete Novelette of Future Conflict

## By EANDO BINDER

Author of "Spawn of Eternal Thought," etc.

## CHAPTER I

## The Giants

WINGING its way down from the clouds, a snub-nosed Boske leveled at two thousand altitude. It was a hell-dark night, no moon or stars, and, below, a few twinkling lights marked a habited spot in the general desolation of that region. The airplane, its motor purring almost noiselessly, crawled along -warily, it seemed.

When it was almost directly over the cluster of lights a figure dived from its rear cockpit and disappeared, falling rapidly. The quiet little Boske went on steadily. A mile farther its purring deepened and the airplane rose, disappearing into the heavy cloud-bank.

James Wistert, secret operative S-23 United North America, extricated himself from his parachute harness and stood erect to breathe deep of the air over enemy land.
"Well," he mused, "here I am. Hope the rest is as easy."

He knew it wouldn't be. Not daring to light a match, he fumbled on the ground in the pitch darkness for a bulky bundle heavily wrapped in oilskin which he unleashed from the parachute straps. With it under


The baron turned slightly as though
one arm, he felt around his middle.
"Food pellets-flashlight-ammuni-tion-automatic-okay."

He was not far, apparently, from his destination, for he could see a glow of hidden lights beyond a rise of the ground. The parachute would occasion suspicion when found the next day. But Wistert expected to be

## MENACE


to answer. Instead he leaped sideward
safely away before the night had passed. If not-well, such was fate.
Topping the rise, the spy saw, not a quarter of a mile away, a large brick building from whose windows lights glowed. A lone building in a boulderstrewn, uncultivated region in the heart of the Allied States of Europe. What purpose did it serve? What
mysterious connection did it have with the terrific war going on between Europe and America?

When the building loomed close, Wistert stopped in the shadow of a large rock. He undid his package, and draped about himself a hooded suit of a peculiar crinkly material. It seemed made of metallic fiber, and a half-

## Headquarters <br> During <br> Stupendous War!

dozen insulated wires ran from various parts of it to a heavy, flat, rubberized case which he strapped to his chest. The suit covered him completely from head to foot. It had two small glass-shielded peepholes for his eyes, and its hem dragged on the ground.

Snapping a small switch at the side of the case on his chest, the spy felt a tingling sensation. But that was all. Somehow, he had expected more. They had assured him back at headquarters that, wearing the suit, he was invisible to others except for a faint, indistinct halo. Such a thing did not seem possible, but in these remarkable days of the late twentieth century anything could happen. This Invisibility Cloak was one of the enemy's inventions. The one he was wearing was the only one his country ever confiscated. That alone bespoke the importance of his present mission.

Anxious to test the thing-but apprehensive at the same time-Wistert stepped from the rock's shadow and strode warily toward the large brick building.

THE side he approached was unbroken by even a single doorway. Rounding the corner, the spy muffled a gasp as a uniformed man shouldering a rifle came toward him. Instinctively his gauntleted hand dove for his automatic; then he relaxed sheepishly. For the soldier passed not ten feet away, staring straight at him. Yet not at him, but through him!

His nerves somewhat shaken, Wistert followed the wall. Under the first doorway he reached stood another guard. The spy paused. To enter this portal he must open the door and shove past the guard.

Wistert thought of a dozen and one plans in the space of a minute. The dilemma was still unsolved when he stiffened suddenly at the sound of a motor. The guard came to attention as a big black sedan whined down the tar road, coming to a stop thirty feet away. Two figures stepped from the car and approached.

Wistert's eyes grew big as the foremost figure was revealed in the light
over the door. Baron Laiglon, ordnance chief of the North African sector! The mysterious building took on a new significance in the American's mind.

The guard now knocked on the door, and stood aside. It was opportunity knocking for Wistert. He followed the two men in like their shadows' shadow; fate was still with him. Beyond the door he quickly edged to one wall of a corridor as the two officers strode ahead.

Careful not to scrape his shoes on the hardwood floor, the spy followed down the hallway, which seemed to stretch interminably. Finally the two officers paused before a great steel door.

The baron's companion stood before a Ronaldson scanning disc and pressed the button below it. There was a click of relays, the interplay of photoelectric beams, and then the steel portal rolled aside like a dinner plate. Perhaps it was fortunate that the two officers were speaking as they stepped beyond the threshold; else they might have heard the hurried tread of their invisible follower as he squeezed through with them. The ponderous steel valve rolled back into place.

The one man spoke a few low words to the guard standing at attentionhe who had scanned the transmitted image and opened the seal upon seeing who it was-and then motioned for the baron to follow. Like a ghost, Wistert slipped along in their wake.

A staircase led below at the end of this new corridor. Wistert paused at the bottom to see the two officers enter an elevator car, which immediately descended. The spy stared around, surprised. There were no less than ten elevator shafts opening upon the room. From the opposite side led half a dozen large corridors. What lay below this mysterious brick building?

The spy became aware of a steady vibration in the floor, as of ponderous machinery. Speculatively he eyed the sentinel leaning against the wall. Perhaps, if the guard were out of the way, Wistert might get on an elevator himself, for they were automatic.

Prepared to take the risk involved, he was about to step forward when one of the elevators came up. As its grillwork door was pulled aside, a dozen men stepped out. The spy gasped.

Those men were giants! Each was eight feet tall and built proportionately. Their faces were brutish in cast, thick-lipped. They were obviously witless creatures, mere mountains of strength. Dressed in baggy jumpers of denim, they trudged forward silently and awkwardly, followed by two guards who had ready pistols and barked sharply in tones of command. Like a herd of driven oxen, the giants turned into a corridor.

Hardly had this group disappeared than a similar group of giants came from one of the corridors and entered the elevator which had first disgorged its human load. Thereafter, eight more elevator loads came up and an equivalent number went down.

Wistert noticed that those who came up were grimy and looked tired and hungry, while the giant men who were taken below were clean and fresh-looking. The spy could come to only one conclusion-that it was change of shift. Some great project was going on below that sapped the strength of eight-foot men so that they had to be replaced periodically with fresher forces.

$A^{T}$T last the interchange of giant men was over. The first elevator came up again, but from it this time stepped men who, though normal in size, were distinctly odd in some way. They too were silent and tiredlooking, and obeyed the guards' orders mutely, turning into one of the corridors. One after the other the elevators arose, emptied their loads of weary men, and descended with reinforcements which came from the various hallways.

The spy suddenly knew what made these workers so queer in appearance. It was their facial expressions. Almost as though they were prototypes, their visages reflected an extrome dreaminess. Wistert discounted drugs; it was something
deeper, more basic-something in their very natures. Their eyes held strange lights.

Then this shifting om men ended, and the elevators came up and went down with another series of groups. These men, also normal in size, seemed extremely nervous. Their stride was jerky and the muscles of their faces twitched uncontrollably. Yet it was not the type of nervousness associated with hysteria; it was more the sensitiveness of energetic, highstrung personalities.

What was the solution of this mystery? Why this change of shift of workers who were so alike in their own group, so greatly different in different groups? The key to this, Wistert realized, would be priceless information to American headquarters. Wistert's one aim then was to go below himself and see just what these pitifully slavelike creatures were made to do.

## CHAPTER II

## The Invisible Cloak

eedON DIEU!" exclaimed Baron Laiglon, speaking French, the official language of the Allied States of Europe. "What is the meaning of all this?"

He swept an arm around to include the immense workshop filled with industrious humans. Beyond pillared arches he could see other large chambers; and he understood that there were three more sub-levels of a similar nature. It was strange to find all this beneath a plain brick building in semi-desert land.

His companion, Director Bergmann, chuckled at his astonishment. "You are surprised, baron?" He spoke French with the guttural accent of a German. "But where did you think our great military inventions came from?"
" Oh, I knew, of course, M. Bergmann, that this place existed. That it had been established ten years in ad-vance-in anticipation of the great European - American struggle for
world supremacy. But because of the utter secrecy with which it was done, none but the highest officials knew just where it was, and what it was expected to accomplish."
"Naturally," said the director, "secrecy was paramount, lest the American espionage get wind of it."
"Of course," agreed the baron. He laughed. "M. Bergmann, if America but suspected that this place existed! They would undoubtedly withdraw half their aërial forces from the very Nile sector to attack and bomb this cozy nest of yours."

The director cooed gleefully. "No doubt, baron, not a tiny doubt! For from this place are, turned out in quantity the Invisibility Cloak, the Radio-Wave Absorption Screen, and the Super-Sonic Gun-tomention only three of the inventions which have beaten back powerful America."
"Beaten her back!" said the baron scornfully. "These inventions have turned the tide of the war! Yes, it is so. Beginning within a month, Europe will take the offensive, whereas for three years we have been on the defensive. Our first drive-" He clipped his words and peered uneasily around.

The director smiled. "What do you fear-spies? Not here!"
"I had the uncomfortable feeling for a moment that we were being watched," admitted the baron.
"Ach, no spies here!" said the director.
"Nevertheless-" The baron did not take up the topic he had dropped, still uneasy. Instead, he waved his hand again to include the bee-hive industry surrounding them. "M. Bergmañn, as long as I'm here on my first visit, tell me how you have made such marvelous military and scientific strides in so short a time. I have seen many men working industriouslyqueer men, deformed physically-or mentally, perhaps?"
"Ah, a shrewd guess, baron," said the director. "Yes, these men are all deformed-except, of course, my own personnel, who are ordinary menials and soldiers. But they are deformed, baron, to a purpose! Perhaps you
know little of the science of biology. It has been my life work. I shall explain what I have accomplished; you shall then judge whether it is the work of genius or not."

THE director rubbed his hands as he began: "I was early in life fascinated by the study of the mysteries of human nature-especially in its attributes of intelligence. What essentially was intelligence-or intellect? I was very soon brought face to face with the gland question. Each human is controlled and governed to a great extent by ten glands of internal secretion. These small organs manufacture certain powerful chemicals, called hormones, which react in the blood-stream and make the individual what he is-mentally and physically!
"You have heard of diabetes and its cure by insulin. Insulin is the hormone produced by the pancreatic gland, situated near the stomach. Perhaps you have heard of cretinism, and its eradication by the feeding of thyiozin, which is the hormone product of the thyroid gland in the neck. Diabetics, cretins-as well as abnormally tall people, intellectual people, sensitive people-are the result of over-active, or under-active, glands.
"It came to me that miraculous things might be done through these glands. I made endless experiments with animals. But animals could not satisfy me; I wanted human animals as my control subjects!"

The baron involuntarily shuddered and turned his eyes away from the beady, fanatic ones of the director.
"My chance came ten years ago," went on the scientist. "Military officials were pleading for advanced armament with which to wage war against powerful America, who was slowly but surely gaining dominance in Africa and Asia, having it already in South America. I laid down my plans - promised great inventions. And all I would ask for were condemned criminals from the jails, the flotsam of life. That, and a free license to use them as laboratory subjects!
"My petition was granted, in the desperate hope, no doubt, that I might know what I was saying. They are not sorry-the members of the Governing Council-that they consented. Eh, baron?"

The Frenchman nodded, but a fine sweat had beaded his forehead.

The scientist went on, his voice eager: "Then began my monumental work. I performed a great series of experiments with my gland-products, on my human guinea pigs. Before five years had passed, I began to see some glimmerings of success. I was beginning to bring order out of chaos, simplicity out of complexity. And $t h e s e$ indefatigable, super-clever workers of mine"-he swept a quick arm around to include the hundreds of men in denim-"are my symbols of success!"

The baron nodded, but his soul felt sick within him. Human beingscriminals, it was true, but still human beings-experimented upon like rabbits, by a cold, heartless scientific genius. Yet-the baron sighed reflec-tively-it was serving a purpose. It had brought the Allied States of Europe within reach of its goal as the world power.
"To leave generalities and explain more fully," continued the director. "You have seen the eight-foot giants who do all the heavy labor in these workshops. They were ordinary men who were fed an excess of the prepituitary hormone. This gland substance promotes bone and tissue growth beyond the normal. To give them added strength in keeping with their great stature, they were fed also adrenal-cortex hormone. They are the simplest of my transmutations.
"Think now of the men in the second chamber who do the mechanical work: fitting gears, running machines, and such. They have been overfed on the hormone of the ad-renal-cortex to give them strength and determination, and on adrenalmedulla to give them a great capacity for work. They work sixteen hours of every day without tiring; each is worth three ordinary men for his work.

THOSE men who work at the super-sonic testing apparatusthey are infinitely sensitive to rhythm and vibration. The post-pituitary extract gives them that over-developed sense, which in us ordinary mortals is displayed when we keep time to music with a tapping foot, or beat a drum in a certain cadence.
"Then, the workers at the electrical apparatus are hyper-sensitive to even the magnetic field of a small helix. They substitute for galvanometric meters quite well, and have the added faculty of being able to reason, which a meter does not. They eliminate hours of rechecking and testing because they feel differences in potential and make immediate corrections.
"But the core of the work that is going on in this humanized workshop is shaped in my scientific laboratory. In the third sub-level are my prize gland-men. Some are fed with the thymus hormone, to give them the eidetist perceptions, or the ability to photograph on their minds what they see and hear, and refer to those things hours later without the slightest loss of memory. They are storehouses of valuable knowledge - human reference books.
"Others are fed with the pineal hormone to give them psychic and super-normal perceptions. Such men can see ultra-violet light, and even radio waves! They can telepathize their thoughts, and read those of the eidetist-sensitive; and they can perceive the answer to a mathematical problem before it is finished! To explain fully would involve technicalities not understandable to the layman.
"But my greatest results have been with the thyroid-hormone. This substance increases the rare quality of imagination! Most of these criminal minds are too coarse for the use, but some few have responded admirably to thyroid feeding. They are my right-hand men in my scientific work. With their help I have been enabled to invent the dozen and one important things which come from this placeincluding the great Super-Sonic Gun.
"One gland-man in particular is my pet. He responded splendidly to
three hormone feedings-the pineal, thymus, and thyroid. As a result he is a peculiar super-genius in certain lines, with a photographic mind, three extra 'senses' like the 'sixth sense', and a virile, leaping imagination that amazes even me. Furthermore, I have had his parathyroid glands removed surgically, which makes him hypersensitive to all stimuli, as the para-thyroid-hormone is the only checking' hormone in the human body. And whenever he fags and becomes enervated, I feed him insulin, which tones up his blood instantaneously, as it does for diabetes. It was he that conceived of a pseudo-magnetic field of force to bend light rays around and past obstructing molecules in solid matter. That resulted in the Invisibility Cloak."

The baron twisted uneasily around at the mention of the Invisibility Cleak. He still had that indefinable feeling of being spied upon by invisible eyes. The Americans had no Invisibility Cloaks-or weren't supposed to have any-but suppose they did-
"Ach! Are you listening to me, Baron Laiglon, or searching for ghosts?" growled the director, peeved that his words had so little effect on the military man.

THE baron turned slightly as though to answer. Instead, he suddenly leaped sideward. His hands clutched for empty air in the corner just behind the director. To the latter's amazement, the baron did not crash his head against the wall, as he feared, but struck something and rolled to the floor. His body miraculously raised: at the same time his chin bobbed back with a jerk and a welt appeared below his lip.

The baron's own powerful fists raised and beat downward, to fall upon something just off the floor with the sound of bone on flesh. Too stupefied to cry out, the director edged back a step and watched the strange scene. Suddenly there was a sharp snap, and immediately a cloaked figure appeared under the baron. The officer leaped back, level-
ing a pistol with menacing intent.
"Ach! An Invisibility Cloak he had-"
"So, a spy!" panted the baron. "Keep your hands up, American dog, if you do not wish to die on the spot!"

James Wistert, facing the menacing pistol, cursed bitterly to himself. To have got so far and then to be trapped like a child!
"You see, M. Bergmann," said the baron, keeping his sharp eye on the American, "that I was right about feeling eyes on me. I happened to glimpse, as I peered around, a faint human outline in that corner near us."
"One of the slight defects of the Invisibility Cloak," said the director as though apologizing. "It can be corrected-"

The baron interrupted. "Let us get our prisoner to a suitable place-a room from which he cannot escape. This will bear investigation."
"A spy!" screamed the director, suddenly cognizant that his sanctum had been invaded by the enemy. "Shoot him! Kill him-"
"A death he deserves and which awaits him. But for the present we must try to find his accomplice, if any. Call your guards."

The director hastened to comply, shouting loudly. As though from nowhere, uniformed men appeared, all heavily armed.
"You will give me your gun, monsieur?" said the baron politely.
For a mad moment Wistert thought of shooting it out. Then he shook that thought from his mind. The difference between a spy and a soldier was just ability to see when the odds were too great. He parted the overlapped slit in the cloak at his hip and pulled out his automatic, handing it over silently.

At the point of the baron's gun, Wistert doffed his now-useless cloak. The baron had been clever in ripping loose a wire, instead of merely snapping the switch. It had rendered the cloak useless, and had automatically cut off Wistert's chance of escape. After some discussion the guards were given orders and Wistert was conducted below to the lowermost leyel.
and locked in a musty, cement-lined room bare of even a chair.

## CHAPTER III <br> Y-44

$\mathbf{A}^{\mathrm{N}}$N hour later the American spy was thoroughly disgusted. The silence and darkness were getting on his nerves. Suddenly he heard footsteps. The heavy wooden door creaked open. At the same time a glaring beam of light crawled questingly along the wall.

The flashlight beam centered on him, blinding him for a moment.
"Ach, there he is, the verdamme Amerikaner!"
"Monsieur?" came Baron Laiglon's deep voice right after, although Wistert couldn't see him. "Your name, monsieur?"
"Suppose you guess," responded Wistert laconically.

The baron smiled, and then his voice became suddenly malicious. " He is intelligent, else he would not be a spy," he said to the director. "He would make an excellent subject for you, monsieur. Perhaps he would be an exceptional gland-man!" His tones hardened. "This place and its secret must never get to American headquarters. I wish to inform you, Monsieur Spy, that, in accordance with a timehonored custom, you will be shot at sunrise!"
There was a scraping of shoes and the flashlight beam swung away. "Sunrise will be here in one hour, verdammte Amerikaner!"

And with these words of harsh farewell ringing in his ears, Wistert was left alone.

One hour to live! If only he could die knowing the information he had would be passed on. Priceless information! Possessing it, America could gather her mighty air fleets and hordes of ground tanks, and penetrate to this spot-blast it from the earth.

Wistert tried his last hope, a forlorn one indeed. Putting one finger in his mouth, he rubbed vigorously the side of the tooth in front of his first
lower molar. It was an artificial hollow tooth, of white amber, containing a minute apparatus which responded to the static electricity produced by friction on its outside, radiating a faint etheric emanation. It was like a broadcasting radio; any fellow American spy within range-one hundred feet-would feel an ache in his jaw.

A forlorn hope, for Wistert had tried it several times already during this night. He wondered, as he rubbed diligently, what had happened to Y-44, who had been assigned to this place a month before.

Wistert almost bit his finger as his lower jaw suddenly began to ache. Lord, could it be possible, or was this some hallucination? In another moment he knew better, and with beating heart he crept stealthily to the door. There was a small barred opening in it, and to this he put his ear.

He heard the faintest of footsteps, and then a whispering voice hissed into his ear: "This is Y-44. Stand back; I'll open the door."

Wistert's heart was in his mouth as the key grated noisily. Then the ponderous door opened. He heard the panting of the newcomer, then his voice, a low whisper:
"Sorry I couldn't get here sooner. Knew you were here an hour agowhen you were captured. First chance I had-"
"I'm S-23," said Wistert eagerly. "I thought, though, that you'd been caught long ago. H.Q. thought so too."
"It's a long story," returned Y-44. "I tried undercover stuff, you seegot in here as a menial, or general servitor. Forged papers, cock-andbull life history, and all that. But believe it or not, it took me till three days ago to find out anything important. I worked upstairs; never got past the steel door to get down here."
"Well, now that we both know what we do, we'd better busy ourselves getting it out where it will do some good. Damn Bergmann and his gland-men! Can't tell what they'll cook up next, to America's almighty surprise. That Super-Sonic Gun alone-"
"But there's something worse on the way!" interrupted Y-44. "Heard of Bergmann's prize gland-man?"
"The one with thyroid, pineal, and I don't know what-all, who dug up the idea of Invisibility?"
"Yeah. Well, he's working right now on controlled Atomic Power, if you know any physics. He's getting places too; he has a vortex core-as they call it-of live energy in a leadscreened box. They're adapting it to long-range transmission. If it works it will disintegrate airships at a hundred miles!"
eeFTE gods! We've got to get . away. We've just got to! Any suggestions?"
"I've got your Invisibility Cloaktook it along when I stole the key to this room from Bergmann's office. Clipped back the ripped wire and it's as good as gold."
"Why, you're the goods!" exclaimed Wistert joyfully.
"Ought to be," sniffed the other. "I'm not Y-44 for nothing. Put it on and follow me. I won't need a Clioak because I've been recently transferred to the lowest level, and the guards know me."

The two spies-only one visible to unwary eyes-crept noiselessly down the hallway outside the room that had been Wistert's prison, in a darkness broken only by a few faint beams of light from a barred opening in a door at the corridor's end.
"This used to be a section of storerooms," informed Y-44 in a whisper. "Unused now, though. See that door? Right outside of it stands a guard. I got past him wearing the Invisibility Cloak, while he was pacing up and down. I think-"
"Yes, I know," returned Wistert grimly. "You walk out-talk to him for a second; I'll do the rest."

Y-44 listened at the barred opening till the guard's footsteps came close; then he pulled open the door, stepping out.
"Halt! Who's there?" challenged the guard, whipping out his pistol.
"It's I, Dobran," said Y-44 in perfect French. "Put up your gun, fool.

Would you shoot one who wears the service-blue?"

The guard stared suspiciously. "What are you doing in there-how did you get in there, anyway? Mon dieu!" His eyes sparkled dangerously. "Is it possible that you were attempting to aid the pris-uhf"

The guard instinctively reached for his throat, dropping his gun, as something clamped viclously about his windpipe.
"Of course I was," grinned Y-44, as invisible fingers choked the breath from the guard's throat. Wistert lowered the body only when assured the man would never again call a challenge.
"In there," pointed $Y-44$, and Wistert dragged the corpse into the dark hallway they had just come from. "You did a quick job of it, S-23."
"I would willingly do a dozen more of such quick jobs, if it assured us of escape," said Wistert grimly. "Now, what's the layout?"
"We're in the third sub-level," informed Y-44, "the lowermost, in which are contained all the scientific laboratories. Since our chances of going up through the whole place are practically nil, I suggest we try for the freight depot of this underground factory. It, too, is a sub-surface department, for purposes of secrecy; the freight-planes are taxied underground and unloaded there. There is a corridor connection to the depot from this level-at the other end. But guards are not so numerous down here; we have a good chance."
"Lead the way. If it comes to a showdown, this"-Wistert displayed the gun the guard had dropped to the floor-"will help considerably." He slipped the weapon beneath his garment so that it too was invisible.

Y-44 led the way along the dimly lighted passageways, peering ahead anxiously. Wistert, following ghostlike, noticed for the first time that his companion's dark-blue outfit covered a rather small and slight form. Beneath the tam, also of service-blue, was a delicately molded face-almost an effeminate one. It was hardly the picture Wistert had formed of Y-44,
one of America's most trusted agents. Yet brains were more important in a spy than brawn, and that Y-44 was soon to prove.

" 1N your toes," whispered Y-44, without slackening pace. "We must skirt the laboratory section."

Wistert gripped his pistol tighter. They passed doorways from which came the whining of dynamos, crackling of arcs, and other signs of scientific activity.
"This way!" said Y-44, leading the way straight into a laboratory. They threaded their way between towering apparatus attended by bewilderingly staring gland-men in denim.
"No guards in this section," explained Y-44, increasing the pace to half run. "These gland-men-under orders-higher-type-do not require guards-"

Wistert was amazed at the ramifications of the huge laboratory, and at the astounding things spread about in what seemed disorderly array. Denim-clad gland-men-human ma-chines-seemed everywhere, but they offered no resistance; most were so intent on their work that they did not look up.

Passing through an arched doorway that led into a long low chamber filled with great quartz tubes, Y-44 pulled Wistert behind a bulwark of bakelite studded with switches and buttons, then pointed eloquently at the back of the unsuspecting guard. Without compunction Wistert took careful aim and pulled the trigger. Y-44 leaped forward as soon as the man fell, jerking his pistol from its holster.

As they started forward, a bell clanged loudly. Y-44 turned a grave face to Wistert. "The alarm! I've been expecting it, yet hoping against it. Every guard in the whole place will be on the lookout for us now!"
"How far yet to the depot?"
"Not far-if we can make it!" Y-44 dashed forward recklessly. They plunged into a corridor, raced around a corner. Two guards whirled, guns spitting. Y-44 threw himself flat. Before the enemy could aim again for
the one figure visible to them, lying prone, Wistert's gun had spoken twice. His deadly aim stretched the men low with bullets in their brains.

As the two Americans ran past, both paused to reload their pistols from the guards' ammunition belts.
"Better take along some extras," admonished Y-44. In another moment they had supplied themselves, Y-44 filling a pocket, Wistert stuffing the shells in his belt pouch.

No more guards appeared for a time, and the two spies raced down a narrow corridor. Back of them the clanging of the alarm system died away.
"We're in Bergmann's personal laboratory section," panted Y-44. "Don't think they'll look for us here for a while. Now-""

Wistert brought up his gun as a figure appeared suddenly from a side corridor.
"No-" Y-44 struck his gun aside. "That's him-Bergmann's prize glandman, the inventor of the Invisibility Cloak!"
"What's he doing here?" demanded Wistert. "Looking for us too?"
"No. He often wanders around the corridors-when in deep thought with his gland-impregnated mind. He's privileged."

He stepped forward eagerly. "I want to talk to him."
"Good heavens, now?" spluttered Wistert. "When every second-"

Y-44 turned on him almost fiercely. "I've planned this for days! I wanted to come here, to meet him! Your coming to this place and getting me in a mess almost spoiled it, but I'm going through with it. If you're eager to get out, go up the steps at the end of this hallway, and turn to the right. It leads to the freight depot."

But Wistert did not take the hint; instead he followed Y-44, who approached the gland-man standing apathetically in the middle of the corridor.
eep standing directly in front of the gland-man. "Do you hear the
loud clanging of the alarm bells?"
The gland-man looked at the spy coldly, as though brought down from some Olympian height of thought. "Alarm bell? That noise! Yes, I hear it."
"It is ringing for us," continued Y-44, speaking slowly and distinctly. "They want to capture us-Bergmann and his men."

A frown came over the gland-man's brooding face. "Bergmann is-"
"Yes, he wants to kill us! Do you know why? Because we are his enemies. We tried to kill Bergmann and now he wants to kill us."

Something akin to interest came into the gland-man's face. A vague emotion was working through his somnolent nervous system-drugged by Bergmann to kill all personal initiative. Wistert, impatient at the strange delay, began to wonder what Y-44 had in mind.
"We tried to kill Bergmann," went on Y-44, "because he wishes to subjugate all the world, and make them all gland-men-make them slaves, as you are!"

The gland-man pondered this. Presently he spoke: "Slave? But I am a great scientist. I am a supermind !"
"But Bergmann is your master!" cried the spy. "You do as he tells you. You must, or he would kill you. You are a slave!"

The travesty of a rage glared suddenly from the gland-man's eyes. An instinct that Bergmann had almost eradicated worked in the doped mind -manifested itself in clenching fists -man's instinct against personal slavery.
"Come," said Y-44 then. "Must you be a slave, you who have made a vortex of living Atomic Power?"

A strange look came into the glandman's eyes.
"Must you bow to his will?"-the strange look deepened-"when you have inestimable power in your hands!"-the eyes widened-"You can show Bergmann who is master and slave!"-a deep anger flared-"You can in one moment defeat him"-an eager light now-"by releasing your
super-powerful vortex, immediately!"
Y-44 watched the gland-man's face like a hawk. Had the play on subconscious emotions and instincts succeeded in arousing in that human thinking machine a desire for revenge against Bergmann?
"Come," said the gland-man suddeniy. "We shall go to my laboratory -and release the vortex!"

CHAPTER IV
The Vortex

AYING this, he turned about, heading for an open door down the hall. Y-44 made as though to follow, but two strong, invisible hands held him back.
"No you don't," said Wistert. "You're coming with me! Let Morvaine do what he will, but you and I are getting out."
"No, no! I must go with him; he will forget! Everything depends on this! Let me go-"

Wistert wasted no further words but picked the other up bodily, and ran for the stairs that led to the freight depot. As he gained the top, he heard the murmur of voices behind them. He set Y-44 down.
"Coming? Or would you like to plow through a few guards? You've done a great piece of work, Y-44. But whether it succeeds or not, it is up to you and me to carry on the way we should-escape and contact H.Q."

Together, then, they ran along. Pounding feet sounded behind them. They gained a door which opened out into an immense drome with great unloading platforms and derricks.
"This way, quick!"
Wistert followed Y-44, who ran toward a huge opening at one end of the drome, toward an auxiliary lift, designed for human freight. Automatic machinery raised the cage at the swing of a lever. Before it had risen ten feet, a dozen guards came scurrying from the drome, guns belching. The two spies threw themselves flat to the metal flooring of the cage, returning the fire effectively.

In another moment, as the elevator rose steadily, they were secure from gunfire below.
"We're safe enough now," said Y-44 panting. "Outside we'll have to take our chances again. You see, I took this way of getting out because Bergmann would not expect us to try it. He may be a scientific genius, but I don't credit him with much sense of strategy. He no doubt has his main forces combing the upper levels for us."

With quick movements, Wistert suddenly doffed his Invisibility Cloak, extending it toward the other. "I have a premonition, though, that we're going to fall into the arms of a bunch of guards outside. That Baron Laiglon is a wise old buzzard. It's your turn now to be protected by this thing."
"No! I have never worn one; I would-would stumble! You-"
"This is no time to argue," said Wistert. "Put it on." He looked Y-44 in the face with an odd smile. "Besides, what kind of a man would I be, letting you take the greatest risk?"

Y-44 started. "What do you mean?"

Wistert's smile became a grin. "Do you remember, Y-44, when I shot that guard? I heard something resembling a scream from you in the excitement. And, in circumstances like that, men do not scream!"

Y-44 stared for a moment, eyes dilating. "All right," she said finally, "I am a woman. But I insist on taking my share of the risks." Pulling open the grillwork door, she dashed out, pistol in hand.
"You little fool!" said Wistert admiringly as he followed.

Y-44 ran to a door and opened it cautiously. Wistert pered through, to see a giant chamber whose one side was open to the night air. Here it was where the giant commercial craft, loaded with supplies, were taxied to the great freight lift to be lowered and unloaded in secrecy.
"We can't escape on foot," whispered Y-44. "We must gain the open
air and then look for a motor-car; or, better, an airplane. If luck is with us, we may find a big Stutgart outside, waiting to be taken in at daylight, to be unloaded. Think you and I could handle one?"
"Lead me to it," grunted Wistert.
Y-44 took a deep breath and stepped from the small ante-chamber. The great room beyond was empty, and but faintly illuminated by a few overhead lights. Two hundred yards away lay freedom.

The two spies hugged the wall, making their way toward the large portal to the outside. They were in a precarious position, exposed to gunfire from three directions. Wistert did not breathe easily till they had gone halfway and gained the welcome protection of a bulwark which stood there to break the back-wash of powerful airplane propellers.

Wistert leaped ahead of Y-44 suddenly, and was the first to step from behind the concealing partition. There was a sharp pop and a bullet whined past his ear. He jerked back with an exclamation.
"Tough luck," said Y-44, biting her lip at this unexpected opposition. "How many are there, can you see?"

Wistert was already peering cautiously around the bulwark. "Can't make it out, but-" He clipped off his words to bring up his right hand. At the sound of his shot there was a short scream from the direction of the open doorway.

Wistert turned hard eyes on his companion. "We've got to make a rush for it-our only chance!"
"Let's go, S-23!"
Wistert gripped her extended hand, looking down into her eyes. As they were about to dash headlong in a wild fight for freedom, a ringing voice reverberated through the place, coming from ahead.
"Messieurs Spies! You are trapped! I await you here with ten guardshere at the door which is your only escape!"

The two besieged spies looked at one another in dismay.
"What do you say, Y-44?" asked Wistert quietly.

The other turned away suddenly to hide a trembling lip. Wistert expressed a strange desire to take her in his arms and comfort her. Then Y-44 whirled around, face set grimly.
"I say let's give the baron his money's worth!"

There was no chance to employ subterfuge or design. It was an open stretch from their position to the portal. There was not a stick or stone to use as temporary protection. It was obvious suicide. Already the first greyings of dawn were lighting up the huge open chamber.

THEY dashed out together, eyes grimly set to spot the enemy when he would reveal himself. Before they had advanced twenty feet, dark figures loomed against the pale sky, limned clearly in the doorway. A volley of shots rang out, and bullets whined by their ears. Sobbing in a deadly rage, Wistert sped forward, withholding his fire till he could make more effective use of it. Y-44 fell a little behind.

Another volley of shots, and by some miracle the two spies were untouched. A tall, broad-shouldered figure leaped forward to meet them. The guards in back, fearing to hit the officer, were forced to cease firing. When no more than a hundred feet separated them, Wistert and the baron stopped short as though at a signal, firing.

Wistert's pistol barked three times. Something tore at his left shoulder and jerked him half around. But his eyes lighted up as he saw the enemy officer crumple and fall forward.
"Good work!" cried Y-44, dashing past him straight for the massed guards.

Wistert started forward again; he saw the opposing guards again bringing up their guns, taking deadly aim. Wistert was not conscious of the cause, but suddenly he noticed that something strange had happened. The guards were swaying as though caught in a twisting wind. Their guns fell from shaking hands; they seemed to be frightened.

Wistert became aware then that he
himself was staggering forward drunkenly. It seemed as though the ground were heaving under him. He felt a hand on his shoulder; then an eager voice shouted into his ear:
"At lastl I've been hoping and praying for it! Come on, S-23, now's our chance."

Wistert followed Y-44 just as a terrific rending and grinding noise tore the air to shreds. He saw walls tumbling, ceilings cracking; the floor seemed to squirm as though alive. It was like a nightmare in slow motion. Then they were in the open air.

In the half-gloom, a huge Stutgart loomed before them. Wistert scrambled in the cabin, half pulled by his companion. He saw as in a daze that Y-44 was in one of the twin pilot seats, darting her hands around. A dull roar sounded ahead. Y-44's face, a little pale, swung around to him.
"All set to go, S-23. But you'll have to handle the stick and vanes. It's a two-man job running one of these monsters. Oh!"-it was a wholly feminine scream-"you're hurt!"

Wistert pushed her roughly away as she began to rip his coat sleeve. With an immense effort of will he caught his lagging senses, hammered them into alertness with pure mental concentration. He threw himself into the other pilot seat.

He was fully awake now. While the engines warmed up, he scanned the strange controls carefully. Then he nodded toward Y-44, who, to his irritation, was watching him anxiously.

With a roar the huge airplane's three motors revved to high speed, and the great ship plunged along the ground. In a few minutes they were climbing.

Then they looked back and down at the place they had left. It was a smoking ruin.
"Were we the only two to get out alive?" Wistert asked wonderingly.
"It's a miracle that we got out!" cried Y-44. "Those guards a hundred feet away were crushed. It was like an earthquake, more than anything else. Of course, down below it was in reality a tremendous explosion, as
the released vortex disintegrated everything around it into flying particles. I doubt if anyone can be alive in any of the sub-levels."
"And that's the end of Bergmann's mad work," said Wistert thoughtfully. "Betrayed by one of his own gland-men! Well, he had it coming."

The ship winged its way toward Egypt-and honor for its two pilotsas a red dawn lit up the world below in rosy tints. That same dawn that was to have marked their deaths as
spies. The sun rose ever higher.
Y-44 had bound Wistert's wound as best she could. She turned suddenly to him, a little piqued.
"May I inform you, S-23, that you have been staring at me for one solid hour. What can be so interesting in my grimy face, anyway?"
"I was just wondering," said Wistert dreamily, "if your eyes are blue or perhaps violet. That will be my next mission-a private one-but rather important, in a way."

## SCIENCE GONE MAD! In DICTATOR OF THE ATOMS, a Novelette by ARTHUR J. BURKS in the next issue, Cosmic Forces Tremble on the Brink of Insanity!

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# The CIRCLE of ZERO 

# Old Professor de Néant Probes Into the Bottomless Well of Infinityl 

CHAPTER I<br>\section*{The Law of Chance}

If there were a mountain a thousand miles high, and every thousand years a bird flew over it, just brushing the peak with the tip of its wing, in the course of inconceivable eons the mountain would be worn away. Yet all those ages would not be one second to the length of eternity. . . .

IDON'T know what philosophical mind penned the foregoing, but the words keep recurring to me since last I saw old Aurore de Néant, erstwhile professor of psychology at Tulane. When, back in '24, I took that course in Morbid Psychology from him, I think the only reason for taking it at all was that I needed an eleven o'clock on Tuesdays and Thursdays to round out a lazy program.

I was gay Jack Anders, twenty-two years old, and the reason seemed sufficient. At least, I'm sure that dark and lovely Yvonne de Néant had nothing to do with it; she was but a slim child of sixteen.

Old de Néant liked me, Lord knows why, for I was a poor enough student. Perhaps it was because I never, to his knowledge, punned on his name. Aurore de Néant translates to Dawn of Nothingness, you see; you can imagine what students did to such a name. "Rising Zero"-_"Empty Morn-ing"-those were two of the milder sobriquets.

That was in '24. Five years later I was a bond salesman in New York,
I. watched wild, winged figures playing in aroseate glade - not at all human in form, but transcendently beautiful

and Professor Aurore de Néant was fired. I learned about it when he called me up; I had drifted quite out of touch with University days.

He was a thrifty sort. He had saved a comfortable sum, and had moved to New York, and that's when I started seeing Yvonne again, now darkly beautiful as a Tanagra figurine. I was doing pretty well, and was pilIng up a surplus against the day when Yvonne and I . . .

At least, that was the situation in August, 1929. In October of the same year, I was as clean as a gnawed bone and old de Néant had but little more meat. I was young, and could afford to laugh; he was old, and he turned bitter. And indeed, Yvonne and I did little enough laughing when we thought of our own future; but we didn't brood like the professor.

IREMEMBER the evening he broached the subject of the Circle of Zero. It was a rainy, blustering fall night, and his beard waggled in the dim lamplight like a wlsp of grey mist. Yvonne and I had been staying in evenings of late; shows cost money, and I felt that she appreciated my talking to her father, and-after all-he retired early.

She was sitting on the davenport at his side when he suddenly stabbed a gnarled finger at me and snapped, "Happiness depends on money!"

I was startled. "Well, it helps," I agreed.

His pale blue eyes glittered. "We must recover ours!" he rasped.
"How?"
"I know how. Yes, I know how!" He grinned thinly. "They think I'm mad. You think I'm mad; even Yvonne thinks so."

The girl said softly, reproachfully, "Father!"
"But I'm not," he continued. "You and Yvonne, and all the fools holding chairs at universities-yes! But not me."
"I will be, all right, if conditions don't get better soon," I murmured. I was used to the old man's outbursts.
"They will be better for us," he said, calming. "Money! We will do any-
thing for money, won't we, Anders?" "Anything honest."
"Yes, anything honest. Time is honest, isn't it? An honest cheat, because it takes everything human and turns it into dust." He peered at my puzzled face. "I will explain," he said, "how we can cheat time."
"Cheat-"
"Yes. Listen, Jack. Have you ever stood in a strange place and felt a sense of having been there before? Have you ever taken a trip and sensed that sometime, somehow, you had done exactly the same thing-when you know you hadn't?"
"Of course. Everyone has. A memory of the present, Bergson calls it-"
"Bergson is a fooll Philosophy without science. Listen to me." He leaned forward. "Did you ever hear of the Law of Chance?"

I laughed. "My business is stocks and bonds. I ought to know of it."
"Ah," he said, "but not enough of it. Suppose I have a barrel with a million trillion white grains of sand in it, and one black grain. You stand and draw a single grain, one after the other, look at it, and throw it back into the barrel. What are the odds against drawing the black grain?"
"A million trillion to one, on each draw."
"And if you draw half of the million trillion grains?"
"Then the odds are even."
"So!" he said. "In other words, if you draw long enough, even though you return each grain to the barrel and draw again, some day you will draw the black one-if you try long enough!"
"Yes," I said.
"Suppose now you tried for eternity?"
"Eh?"
"Don't you see, Jack? In eternity, the Law of Chance functions perfectly. In eternity, sooner or later, every possible combination of things and events must happen. Must happen, if it's a possible combination. I say, therefore, that in eternity, whatover can happen will happen!"' His blue oyes blazed in pale fire.

I was a trifle dazed. "I guess you're right," I muttered.
"Right! Of course I'm right. Mathematics is infallible. Now do you see the conclusion?"
"Why-that sooner or later everything will happen."
"Bah! It is true that there is eternity in the future; we cannot imagine time ending. But Flammarion, before he died, pointed out that there is also an eternity in the past. Since in eternity everything possible must happen, it follows that everything must already have happened!"

IGASPED. "Wait a minute! I don't see-""
"Stupidity!" he hissed. "It is but to say with Einstein that not only space is curved, but time. To say that after untold eons of millenniums, the same things repeat themselves because they must! The Law of Chance says they must, given time enough. The past and the future are the same thing, because everything that will happen must already have happened. Can't you follow so simple a chain of logic?"
"Why-yes. But where does it lead?"
"To our money! To our money!"
"What?"
"Listen. Do not interrupt. In the past, all possible combinations of atoms and circumstances must have occurred." He paused, then stabbed that bony finger of his at me. "Jack Anders, you are a possible combination of atoms and circumstances! Possible because you exist at this mo. ment!"
"You mean-that $I$ have happen ed before?"

He sneered. "How apt you ar e! Yes, you have happened before, a nd will again."
"Transmigration!" I g ulped. "That's unscientific."
"Indeed?" He frowned as if in effort to gather his thoughts,. "The poet Robert Burns was buri ed under an apple tree. When, year :s after his death, he was to be rer soved to rest among the great men of: Westminster Abbey, do you knr.sw what they
found? Do you know?"-shouting.
"I'm sorry, but I don't."
"They found a root! A root with a bulge for a head, branch roots for arms and legs, and little rootlets for fingers and toes. The apple tree had eaten Bobby Burns-but who had eaten the apples?"
"Who-what?"
"Exactly'. Who and what? The substance that had been Burns was in the bodies of Scotch countrymen and children, in the bodies of caterpillars who haa' eaten the leaves and become butterflifes and been eaten by birds, in the wood of the tree. Where is Bobby Burns? Transmigration, I tell you! Isn't that transmigration?"
"Yes-buit not what you meant about me. His body may be living, but in a thousand different forms."
"Ah! And when some day, eons and eternities in the future, the Laws of Cbance form another nebula that will، cool to another sun and another eart $t h$, is there not the same chance that those scattered atoms may reassemivie another Bobby Burns?"
"Brat what a chance! Trillions and trillions to one!"
"F3ut eternity, Jack! In eternity that one chance out of all those trillions must happen-must happen l"

I was floored. I stared at Yvonne's pale and lovely features, then at the glistening old eyes of Aurore de Néant.
"You win," I said with a long sigh. "But what of it? This is still nineteen twenty-nine, and our money's still sunk in a very sick securities market."
"Money!" he groaned. "Don't you see? That memory we started from -that sense of having done a thing before-that's a memory out of the infinitely dead past-or, which is the same, the infinitely remote future. If only-if only one could remember clearly! But I have a way." His voice rose suddenly to a shrill scream. "Yes, I have a way!"

Wild eyes glared at me. I said, "A way to remember our former incarnations?" One had to humor the old professor. "To remember-the future?"
"Yes! Reincarnation!" His voice
crackled wildly. "Re-in-carnatione, which is Latin for "by the thing in the carnation', but it wasn't a carnationit was an apple tree. The carnation is dianthus carophyllus, which proves that the Hottentots plant carnations on the graves of their ancestors, whence the expression 'nipped in the bud.' If carnations grow on apple trees-"
"Fatherl" cut in Yvonne sharply. "You're tired!" Her voice softened. "Come. You're going to bed."
"Yes," he cackled. "To a bed of carnations."

## CHAPTER II

## Experiments in Hypmotism

$\Sigma^{\circ}$OME evenings later, A Aurore de Néant reverted to the samse topic. He was clear enough as to whisere be had left off.
"So in this millennially dead past," he began suddenly, "there was a year nineteen twenty-nine, and twu fools named Anders and de Néant, who invested their money in what are sarcastically called securities. There was a clown's panic, and their money vanished." He leered fantastically at me. "Wouldn't it be nice if they could remember what happened in, say, the months from December, nine teen twenty-nine, to June, nineteen thirty-next year?" His voice was suddenly whining. "They could get their money back then!"

I humored him. "If they could remember."
"They can!" he blazed. "They can!"
"How?"
His voice dropped to a confidential softness. "Hypnotism! You studied Morbid Psychology under me, didn't you, Jack? Yes-I remember."
"But, hypnotism!" I objected. "Every psychiatrist uses that in his treatments, and no one has remembered a previous incarnation, or anything like it."
"No. They're fools, these doctors and psychiatrists. Listen-do you remember the three stages of the hyp-
notic state, as you learned them?"
"Yes. Somnambulism, lethargy, catalepsy."
"Right. In the first, the subject speaks, answers questions. In the second, he sleeps deeply. In the third, catalepsy, he is rigid, stiff, so that he can be laid across two chairs, sat onall that nonsense."
"I remember. What of it?"
He grinned bleakly. "In the first stage the subject remembers everything that ever happened during his life. His subconscious mind is dominant, and that never forgets. Correct?"
"So we were taught."
He leaned tensely forward. "In the second stage, lethargy, my theory is that he remembers everything that happened in his other lives! He remembers the future!"
"Huh? Why doesn't someone do it, then?"
"He remembers while he sleeps; he forgets when he wakes. That's why. But I believe that with proper training he can learn to remember."
"And you're going to try?"
"Not I. I know too little of finance. I wouldn't know how to interpret my memories."
"Who, then?"
"You!" He jabbed that long finger against me.

I was thoroughly startled. "Me? Oh, no! Not a chance of it!"
"Jack," he said querulously, "didn't you study hypnotism in my course? Didn't you learn how harmless it is? You know what tommyrot the idea is (1) one mind dominating another. You k now the subject really hypnotizes himself, and that no one can hypnotize an unwilling person. Then what aris you afraid of?"
[-well, I didn't know what to answ er. "I'm not afraid," I said grimly. "I just don't like it."
"Youre afraid!"
"I'm not!"
"You are!" He was growing excited.

It was at that moment that Yvonne's footsteps sounded in the hall. His eyes glittered; he looked at me with a sinister hint of cunning.
"I dislike cowards," he whispered. His volce rose. "So does Yvonne!"

The girl entered, perceiving his excitement. "Oh!" she frowned. "Why do you have to take these theories so to heart, father?"
"Theories?" he screeched. "Yes! I have a theory that when you walk you stand still and the sidewalk moves back. No-then the sidewalk would split if two people walked toward each other-or maybe it's elastic. Of course it's elastic! That's why the last mile is the longest; it's been stretched!"'

Yvonne got him to bed.

WELL, he talked me into it. I don't know how much was due to my own credulity and how much to Yvonne's solemn dark eyes. I halfbelieved the professor by the time he'd spent another evening in argument, but I think the clincher was his veiled threat to forbid Yvonne my company. She'd have obeyed him if it killed her; she was from New Orleans too, you see, and of Creole blood.

I won't describe that troublesome course of training. One has to develop the hypnotic habit; it's like any other habit, and must be formed slowly. Contrary to the popular opinion, morons and people of low intelligence can't ever do it. It takes real concentration; the whole knack of it is in the ability to concentrate one's attention -and I don't mean the hypnotist, either.

I mean the subject. The hypnotist hasn't a thing to do with it except to furnish the necessary suggestion by murmuring, "Sleep - sleep - sleep-sleep-" And even that isn't necessary, once you learn the trick of it.

I spent half an hour or more, nearly every evening, learning that trick. It was tedious, and a dozen times $I$ became thoroughly disgusted and swore to have no more to do with the farce. But always, after the half-hour's humoring of de Néant, there was Yvonne, and the boredom vanished. As a sort of reward, I suppose, the old man took to leaving us alone; and we used our time, I'll wager, to better ourpose than he used his.

But I began to learn, little by little. Came a time, after three weeks of tedium, when I was able to cast myself into a light somnambulistic state. I remember how the glitter of the cheap stone in Professor de Neants ring grew until it filled the wrurld, and how his voice, mechanicall:y dull, murmured like the waves of sleep in my ears. I remember every'ching that transpired during those minutes, even his query, "Are you sleeping?" and my automatic reply, "Yes."

By the end of Nruvember we had mastered the secon ${ }^{\prime}$, state of lethargy, and then-I don't know why, but a sort of enthusiasm for the madness took hold of mie. Business was at a standstill; I grew tired of facing customers to whom I had sold bonds at par that were now worth fifty or less, and trying to explain why. After a while $r_{2}$ began to drop in on the professor during the afternoon, and we went through the insane routine again and again.

Yvonne comprehended only a part of the bizarre scheme. She was never in the room during our half-hour trials, and knew only vaguely that we were involved in some sort of experiment that was to restore our lost money. I don't suppose she had much faith in it, but she always indulged her father.

It was early in December that I began to remember things. Dim and formless things at first-sensations that utterly eluded the rigidities of words. I tried to express them to de Néant, but it was hopeless.
"A circular feeling," I'd say. "Nonot exactly-a sense of spiral-not that, either. Roundness-I can't recall it now. It slips away."
He was jubilant. "It comes!" he whispered, grey beard a-waggle and pale eyes glittering. "You begin to remember!"
"But what good is a memory like that?"
"Waitl It will come clearer. Of course not all your memories will be of the sort we can use. They will be scattered. Through all the multifold eternities of the past-future circle you can't have been always Jack

Anders, securities salesman. There will be fragmentary memories, recollections of times when your personallty was partially existent, when the Laws of Chance had assembled a being who was not quite Jack Anders, in scrme period of the infinite worlds that must have risen and died in the span of eternities. But somewhere, too, the same atoms, the same conditions, must have made you. You're the black grain smong the trillions of white grains, and with all eternity to draw in, you must have been drawn before-many, many times."
"Do you suppose," I asked sudden15 , "that anyone exists twice on the same earth? Reincarzation in the sense of the Hindus?"

He laughed scornfully. "The age of the earth is somewhere between a thousand million and thres thousand million years. What proportion of eternity is that?"
"Why-no proportion at all. Zero."
ee NXACTLY, and zero represents the chance of the same atoms combining to form the same person twice in one cycle of a planet. But I have shown that trillions, or trillions of trillions of years ago, there must have been another earth, another Jack Anders, and"-his voice took on that whining note-""another crash that ruined Jack Anders and old de Neant. That is the time you must remember out of lethargy."
"Catalepsy!" I said. "What would one remember in that?"
"God knows."
"What a mad scheme!" I said suddenly. "What a crazy pair of fools we are!" The adjectives were a mistake.
"Mad? Crazy?" His voice became a screech. "Old de Néant is mad, eh? Old Dawn of Nothingness is crazy! You think time doesn't go in a circle, don't you? Do you know what a circle represents? I'll tell you! A circle is the mathematical symbol for zero! Time is zero-time is a circle. I have a theory that the hands of a clock are really the noses, because they're on the clock's face, and since time is a circle they go round and round and round and round-"

Yvonne slipped quietly into the room and patted her father's furrowed forchead. She must have been listening.

CHAPTER III

## Into the Future

ee F OOK here," I said at a later time 4 to de Néant. "If the past and future are the same thing, then the future's as unchangeable as the past. How, then, can we expect to change it by recovering our money?"
"Change it?" he snorted. "How do you know we're changing it? How do you know that this same thing wasn't done by that Jack Anders and de Neant back on the other side of eternity? I say it was!"

I subsided, and the weird business went on. My memories-if they were memories-were coming clearer now. Often and often I saw things out of my own immediate past of twentyseven years, though of course de Neant assured me that these were visions from the past of that other self on the far side of time.

I saw other things too, incidents that I couldn't place in my experience, though I couldn't be quite sure they didn't belong there. I might have forgotten, you see, since they were of no particular importance. I recounted everything dutifully to the cld man immediately upon awakening, and sometimes that was difficult, like trying to find words for a halfremembered dream.

There were other memories as well -bizarre, outlandish dreams that had little parallel in human history. These were always vague and sometimes very horrible, and only their inchoate and formless character kept them from being utterly nerve-racking and terrifying.

At one time, I recall, I was gazing through a little crystalline window into a red fog through which moved indescribable faces-not human, not even associable with anything I had ever seen. On another occasion I was wandering, clad in furs, across a cold
grey desert, and at my side was a woman who was not quite Yvonne.

I remember calling her Pyroniva, and knowing even that the name meant "Snowy-fire." And here and there in the air about us floated queer little bloated fungoid things, bobbing around like potatoes in a waterbucket; and once we stood very quiet while a menacing form that was only remotely like the small fungi droned purposefully far overhead, toward some unknown objective.

At still another time I was peering fascinated into a spinning pool of mercury, watching an image therein of two wild, winged figures playing in a roseate glade-not at all human in form, but transcendently beautiful, bright and iridescent.

I felt a strange kinship between these two creatures and myself and Yvonne, but I had no inkling of what they were, nor upon what world, nor at what time in eternity, nor even of what nature was the room that held the spinning pool that pictured them.

Old Aurore de Néant listened carefully to the wild word-pictures I drew.
"Fascinating!" he muttered. "Glimpses of an infinitely distant future caught from a ten-fold infinitely remote past. These things you describe are not earthly; it means that somewhere, sometime, men are actually to burst the prison of space and visit other worlds. Some day-"
"If these glimpses aren't simply nightmares," I said.
"They're not nightmares," he snapped, "but they might as well be, for all the value they are to us." I could see him struggle to calm himself. "Our money is still gone. We must try, keep trying, for years, for centuries, until we get the black grain of sand, because black sand is a sign of gold-bearing ore-" He paused. "What am I talking about?" he said querulously.

Well, we kept trying. Interspersed with the wild, all but indescribable visions came others almost rational. The thing became a fascinating game. I was neglecting my business-though that was small loss-to chase dreams
with old Professor Aurore de Néant.
I spent evenings, afternoons, and finally mornings, too, lying in the slumber of the lethargic state, or telling the old man what fantastic things I had dreamed-or, as he said, remembered. Reality became dim to me; I was living in an outlandish world of fancy, and only the dark, tragic eyes of Yvonne tugged at me, pulled me back into the daylight world of sanity.

IHAVE mentioned more nearly rational visions. I recall one-a city, but what a city! Sky-piercing, white and beautiful, and the people of it were grave with the wisdom of gods, pale and lovely people, but solemn, wistful, sad. There was the aura of brilliance and wickedness that hovers about all great cities, that was born, I suppose, in Babylon, and will remain until great cities are no more.

But there was something else, something rather intangible; I don't know exactly what to call it, but perhaps the word decadence is as close as any word we have. As I stood at the base of a colossal structure there was the whir of quiet machinery, but it seemed to me, nevertheless, that the city was dying.

It might have been the moss that grew green on the north walls of the buildings; it might have been the grass that pierced here and there through the cracks of the marble pavements; or it might have been only the grave and sad demeanor of the pale inhabitants. There was something that hinted of a doomed city and a dying race.

A strange thing happened when I tried to describe this particular memory to old de Néant. I stumbled over the details, of course; these visions from the unplumbed depths of eternity were curiously hard to fix between the rigid walls of words. They tended to grow vague, to elude the waking memory. Thus, in this description, I had forgotten the name of the city.
"It was called," I said hesitatingly, "Termis or Termolia, or-"
"Termopolis!" hissed de Néant impatiently. "City of the End!"

I stared amazed. "That's it! But how did you know?" In the sleep of lethargy, I was sure, one never speaks.

A queer, cunning look flashed in his pale eyes. "I knew," he muttered. "I knew." He would say no more.

But I think I saw that city once again. It was when I wandered over a brown and treeless plain, not like that cold grey desert, but apparently an arid and barren region of the earth. Dlm on the western horizon was the circle of a great cool, reddish sun; it had always been there, I remembered, and knew with some other part of my mind that the vast brake of the tides had at last slowed the earth's rotation to a stop, and day and night no longer chased each other around the planet.

The air was biting cold, and my companions and I-there were half a dozen of us-moved in a huddled group, as if to lend each other warmth from our half-naked bodies. We were all of us thin-legged, skinny creatures, with oddly deep chests and enormous, luminous eyes, and the one nearest me was again a woman who had something of Yvonne in her, but very little. And I was not quite Jack Anders, either; but some remote fragment of me survived in that barbaric brain.

Begond a hill was the surge of an oily sea. We crept circling about the mound, and suddenly I perceived that sometime in the infinite past that hill had been a city. A few Gargantuan blocks of stone lay crumbling on it, and one lonely fragment of a ruined wall rose gauntly to four or five times a man's height. It was at this spectral remnant that the leader of our miserable crew gestured, then spoke in somber tones-not English words, but I understood.
"The gods," he said-"the gods who piled stones upon stones are dead, and harm not us who pass the place of their dwelling."

I knew what that was meant to be. It was an incantation, a ritual; to protect us from the spirits that lurked among the ruins-the ruins, I believe, of a city built by our own ancestors thousands of generations before.

As we passed the wall I looked back at a flicker of movement, and saw
something hideously like a black rubber doormat flop itself around the angle of the wall. I drew closer to the woman beside me and we crept on down to the sea for water-yes, water, for with the cessation of the planet's rotation rainfall had vanished also, and all life huddled near the edge of the undying sea and learned to drink its bitter brine. I didn't glance again at the hill which had been Termopolis, the City of the End; but I knew that some chance-born fragment of Jack Anders had been-or will be; what difference, if time is a circle?witness of an age close to the day of humanity's doom.

ITT was early in December that I had the first memory of something that might have been suggestive of success. It was a simple and very sweet memory, just Yvonne and I in a garden that $I$ knew was the inner grounds on one of the New Orleans' old homes-one of those built, in the Continental fashion, about a court.

We sat on a stone bench beneath the oleanders, and I slipped my arm very tenderly about her and murmured, "Are you happy, Yvonne?"

She looked at me with those tragic eyes of hers and smiled, and then answered, "As happy as 1 have ever been."

And I kissed her.
That was all, but it was important. It was vastly important, because it was definitely not a memory out of my own personal past. You see, I had never sat beside Yvonne in a garden sweet with oleanders in the Old Town of New Orleans, and I had never kissed her until we met again in New York.

Aurore de Néant was elated when I described this vision.
"You see!" he gloated. "There is evidence. You have remembered the future! Not your own future, of course, but that of another ghostly Jack Anders, who died trillions and quadrillions of years ago."
"But it doesn't help us, does it?" I asked.
"Oh, it will come now! You wait. The thing we want will come,"

And it did, within a week. This memory was curiously bright and clear, and familiar in every detail. I remember the day. It was the eighth of December, 1929, and I had wandered aimlessly about in search of business during the morning. In the grip of that fascination I mentioned I drifted to de Néant's apartment after lunch. Yvonne left us to ourselves, as was her custom, and we began.

This was, as I said, a sharply outlined memory-or dream. I was leaning over my desk in the company's office, that too-seldom-visited office. One of the other salesmen-Summers was his name-was leaning over my shoulder, and we were engaged in the quite customary pastime of scanning the final market reports in the evening paper. The print stood out clear as reality itself; I glanced without surprise at the date-line. It was Thursday, April 27th, 1930-almost five months in the future!

Not that I realized that during the vision, of course. The day was merely the present to me; I was simply looking over the list of the day's trading. Figures-familiar names. Telephone, 2103/8; U. S. Steel, 161; Paramount, $681 / 2$.

I jabbed a finger at Steel. "I bought that at 72," I said over my shoulder to Summers. "I sold out everything today. Every stock I own. I'm getting out before there's a secondary crack."
"Lucky stiff!" he murmured. "Buy at the December lows and sell out now! Wish I'd had money to do it." He paused. "What you gonna do? Stay with the company?"
"No. I've enough to live on. I'm going to stick it in Governments and paid-up insurance, and live on the income. I've had enough of gambling"
"You lucky stiff!" he said again. "I'm sick of the Street too. Staying in New York?"
"For a while. Just till I get my stuff invested properly. Yvonne and I are going to New Orleans for the winter." I paused. "She's had a tough time of it. I'm glad we're where we are."
"Who wouldn't be?" asked Sum-

## HINT TO WIVES

## WITH

TENDER NOSES


IF he won't clean his pipe and give up that coal-gas tobacco, clip this ad and lay it beside his easy chair along with a pack of pipe cleaners and a tin of Sir Walter Raleigh. 'Tis thus many a loving wife has freed her home from tobacco far too strong and odorous for this sensitive world. Sir Walter Raleigh is a fascinating blend of extramild and extra-fragrant Kentucky Burleys. Smoked regularly in a well-kept briar, it makes the air clearer and sweeter, and your curtains stay fresher. Sir Walter is a sure cure for nosebite and tongue-bite. And how men are buying it at only $15 \$$ a tin! Now it's your move!

mers, and then again, "You lucky stiff!"

De Néant was frantically excited when I described this to him. "That's it!" he screamed. "We buy! We buy tomorrow! We sell on the twentyseventh of May, and then-New Orleans!"

Of course I was nearly equally enthusiastic. "By heaven!" I said. "It's worth the risk! We'll do it!" And then a sudden hopeless thought. "Do it? Do it with what? I have less than a hundred dollars to my name. And you-"

The old man groaned. "I have nothing," he said in abrupt gloom. "Only the annuity we live on. One can't borrow on that." Again a gleam of hope. "The banks. We'll borrow from them!"

I had to laugh, though it was a bitter laugh. "What bank would lend us money on a story like this? They wouldn't lend Rockefeller himself money to play this sick market, not without security. We're sunk, that's all."

I looked at his pale, worried eyes. "Sunk," he echoed dully. Then again that wild gleam. "Not sunk " he yelled. "How can we be? We did do It ! You remembered our doing it I We must have found the way ${ }^{\prime \prime}$

IGAZED, speechless. Suddenly a queer, mad thought flashed over me. This other Jack Anders, this ghost of quadrillions of centuries past -or future-he too must be watching, or had watched, or yet would watch, me-the Jack Anders of this cycle of eternity. He must be watching as anxiously as I to discover the means. Each of us watching the other; neither of us knowing the answer. The blind leading the blind! I laughed at the irony.

But old de Néant was not laughing. The strangest expression I have ever seen in a man's eyes was in his as he repeated very softly, "We must have found the way, because it was done. At least you and Yvonne found the way."
"Then all of us must," I answered sourly.
"Yes. Oh, yes. Listen to me, Jack. I am an old man, old Aurore de Néant. I am old Dawn of Nothingness, and my mind is cracking. Don't shake your head"' he snapped. "I am not mad. I am simply misunderstood. None of you understand. Why, I have a theory that trees, grass, and people do not grow taller at all; they grow by pushing the earth away from them, which is why you keep hearing that the world is getting smaller every day. But you don't understand; Yvonne doesn't understand-"

The girl must have been listening. Without my seeing her, she had slipped into the room and put her arms gently about her father's shoulders, while she gazed across at me with anxious eyes.

## CHAPTER IV

## A Prophecy

THERE was one more vision, irrelevant in a way, yet vitally important in another way. It was the next evening. An early December snowfall was dropping its silent white beyond the windows, and the illheated apartment of the de Neants was draughty and chill. I saw Yvonne shiver as she greeted me, and again as she left the room, and I noticed that old de Néant followed her to the door with his thin arms about her, and that he returned with very worried eyes.
"She is New Orleans born," he murmured. "This dreadful arctic climate will destroy her. We must find a way at once."

That vision was a somber one. I stood on a cold, wet, snowy ground; Just myself and Yvonne and one who stood beside an open grave. Behind us stretched rows of crosses and white tombstones, but in our corner the place was ragged, untended, unconsecrated. The priest was saying, "And these are things that only God understands."

I slipped a comforting arm about Yvonne. She raised her dark, tragic eyes and whispered; "It was yester.
day, Jack-just yesterday that he said to me, 'Next winter you shall spend in New Orleans, Yvonne.' Just yesterday!'

I tried a wretched smile, but I could only stare mournfully at her forlorn face, watching a tear that rolled slowly down her right cheek, hung glistening there a moment, then was joined by another and splashed unregarded on the black bosom of her dress.

That was all, but how could I describe that vision to old de Néant? I tried to evade; he kept insisting.
"There wasn't any hint of the way," I told him. Useless; at last I had to tell anyway.

He was very silent for a full minute. "Jack," he said finally, "do you know when I said that to her about New Orleans? This morning when we watched the snow. This morning!"

I didn't know what to do. Suddenly this whole concept of remembering the future seemed mad, insane; in all my memories there had been not a single spark of real proof, not a single hint of prophecy. So I did nothing at all, but simply gazed silently as old Aurore de Neant walked out of the room. And when, two hours later, while Yvonne and I talked, he finished writing a certain letter and then shot himself through the heart-why, that proved nothing either.

So it was the following day that Yvonne and I, his only mourners, followed old Dawn of Nothingness to his suicide's grave. I stood beside her and tried as best I could to console her, and roused from a dark reverie to hear her words: "Just yesterday that he said to me, 'Next winter you shall spend in New Orleans, Yvonne.' Just yesterday!"

I watched the tear that rolled slowly down her right cheek, hung glistening there a moment, then was joined by another and splashed on the black bosom of her dress.

But it was later, during the evening, that the most ironic revelation of all occurred. I was gloomily blaming myself for the weakness of indulging old de Neant in the mad experiment that had led, in a way, to his death. It was
as if Yvonne read my thoughts, for she said suddenly, "He was breaking, Jack. His mind was going. I heard all those strange things he kept murmuring to you."
"What?"
"I listened, of course, behind the door there. I nover left him alone. I heard him whisper the queerest things -faces in a red fog, words about a cold grey desert, the name Pyroniva, the word Termopolis. He leaned over you as you sat with closed eyes, and he whispered, whispered all the time."

Irony of ironies! It was old de Néant's mad mind that had suggested the visions! He had described them to me as I sat in the sleep of lethargy!

Later we found the letter he had written, and again I was deeply moved. The old man had carried a little insurance; just a week before he had borrowed on one of the policies to pay the premiums on it and the others. But the letter-well, he had made me beneficiary of half the amount! And the instructions were:
"You, Jack Anders, will take both your money and Yvonne's and carry out the plan as you know I wish."

LUNACY! De Néant had found the way to provide the money, butI couldn't gamble Yvonne's last dollar on the scheme of a disordered mind.
"What will we dop" I asked her. "Of course the money's all yours. I won't touch it."
"Mine?" she echoed. "Why, no. We'll do as he wished. Do you think I'd not respect his last request?"

Well, we did. I took those miserable few thousands and spread it around in that sick December market. You remember what happened, how during the spring the prices skyrocketed as if they were heading back toward 1929, when actually the depression was just gathering breath. I rode that market like a circus performer; I took profits and pyramided them back, and on April 27th, with our money multiplied fifty times, I sold out and watched the market slide back.

Coincidence? Very likely. After all, Aurore de Néant's mind was clear enough most of the time. Other
economists predicted that spring rise; perhaps he foresaw it too. Perhaps he stageg, this whole affair just to trick us into the gamble, one which we'd never have dared otherwise. And then when he saw we were going to fail from lack of money, he took the only means he had of providing it.

Perhaps. That's the rational explanation, and yet-that vision of ruined Termopolis keeps haunting me. I see again the grey cold desert of the floating fungi. I wonder often
about the immutable Laws of Chance, and about a ghostly Jack Anders somewhere beyond eternity.

For perhaps he does-did-will exist. Otherwise, how to explain that final vision? What of Yvonne's words beside her father's grave? Could he have foreseen those words and whispered them to me? Possibly. But what, then, of those two tears that hung glistening, merged, and dropped from her cheeks?

What of them?

## Look Forward to-

## MAN-JEWELS FOR XOTHAR

# A Complete Novelette of Marauders from Space-Raiding the Universe! By Hal K. Wells and 

## LIQUID LIFE

## A Novelette of Fantastic Menace

By Ralph Milne Farley
-In the Next Issue of THRILLING WONDER STORIES


## A Cunning Criminal of the Future Meets His Nemesis in a Battle of Scientific Wits!



Author of "Price of Peace," "The Impossible Dimension," etc.

IARIUS WAXMAN, president of Solar Spaceways, was on the verge of apoplexy. His fat round face, seamy as an ancient tree, was the color of port. His scalp, under the few grey hairs plastered upon it, was the same shade. His shirt clung in soaked patches to his tubby old body. He went lax in his chair and smiled nervously. His lips curled back from his yellow teeth and his
shrewd old eyes bored at his captor.
"Listen, Ainsworth," he said confidently, "you won't get away with this. This is nineteen-eighty. If you called me here to your laboratory to dispose of me, forget it. You can't kill me! Lots of people know you've got it in for me and when they find my body they'll know whom to nail. Then it will be execution for you-in the Ray Chambers. Why, I'll wager
that right now every autorobot policeman on sublevels $A$ to $L$ is looking for me with his aura-o-scope. You'd better unlock these handcuffs!"

Arthur Ainsworth, the brilliant biochemist, pushed back his chair, stood up and smashed one fist against his duraluminum-topped desk. He walked over to Waxman and jabbed his thick shoulder with two fingers.
"See here," he said irritably, "when I get finished with you nothing will remain of your body but some thin syrup in a test tube. The Federal Crime Bureau may not be able to pin that new crime on you, but at least I'll have the satisfaction of seeing the two hundred and forty pounds of your intolerable anatomy changed into plain elemental protoplasm."

Waxman's heavy-jowled countenance turned to a pasty white.
"Change me to protoplasm-what do you mean?" he asked hoarsely.
"Exactly what I said," rasped young Ainsworth. "There won't be any corpus delicti-understand? No one in the world will be able to prove that I disposed of you. The whole Crime Chemist Board themselves won't be able to show you even existed."

Ainsworth clenched his fists until the palms showed white from the nails. His lips compressed into thin, merciless lines.
"Waxman-you're the greatest menace to society in the Federated States of America. Just because you alone know how to manufacture cosmicon-trol-the only fuel capable of driving rockets through space-doesn't mean you own the universe. The government knows plenty about you-how your men slaughtered twenty-three Martians and threw the bodies into a canal-so that you could have the handful of radium they thought you'd buy from them.
"And we know that the reason your spaceliner, The Comet, cracked up near Ceres was because you'd refused to install the anti-meteor screens. But now you've gone too far. You've kidnaped the two oldest directors of the Science League-Rudolf, of Electrodynamics, and Carter, of Astronau-
tics. They're my friends and colleagues.
"The Federal Crime Bureau couldn't get you to tell where they are but, by heaven, I'm going to find out what you've done with them-if I have to destroy you! I'm going to give you the worst third degree a human being has ever had."

wAXMAN squirmed in his chair like a cornered rabbit. He wet his thick lips with his tongue. He was almost incoherent from nervousness. "What are you going to do-throw me into a bath of sulphuric acid?"

Arthur Ainsworth laughed mirthlessly.
"Remember your endrocrinology? I'm going to play around with your abdominal-aortic paraganglion gland. This gland has a sebaceous secretion, as you know. I've discovered that this secretion can be hypertrophied by a long exposure to cosmic rays. This immediately results in a reverse procedure of evolution. I've perfected a means of directing and concentrating the cosmic rays on this gland. All organisms underwent a complete metamorphosis when so exposed-they went through the recapitulative stages of evolution-backward!
"Do you know what that means, Waxman? I'm going to focus my ray on that gland of yours-I've discovered a way to accelerate the reaction -and in a day or two you'll have gone down the entire scale of evolutiondown until you're base protoplasm."

Sweat was running off Darius Waxman's face in miniature torrents. He could see by the look of grim purposefulness in Ainsworth's eyes that the fellow meant business. As best he could with the obstacle of handcuffs, he drew out a large handkerchief and mopped his forehead. He was white to the lips.
"You're a big fool, Ainsworth," he said finally. "What will you gain by disposing of me that way? You'll never get me to admit kidnaping your friends. Let me go and I'll give you half a million dollars."

Ainsworth walked over to a small, white cabinet in a corner of the labor-
atory. He spoke seriously, and his words had the cold ring of finality.
"You'd better tell me everything now, Waxman. I don't think you'll be able to talk when morphogenetic transformations have changed you to Pithecanthropus Erectus. Your last chance, Waxman-I'm deadly earnest."

The prisoner relaxed back in his chair. "Go ahead," he flamed. "You may be one of the world's greatest bio-chemists but I don't believe you can de-evolutionize me. I dare you to try it!"

Ainsworth raised his head and displayed a moist sponge he had been fingering.
"Incidentally, Waxman," he said coolly, "the process is quite painful to the victim in the early stages. So I'll give you a dose of an anesthetic when we start off."

With a swift, practised movement, Ainsworth brought the drugged sponge hard against the criminal's face. For some brief moments the man's head jerked spasmodically, then slumped down against his chest, pale and passive, when stupefying fumes had done their work.

Darius Waxman came out of his drugged stupor feeling that his experience of a few hours before had been nothing but a bad dream. He stretched himself, yawned twice, and opened his eyes wide. He was still in, Ainsworth's laboratory!

Evidently Ainsworth had begun his experiment. In front of him on a small table he saw a large hand mirror. He reached for it, eagerly, and froze with cold horror when he saw its reflection. His head was like that of an ape's! It was at least six inches larger than in its normal state. His lower jaw protruded forward an inch and a half more than normally; his already fat lips looked like two pendulums and his nose bulged out conspicuously.

Suddenly he caught a view of his feet. His big toes looked like bell-clappers-his feet were enormous, more than a foot long. His hands were at least ten inches long, distended and simianlike.

AROUND him he could see two intricately wired X-ray tubes and other complex instruments focused at him. He realized with a start that the de-evolutionizing process was still going on; he could almost feel his head expanding and his bones shrinking. He sighed audibly; he looked miserable and felt it.

So Ainsworth actually could do what he had boasted! And now he would continue the process, keep that infernal ray trained at him until its diabolic properties lowered him down the path of evolution-down to a sin-gle-celled amoeba, down to simple, organic protoplasm itself-nothingness! And what if Ainsworth didn't apply any anesthetic hereafter-could any human being endure the pain Ainsworth had hinted at?

As he stood before the ray, Ainsworth entered the room. He walked over briskly to the machine, almost ignoring Waxman.
"I'm turning on the concentration full strength," he said indifferently. "Do you want to talk while you're still articulate?"

Waxman sucked in a lungful of breath. He was feeling dizzy. "Stop —l'll talk," he stammered. "Carter and Rudolf are exiled on Asteroid two seventy-six in the Zone Belt near Jupiter. I had them taken away because they were stumbling on the secret of cosmicontrol. You never would have got me to talk if it hadn't been for this damn machine!"

Ainsworth rushed over to his desk, snapped on the teledisc and clipped into the ivory microphone:
"Get me IPC-Interplanetary Police Corps? Carter and Rudolf are reported exiled on Asteroid two sev-enty-six in the Zone Belt near Jupiter. They were kidnaped by-"

As the young scientist worked over the teledisc, twirling levers and rheostats, contacting the Science League and broadcasting the news, he failed to notice Waxman creeping up behind him. The kidnaper grabbed suddenly for Ainsworth's ray-projector, seized it from its holster, and leveled it at the scientist.

Ainsworth whipped about, his right
arm dangling, arcing upward toward Waxman's jaw. Waxman was bending back the atom-loader, circled the gun warily around the scientist's head and was about to pull back the trigger when Ainsworth's balled fist connected.

A split instant later he sidestepped sharply and flung himself at his oppoment in flying tackle fashion. Waxman pulled trigger at last and a Coolidge tube in back of Ainsworth disintegrated instantly, falling to the floor in the form of pulverized dust.

A fist smashed into Waxman's face as he again tried to use the ray-projector. He staggered back and then straightened, the gun falling from his hands. Ainsworth stepped in again, fiercely raining effective blow after blow at the anthropoid face.

With a sharp grunt of pain Waxman sagged to the floor, unconscious.

[^9]him one-he had influence enough to throw a lot of the big boys out of their jobs. I was desperate-had to think of something. When I sold Waxman the idea that I intended to destroy him entirely, and began to prove it, he talked. Poor Waxman. For the rest of his life he'll think I was really able to reverse evolution down to lts protoplasmic base.
"All I actually did was to inject the base of his pituitary gland with a germ culture that causes acromegaly. Acromegaly is a known pathological condition that causes the head and all its organs to expand abnormally, also the hands and feet. A person under the influence of acromegaly looks like an ape. I ran across the thing while doing a thesis on twentieth century pathology.
"Acromegaly was even occurrent in those days. I'd merely discovered a way to speed up its symptoms-and Waxman believed every one of those changes indicated de-evolution!"

The head of the Federal Crime Bureau stood up. "That was a pretty effective third degree, son, even if it was so drastic. But Waxman won't spend much more of his life wondering what it was all about-it's the Ray Chambers for kidnapers!"

# Headliners in the Next Issue <br> DICTATOR OF THE ATOMS <br> A Novelette of Science Gone Mad By ARTHUR J. BURKS <br> MAN-JEWELS FOR XOTHAR <br> A Novelette of Interstellar Invaders <br> By HAL K. WELLS <br> SHADOW GOLD <br> A Novelette of an Amazing Time World <br> By RAY CUMMINGS 



AND NOW IT WHLL BE NECESSARYTO
TAKE YOU BACK INTO TIME FOR MOST TAKCORDS OFEFARTH'S HISTORY MAVE LONG SINCE BEEN DE STROYRD?

## THE GARTH IS NOW A SHAMBLES.…

 ASORRY WRECK OF ITS FORMER SELF. IT IS AS THOUGH A STRANER DESTINY HAD REVERSED TME AND FLUNG THE EARTH BACKINTO THE DARK AGES.THE GREAT CITIES, PRIDE OP THE EARLY $213 T$ CENTURY' ARE CRUMBLINE RUINS AND GREAT FORESTS COVER THE ONCE PERTHE FIELDS?
ING ALL OF MAN'S OREAT ENGINEER- ABUNDANT LIFE HANE BEEM DEMOLISHED OY NATURE
BEEN DENAD SCIENCE IS DEAD, -. MAS


SCIENTISTO WERE ABOUT TO LAUNCH THE PIRST EARTH EXPEDITION INTO SPACE--BUT THE WAR STOPPED ALL PLANS? A FAMOUS
RUSSIAN SCIENTISYHAD SUCCEEDED JN 1SOLATINGA NEW DEADLY, FILTERABLE VIRUS IT HAD KILLED CERTAIN ANIMALS WITHIN A FEW HOURS
rHE GERM AITTACK WAS SUCCESEPUR THE THE GERM ATTACK WAS SUCCEESSFUL THE
MONGOL ADVANCE WAS STOPPRD VADERS DIED BY THE THOUSANDS --.-A HORRIELE, AGONIZING DEATH. THE BODES BLONTED AND DECOMPOSED RAPIDLYY




## The Age of Miracles Produces an Amazing



THE dessert had just beenserved at the annual banquet of the International Society of Robot Fabricators, where five thousand members of the society and their guests sat at a huge V-shaped table in the auditorium of the American Institute of Science on Chicago's lake front.

Orville Matthews, President of the United States, and himself a scientist
of note, held a goblet close to the microphone before him, and tapped it gently with his spoon. The chatter of voices was instantly hushed as the sound was amplified in the vast auditorium.

The President stood up and shook back his mane of snow-white hair.
"Most of you," he said, "have some inkling of the announcement $I$ am about to make, since the deliberations

## A Million-Dollar Prize is Offered-and

## Suicide and a Triumphant Return from Death

 of Venus," "Jan of the Jungle," etc.
chest and revealed mechanism.

# the <br> ROBOT 


years ago, were only dreamed of, but which to us of today are commonplace. However, there is one thing which man has not yet invented-a machine that will think for itself-a robot that will not merely respond to the orders of its controller, but will, in addition, reason inductively and deductivelya machine that will think analytically, creatively, and independently.

THE robot that wins this great prize must be constructed in the semblance of a human being. It must not be subject to any outside control but, as I have said, must do its own thinking and direct its own actions. In case such a robot is not constructed, the prize money will be returned to the Treasury of the United States. If more than one such robot is constructed, the one which most perfectly simulates man physically, and which shows the strongest and most desirable mental characteristics, will win the prize.
"The competition is open to people of all nations, and I trust that every robot inventor will decide to competo. You have one year in which to perfect such a robot. Permit me to wish you luck."

The thunderous applause which greeted the President's announcement was followed by a thousand heated arguments. Many contended that such a robot was an impossibility. Others felt that it might be constructed, but a year was a very short time in which to perfect it.

There was one scientist who did not join in the discussion. Albert Bradshaw had devoted twenty of the thirty years of his life to intensive laboratory work, with the result that he had contracted pulmonary tuberculosis. In spite of the slow wastage of the disease, he was strikingly handsome-the hectic flush rather heightening the youthful appearance of his face.

His frank blue eyes were filled with devotion as he looked down into the sparkling black ones of his vivacious dinner companion and nurse, Yvonne D'Arcy. Tonight her appearance was far from professional, with her glossy
black hair done in the latest mode, and her smart evening gown that tastefully set off her youthful charms.
"Enjoying it?" he asked her.
"So much," she smiled. "But we must go now. The exertion and excitement aren't good for you."
"All right," he answered agreeably. "Let's go."

Many admiring pairs of eyes followed the handsome couple as they made their way toward the checkroom. Among these were a pair of near-sighted grey eyes, peering through a thick-lensed pince-nez. Their look of admiration, however, was for the girl alone. For the man they had only an envious, malignant glare. Hugh Grimes, millionaire inventor of the Grimes Radio-Controlled Robots, which were employed by millions both in the United States and abroad, adjusted his pince-nez, stroked his neatly trimmed Van Dyke, and replied abstractedly to a statement made by the beefy, pendantjowled Dr. Ludwig Meyer of Berlin, who sat at his right. Then, excusing himself, he rose and marched in the wake of the young couple who had just left their table.

There was a deadly glitter in his weak, watery eyes as he contemplated the back of the young man before him. As if to reassure himself, he dipped thumb and forefinger into his vest pocket and caressed a small, globular object that nestled there.

A LBERT BRADSHAW returned Fet he insisted on going into his laboratory to resume his work on the two figures, one in the semblance of a man, and the other a woman, which had occupied his working hours during the past ten years.

He bent over the male figure before him, and removed the wig and skullcase, revealing an intricate maze of delicate wheels, springs, bulbs and tubes. Then he went to the spotless white sink, and, reaching above it, took down from the shelf a bottle marked "Solution X-4, 337." Unstopping the bottle, he poured a small quantity of the solution into a test
tube. From an airtight container he extracted a thin strip of blue litmus paper.

Suddenly there was a crash and a tinkle of glass from the window across the room directly behind him, followed by the plop of a small globe which shattered against the enameled back of the sink.

Before he had time to hold his breath, Bradshaw inhaled a whiff of the iridescent greenish gas which mushroomed out from the shattered globe. A searing pain shot through his nasal passages, throat and lungs. He instantly expelled his breath, then held it, and whirled in time to catch sight of a bearded face twisted in a malignant grin. A pair of nearsighted eyes glittered at him through a pince-nez. Then the face disappeared.

Suddenly Bradshaw noted that the litmus in his hand had turned pink. Dropping it, he reached up, seized a bottle marked "Ammonia" a n d smashed it in the sink. Then, with his seared, disease-weakened lungs nearly bursting with the agony of holding his breath, he dashed out of the laboratory.

In the hallway he collided with Yvonne. He collapsed in her arms a moment later as she sought to steady him.
"Acid gas of some sort," he groaned. "Tried to neutralize it with ammonia."

Quickly she brought a cushion from the davenport propped it under his head.
"The doctor should be here any minute on his regular visit," she said, "but I'll call him, anyway."

She hurried to the radiovisiphone, and pressed a button. When the disc was illuminated she twirled a dial in a combination of four letters and six numbers.

The rugged, homely features of a young man appeared in the disc.
"What's the matter, Yvonne?" he asked. "Patient worse?"
"He's just inhaled poison gas," she gasped. "Do hurry, Doctor."
"Be right over," he replied, and the disc once more went dark.

Through the window behind the disc she saw two men loading something into the back of a helicopter limousine. A third, whom she recognized as Hugh Grimes, climbed in behind the controls, and the craft roared upward.

A moment later the whir of the physician's helicopter coupé was audible outside the window. Then young Dr. Frank Gunning came dashing up the steps and through the door.

Bradshaw was breathing convulsively, his face twisted in agony. There was a bluish tinge around his mouth.
"Cyanosis," said the young doctor, after a brief examination. "We'll have to administer oxygen and a stimulant."

He picked up the patient and carried him to his bedroom. For more than two hours he and the nurse worked over Bradshaw with the portable oxygen set. Then the blue area around the mouth began to disappear.

ASEDATIVE was given, and the tortured patient slept while the doctor made a complete examination with his portable Super X-Ray fluoroscope.

Yvonne tiptoed out behind the doctor when he left, and stopped him in the hallway.
"Is there any chance for him?" she asked steadily.
"It's tough, Yvonne." His voice was brusque. "Al has about six months to live. That gas burned most of the healthy lung tissue that remains to him."

Yvonne caught her breath, and turned away to hide the tears that flooded her great dark eyes. The doctor pretended not to notice.
"By the way," he said, "how did he happen to breathe that poison gas? Was it a laboratory accident?"
"Worse," she replied. "It-it was premeditated murder. Hugh Grimes' work. He came here often, discussing his theories with Albert. Albert foolishly showed him his new robots. I think he was afraid Albert's creations might replace his own-also, that they might win the prize."
"Professional jealousy, eh ?"
The voice of Albert Bradshaw broke into their conversation with unexpected suddenness. They whirled, and saw him standing in the doorway behind them, supporting himself against the jamb.
"Albert! You must get back to bed at once," admonished Yvonne.
"Not until I've had a look in the laboratory," replied Bradshaw.
"Take it easy, old man. I'll carry you." The doctor moved quickly to his side.
"No, damn it! I'm not done in yet. I'll walk."

Bradshaw gritted his teeth, and, supported by the nurse on one side and the doctor on the other, made his unsteady way down the hall to the laboratory. Cautiously Gunning opened the door and sniffed. There was a faint odor of ammonia-nothing more.
"I guess it's diluted enough so we can go in,", he said. "Must be a window open."

There was. Two French windows, one with a shattered pane, were wide open. It had been easy for the marauder to reach in from the terrace and unfasten the catch.

Bradshaw pointed a shaking hand toward the center of the room. "Just as I suspected," he cried. "The robots are gone! And look there at my molds!"

The two elaborately constructed molds which he had used over and over in casting experimental male and female figures were smashed beyond repair.

Bradshaw sagged weakly. "Help me back to bed," he groaned. His eyes burned feverishly. "That devil has set me back temporarily, but he hasn't beaten me yet."

Once they had him back in bed, the doctor said: "This is a case for the police. We'll prefer charges of attempted murder and robbery against Grimes."
"We'll do nothing of the sort," Bradshaw told him. "I don't want either of you to say a word about this -not until I tell you to. I'll beat Grimes in my own way. All I need
is to rest and gather a little strength. Now, Doc, give me a sedative and get the hell out of here."

AFTER two weeks of careful nursing by Yvonne, supplemented by daily calls from Dr. Gunning, Albert Bradshaw went back to his laboratory.
"Molds!" he told Yvonne. "I must have new ones, immediately. It will mean days lost-weeks-no, wait. I have a better plan."
"What is that?"
"You and I will do very well for models. All we need is some plaster of Paris and vaseline. The old cases can easily be repaired. I'll make a mold from your body, and you make one from mine."
"Splendid!" she answered. "That will be a great time-saver."

They made the molds that day, and on the following day Bradshaw went feverishly to work. In the weeks that followed, he was often interrupted by prolonged coughing spells, most of which ended in hemorrhages, but he carried resolutely on.

Five months elapsed before he had the bodies ready. He then started work on the heads; and, in the midst of this work, collapsed.

Yvonne immediately called Dr. Gunning, and the physician came in a hurry. He found his patient unconscious, and after making an examination shook his head dubiously.
"If he gets through another twentyfour hours, I'll be amazed," he sald. "Al is through. If it hadn't been for that gas, he might have got through to see his robots tested. As it is-"

Carefully he prepared his hypodermic syringe, while Yvonne bared and sterilized an emaciated arm. Then he shot the needle home. Presently a touch of color came to the white cheeks, and the breathing became more regular. Bradshaw's eyes opened.
"Doc," he said, "you practice at the Emergency Hospital. Do you suppose you could get me two people -a man and a woman-" He was interrupted by a violent fit of coughing, and Yvonne gently wiped a trickle of red from the corner of his mouth.
"Al, I hate to tell you this," the doctor said gently, "but you're about through. Hugh Grimes is your mur-derer-"

With a sudden surge of strength the sick man sat up. "I have a plan to be revenged on Grimes. You two can help me. You must!"
"What is it, dear?" Yvonne asked.
Bradshaw sank back exhausted upon the pillow. When he spoke again, his voice was so weak that it was almost inaudible. The two people he held most dear, Yvonne, his beloved, and Gunning, his friend, bent low that they might catch his dying message.
I UGH GRIMES rose late the next morning. After his bath and breakfast he twirled the dial of the radlovisiphone beside him. It was time for the morning news broadcast of the International Newscasters.

The announcer appeared on the disc, holding a manuscript.
"Albert Bradshaw, known the world over for his marvelous inventions, passed on last night. His death was the culmination of a long, brave battle against pulmonary tuberculosis."

Grimes smiled. "Too bad," he told his valet. "Poor chap has had a tough time of it. And yet, it's an ill wind that blows nobody good. It will mean just one less major competitor in the robot field."
"Yes, sir. Quite so, sir," the valet replied. "All finished, sir."
"Good! I'll go now and see how my robots are coming on."

He spent the next few hours in his laboratory. There were two robots there, a male and a female figure-the robots he had stolen from Bradshaw's laboratory, and changed somewhat to disguise their identity. In the afternoon he ordered an expensive wreath sent to the home of Bradshaw. The following day he attended the funeral, viewed Bradshaw's cold remains in the flower-banked casket, and extended his condolences to relatives, close friends, and the heart-broken Yvonne.

Time passed very slowly for Hugh Grimes, but eventually the great day arrived-the day of the contest.

Again five thousand people were seated at a V-shaped table in the auditorium of the Institute of Arts and Sciences. And again President Matthews presided. A space had been cleared in the center of the V , so that all might view the antics of the robots.

Grimes sat across the table from Yvonne D'Arcy. She was radiantly beautiful in her dinner gown of black trimmed with silver. At her left was the burly young doctor, looking just a bit uncomfortable in his dinner clothes.

Now the President was calling the meeting to order. The hum of conversation ceased. Lights were dimmed, and a spotlight cast a huge white circle on the cleared space between the tables.

Le Blanc, the French inventor, was the first to put his robot through its paces. It made a speech, did staggering sums in arithmetic without paper or pencil, and even wrote its name. It read passages from a French novel, sang and wrote a number of sentences dictated by its inventor. Then the President gave it a set of facts, and asked it what conclusion it reached from these facts. The conclusion was illogical.
"Ze Gallic mind," Le Blanc hastened to explain. "We are not a logical people; we are people of what you call ze emotion, not ze reason."

The President and his Cabinet, acting as judges, looked incredulous. A bevy of scientists examined the mechanism of the robot. A psychologist was called in. After deliberating, they decided that the robot was operated by a device which amplified the power of telekinesis-that power by which mediums levitate ponderable matter without touching it-and that it was controlled by telepathy-a mechanical recipient en rapport with some human agent. The psychologist quickly located the agent-a young lady who had accompanied Le Blanc.
"I suggest," said President Matthews, "that if they are any other entries similarly controlled, they be immediately withdrawn, for they will surely be discovered. Remember, to win this contest the robot must reason
for itself! There can be no outside control of any kind!"

A number of entries were immediately withdrawn. However, Dr. Ludwig Meyer of Berlin did not hesitate for a moment. He had entered eight robots.

They came goose-stepping out into the spotlight, dressed like soldiers of the World War, with steel helmets, rifles and bayonets.
"Mein schildren, giff a demonstration of the trench fighting during the Vorld Var," commanded Dr. Meyer. "Broceed."

The robots instantly divided into two parties, four on a side, and savagely attacked each other with fixed bayonets. One by one, they went down, until only one robot with a battered helmet and torn sleeve remained standing.
"Hans," said the doctor, addressing the remaining robot, "come here."

The robot goose-stepped toward the doctor and stood stiffly at attention.
"Vill you question him, Mr. President?" Dr. Meyer suggested.
"How old are you, Hans?" the President asked.
"Six months," was the ready reply.
"Quite a big boy for your age. You speak English well."
"I speak many languages und I speak all of them vell."

At this point one of the judges nudged the President.
"Don't look now," he said, "but when you question the robot, observe the doctor. He always holds that big seal ring on his right hand near his mouth."
"But you speak English with a German accent, Hans," continued the President with a smile.
"Dot's because German iss my native tongue," Hans replied promptly.

The President glanced slyly at the doctor, and observed that he had raised the ring to his lips.
"May I see that ring you are wearing, Herr Doktor," the judge asked politely.
"Look at it if you vant too," the doctor replied, "but don't remove it from my finger. I've made a yow sever to take it off."
"Don't tell me you are superstitious, Doctor." Carefully the judge examined the ring which the scientist held before him. He had palmed a small jeweler's screw driver, and suddenly he brought it into play, with the result that a monogrammed hinged lid sprang upward, revealing the hollow interior of the ring.

The scientist withdrew his hand with an oath, and his florid jowls turned a deep purple.
ee THAT did you see in the ring?" the President asked.
"A radio transmitter, Mr. President," was the reply.
"We have located a radio receiving set in the robot," called one of the others.

Without a word Dr. Meyer rose and waddled toward the door. One by one, his fallen robots arose and goosestepped after him, Hans bringing up the rear. As Hans went out the door he turned, placed his thumb to his nose and wiggled his fingers at the assemblage, producing a gale of laughter.
"Now we come to the entry of Hugh Grimes," announced the President when the laughter had subsided. "I believe you have two robots, Mr. Grimes. Where are they?"
"They have been in this room for some time, witnessing the ludicrous performance staged by the learned Herr Doktor Meyer," Grimes replied.

A young couple, wearing evening clothes, arose from the end of the table where they had been sitting for the past fifteen minutes, and walked into the white circle of light.

A murmur of astonishment went up from the audience. Those who had observed the entrance of the couple, and had seen them conversing with animation while they laughed at the antics of the learned doctor's robots, were more than astoundedthey were awe-stricken.
"You don't mean to tell us that these two are robots!" exclaimed the President.
"I most assuredly do," replied Grimes. "And before the demonstration takes place, I insist that I be
searched by your radio experts and that you put two of your best psychologists near me. I want it absolutely proved that I am not controlling them either by mental or electrical means."
"Very well, we'll have you searched," answered the President. "And while we're at it, we'll have the couple examined to see if they really are mechanical beings."

The examination was conducted, and the examiners pronounced themselves satisfied with Grimes and the two figures.

Young Doctor Gunning nudged Yvonne. "Those are the robots stolen from Al's laboratory?"
"Yes," she whispered in reply. "No one but Albert ever made robots so nearly perfect."
"Now that the examiners are satisfied," said Grimes, "permit me to introduce Gwendalyn and Percival. If the orchestra will play a waltz, they will dance for you."

THE orchestra obliged, and the robots waltzed gracefully about in the circle of light. Then Percival held up his hand for silence.
"My partner and I," he said, "challenge the two best bridge players in the house to a game. If there is any doubt in your minds that we can reason intelligently, I think we can readily allay it."

A table and cards were brought, and two volunteer bridge players took their places. Both men were members of the Cabinet and judges of the contest, and both were acknowledged the two best bridge players of their set.

At first, the two Cabinet members appeared to underrate the prowess of their mechanical adversaries. Presently, however, they began to wear worried frowns, and before long both threw down their hands in defeat.
"It's absolutely uncanny," said Andrew Gorman, Secretary of Agriculture. "They seem to read our minds."
"Are there any further questions, Mr. President?" asked Percival. "Do you wish us to submit to further examination?"
"One moment, please." The Presi-
dent turned to confer with the two discomfited Cabinet members, and also summoned the technicians.

Hugh Grimes looked on with a triumphant smile. Presently he became aware that someone had slipped unobtrusively into a chair beside Yvonne. He glanced closely at the man, and his face blanched at what he saw. For the man was either Albert Bradshaw, or his twin! He had the same sunken chest, the deep blue eyes, the hollow cheeks with their consumptive flush. The man even raised his hand to cover a cough, in the manner so characteristic of Albert Bradshaw.

Yet Hugh Grimes had seen the fellow lying dead in his coffin seven months before-had seen the coffin closed, and had later witnessed the cremation!

The man turned and whispered something to Dr. Gunming, who got up and strode toward the door from which the various robots had emerged.

Then Grimes tore his fascinated gaze away from this twin of his murdered rival as he heard the President speaking:
"It is the opinion of the judges," said President Matthews, "that the robots Percival and Gwendolyn, created by that famous scientist Hugh Grimes, fulfill all the conditions necessary for the winning of the prize. If there are no further entries, we will consider the contest closed, and award the prize."

He looked around the room.
Suddenly the twin of Albert Bradshaw stood up.
"Mr. President," he said, "there is another entry. I request that you hold the contest open a few moments longer."
"Whose entry?" the President asked. "And who are you?"
"The entry of Albert Bradshaw." The second question went unanswered.
"But Bradshaw died several months ago," the President answered.
"Does that disqualify him?"
The President turned to his fellow judges, and conferred with them for a moment.
'No, it doesn't disqualify him. Produce the entry."
"I am that entry," was the reply.
The President stared at the speaker for a moment.
"By the Lord Harry!" he gasped. "It's Bradshaw himself, come to life!"

The newcomer pushed back his chair and strode out into the spotlight.
"As I previously informed you," he said, "I am Bradshaw's entry-Bradshaw's reasoning robot, if you please. I am not going to do any card tricks for you. But I am going to expose the greatest fraud ever perpetrated on a group of gullible scientists. Hugh Grimes, do you mind having your two entries step once more into the spotlight?"
"Why-er-not at all." Grimes nervously adjusted his pince-nez. "Percival. Gwendolyn. Come here."

The two robots that had put on such a convincing performance a moment before remained motionless.
"You will notice that they do not respond," said Bradshaw's entry. "It is because they are controlled from outside, and that control has been broken."

At this moment young Doctor Gunning stepped into the spotlight, grasping a frightened young man by his coat collar.
"This man," continued the Bradshaw robot, "is Grimes" laboratory assistant, Carl Overton. I believe his name is known to all of you, since he is the international bridge champion. Bring him here, will you, Doctor?"

Expertly, he went through the pockets of the young man, and produced two flat rectangular objects studded with a number of buttons and each topped by a small visiphone disc.
"Those robots were stolen from Bradshaw, who made the control boxes I now hold, after Grimes had attempted to murder him with poison gas-an attempt which resulted in his death five months later. These robots cannot reason for themselves; therefore they are ineligible to win the prize which you were so ready to award them. I will let them tell you their own astonishing story."

He manipulated several buttons on the control boxes, and the two rigid robots immediately came to life. Clasping hands, they ran out into the spotlight.
"We were created by Albert Bradshaw," said Percival.
"And Mr. Grimes stole us from Mr. Bradshaw's laboratory," said Gwendolyn.

Grimes' face blanched. He rose to steal away, but two burly Secret Service men seized his arms and forcibly seated him.

"RIMES broke a window and hurled a poison gas bomb through," continued Percival. "He didn't try to hide his face from Bradshaw, as he thought the latter would surely die in horrible agony. The fact that Bradshaw was holding a strip of blue litmus paper temporarily prolonged his life. The paper was turned red by the acid gas, and he broke a bottle of ammonia, thereby neutralizing it and preventing it from searing him further. Had it not been for this, he would never have been able to reach the door."
"When Mr, Bradshaw left the laboratory," continued Gwendolyn, "Grimes had two of his men carry us away."
"That's so," broke in Yvonne D'Arcy. "I saw Grimes and two men load both robots into the helicopter limousine and roar away."
"Enough," said President Matthews. "Mr. Grimes, you are under arrest for murder, robbery and fraud. Mr. Overton, you also are under arrest for complicity.
"And now, Mr. Bradshaw, or Mr. Bradshaw's entry, as you choose to call yourself, you have not proved to us that you are a robot, independently thinking."
"Both points are easily proven, Mr. President," smiled the robot, advancing. He rolled up a sleeve, and taking a knife from his pocket, slit the skin of an arm. It did not bleed, and the muscles and tendons revealed beneath were undeniably artificial. Then he opened his shirt front, slit his chest, and revealed mechanism.
"You are undoubtedly a robot," admitted the President. "Now, will you be good enough to show us your reasoning mechanism?"
"First," said the robot, "I will tell you what Bradshaw discovered after more than twenty years of research. There can be no reasoning or thought without life. All life as we know it is a combination of two things-mind and matter. We have never been able to discover any form of life that is not a combination of both. The brain is not the mind, but in human beings it is the medium through which it makes itself manifest. Behold!"

He snatched off the blond wig and skull-case. The astounded onlookers saw a human brain snugly encased in a transparent skull-shaped receptacle. Tenuous, fine strands, almost invisible, extended in an intricate network over the delicate brain membranes. The hairlike strands almost completely covered the cerebellum and cerebrum, converging in the sickleshaped partition of the fals cebri, which divides the two hemispheres of the cerebrum. The entire brain was immersed in some viscous solution, and the fascinated audience could see
it envelop the exposed furrows and convolutions.

THE robot continued: "At first it was the intention of Bradshaw to obtain the brains of two individuals at the point of death, one a male and the other a female, and preserve them in this solution, which prevents organic tissue from wearing out and which also provides enough nourishment to last each brain a thousand years. Once destroyed, cells do not replace themselves-and they feed very slowly. Bradshaw perfected his solution after years of experimentation with the brains of lower animals.
"Science has proven that thought impulses are electrical in nature. Bradshaw effected a way to isolate the multiple thousands of nerve fibres, neurilemma, ganglia, axons and other essential parts of the nervous system. The olfactory nerves, the optic, auditory, motor, hypoglossal and other of the cranial nerves-all are connected to mechanical muscles, and the slightest electrical impulse motivates the mechanical robot. The
(Continued on page 120)

## WHAT IS YOUR SCIENCE KNOWLEDGE?

## Test Yourself by This Questionnaire

1. What is the gravity of the moon in relation to the earth?
2. How is cretinism cured?
3. What is the function of the prepituitary gland hormone?
4. What is an Eohippus?
5. Give a scientific theory conceming the substance of the earth's interior.
6. What are some elements composing rock?
7. What is acromegaly?
8. What is one theory explaining why the Egyptians equipped their deities with the heads of birds and beasts and insects?
9. What is telekinesis?
10. What part of the brain is the falx cebri?
11. Name five of the cranial nerves.
12. What in common have the following terms: Neurilemma, ganglia, axons?
13. What does Einstein say about space being curved?
14. Give the three stages of the hypnotic state.
15. What is dianthus carophyllus?
(A Guide to the Answers Will Be Found on Page 112)

## Prehistoric Hordes Prove a Lesser Danger,



## LAND where TIME

## CHAPTER I

## Into Nothingness

IT was, perhaps, the almost unbelievable antiquity of Silbury Hill that oppressed Ronald Stratton with a queasy premonition of disaster. He thought again of the old legend: that anyone entering the stone rings on top of Silbury Hill between dusk and dawn vanished, leav-
ing no trace. The thought lingered.
The twilight silence, the low-lying layer of ground mist veiling his footing, the chill of evening damp striking into his very bones, combined to trouble the young American with sinister unreality. Something of that feeling had been with him all during his journey through England's South Country; had troubled him as he stood on Salisbury Plain where, twenty

## Ronnie Stratton, with 20th Century Courage,

## Compared with the Brain-Man of Future Eons I



# STOOD <br> STILL <br> <br> A Complete <br> <br> A Complete Novelette 

 Novelette}
years before, had drilled the father he had never known, proud in the uniform of his ancestral land.

Tall and clean-limbed and lithe the American volunteer must have been then, bronze-skinned and frank-eyed as his son now was who retraced in a nostalgic memorial tour the route of his hero father's last voyage. Silbury was part of that sentimental pilgrimage

Ron Stratton suddenly stumbled, sprawling into a grass-hidden ditch. He rolled, caught at whipping tendrils of a bush, pulled himself to his feet. He took a step forward-into the wrenching, frantic instant of sheer nothingness!

It was as if he had walked over the brink of a sheer precipice, save that, though a bottomless abyss yawned fearfully beneath him, he oddly knew

## Battles the Science-Monsters of an Age Unborn!

no sensation of falling. The world, the universe had simply vanished from beneath him.

His foot came down on solid ground. Stratton pulled in a gasping, choked breath between his teeth. He'd never before experienced anything like that moment of terrific giddiness, of deathlike vertigo. Queer. The light seemed to have grown stronger. It filtered through the trees with a reddish grow somehow eerie. . . .

The trees! How had he come into this forest? There hadn't been any trees at all, a moment ago! Was he dreaming?

Something scampered through the brush behind Stratton, and he whirled to the sound. A brown beastlet popped into sight between two rugged boles, a perfectly formed horse not kneehigh to the man. Great, limpid eyes were startled in the miniature headand then the creature had spun around and vanished.

RONALD STRATTON stared at the spot where it had been. He managed to get himself moving, managed to get to where he could look down upon the hoof-prints. The tracks were unmistakable. Three-toed, those were the traces of an Eohippus, of that forgotten ancestor of the horse extinct before man's first anthropoid progenitor learned to swing along arboreal highways by four clutching paws and a prehensile tail.

Stratton's scalp made a tight cap for his skull. His hands were out in a peculiar, thrusting gesture, as though he were trying to push away some dreadful thing that was closing in upon him. What had happened to him? Where was he?

A scream sliced the forest stillness, a woman's scream, high and shrill and compact with terror. Stratton's head jerked up to it, to the swift threshing of someone running through the thicket. Something white flicked among the trees, took shape in the form of a running girl. Long blond braids streamed behind her, and her face was as white as the white robe fluttering about her slim form.

Her fear-dilated eyes saw him as
she went past. "Help me, I prithee," she screamed; and her archaic appeal was blotted out by a horrid, bestial roar blasting from leaf-veiled aisles whence she came, by the thunder of a far heavier body pursuing her.

The underbrush tossed in the grip of a whirling tornado, parted to the plunge of a huge, hairy creature who ran half-crouched and bellowing.

The American leaped for the monster, flailed frantic fists at a brutal, leathery visage. His blows pounded against rock-hard bone, pitifully ineffectual. Something struck him, catapulted him backward. For the first time he saw clearly the thing he had attacked, and amazement seared through him.

It-it wasn't a gorilla, despite the stiff black hair covering its bigthewed haunches, despite its chinless, flat-nosed, beetling-browed countenance. A ragged pelt was slung about its waist. It clutched a wooden-handled, flint-headed axe in one spatulatefingered hand; and in its lurid, beady eyes there was a groping, grotesque sort of intelligence not quite bestial. It was a man, a man from out the dawn of time. A Neanderthal man, whose like had vanished from the earth countless eons ago.

The ape-man's black, thick lips snarled back from yellow fangs. His neckless throat pulsated, vented a nerve-shattering, insensate roar. Threat was fierce in that horrid ululation, but underlying the menace a singular note of inquiry seemed to signal a bewilderment in the creature's small brain as great as Stratton's own. That was what had checked its charge, what held it now, momentarily hesitant.

In that instant of reprieve Stratton heard the bush rustle behind him, felt a twitch at his right hand. His fingers closed on something hard that fitted into his palm.
"Mayhap this dagger will aid thee against the ogre," a whisper came to him. "This blade, and my prayers."

TTHE aborigine's bellow blasted again. He sprang, catapulted down upon Stratton, his flint axe arcing
before him. The youth's frantic sidespring saved his skull, but the Stone Age weapon hit his left shoulder, numbing it. Stratton struck out blindly with the dagger, felt its point strike flesh and sink sickeningly into it. Then the hairy body of his antagonist bore him down. He thudded appallingly to the ground.

Harsh hands clamped his throat, cut off breath. His lungs labored, tortured by lack of air. Blood roared in his ears, and his eyes bulged from their sockets.

And suddenly air pulled in between Stratton's teeth as the strangling hold on his throat relaxed. The insupportable mass crushing him was abruptly flaccid, lifeless. Fiery stabs cut Stratton's chest as he gasped in saving breaths. Instinctively he heaved off from himself the anthropoid's limp mass.
"Marry! Thou hast slain him with a single thrust of the poniard!" The girl's voice was thrilled, applauding. "See how his black blood doth flow!"

His vision cleared. The girl stood above him, briar-tears gashing her robe to reveal tantalizing glimpses of lissome curves. Her blue eyes danced with excitement in a face smallfeatured, red-lipped, somehow pagan in the upthrust of high cheekbones, in the blunt modeling of its tiny chin. Even in that moment Stratton's heart skipped a beat at the elfin beauty of that countenance.
"I wouldn't have had it to thrust if it wasn't for you," he grunted, struggling erect. "You've got a lot of sand, young lady."
She looked puzzled. "Sand? Prithee, what meanest thou?"
"That's American slang for courage." Why was she talking in that confoundedly queer lingo? Even if she was dressed up for a masquerade, what had happened here should have shaken her out of it.

The girl shrugged. "Nay, but thy speech groweth ever more strange. And thy garb, too, is passing queer." She gazed about her. Her pupils widened with sudden fright. "Whatwhat land is this, what forest?" she cried out.

His own bemusement swept back on Stratton. "I-I don't know," he faltered. "I was hoping you'd tell me that."

She stepped backward in awe. "By the Holy Rood, 'tis an enchantment some sorcerer hath cast upon us! Look you. But a moment hence I hurried with milady's message to her lover that Sir Aglavaine hath returned betimes from Arthur's court. Seeking to hasten back so that I might bend knee at vesper crisons, I dared cross the ancient mound that riseth betwist the castle and Avebury Town. As I attained its crest some strange malaise o'ercame me; and then, and then-"
"Yes," Ron Stratton prompted. "What happened?"
"And then there were these trees about me and the fearsome face of yon ogre peered at me from among them. I fled. He pursued. I came upon thee and-and the rest thou knowest."

Stratton shook his head violently, as though to jar his brain into functioning. "Wait a minute. What's all this you're saying about Sir Aglavaine, Arthur's court, a castle? Are you kidding me?"

She looked at him dumbly, as though she did not understand. "Kidding?"
"All right. Skip it. I'm having trouble understanding you, too. What year do you think this is?"
"What year?" She backed farther, warily, as though she were about to dash away. "Forsooth, hath bemusement clouded thy accompt of time? 'Tis five hundred and a score years since Our Lord was born in Bethlehem."

LITTLE chill prickles scampered along Stratton's spine. She believed it! She believed that she was telling the truth. But-

His eyes slitted as his gaze left her, to shift from the corpse of the Neanderthal man to the tracks of the Eohippus, and back to this girl, who seemed to have stepped out of the pages of Malory's Morte d'Arthur.

If his memory of paleontology did not fail him, at least a million years ranged between the tiny horse and
himself. It was possible that the animal and the beast-man were survivals, by some inconceivable quirk of fate, from the misty ages in which they belonged. They couldn't tell him. But she could. She had. She told him that the present was to her A. D. 520. To him it was 1936. That meantWhat did it mean?
"Everything's mixed up here," he groaned. "Time's all mixed up. It's as If the universe were the rim of a great wheel, whirling through Time. As if, somehow, we have left that rim, shot inward along different spokes whose outer ends are different years, far apart, and reached the wheel's axis where all the year-spokes join. The center point of the hub, that doesn't move at all through Time, because it is the center. Where there is no Time. Where the past and the present and the future are all one. A land, in some weird other dimension, where Time stands still."

## CHAPTER II

Trapped by Flame

THE girl's lambent eyes flicked about, returned to him, "Marry," she sighed. "An' it doth appear to have been of no avail."

Ronald Stratton started. "What was of no avail?"
"The spell thou hast essayed. See, the woods still cluster around us, and Silbury Hill hath not reappeared."

In spite of his perturbation the youth grinned. "I don't blame you for thinking it some incantation. It sounds pretty goofy to me. Looks like we're going to be together for quite a while, so maybe we'd better get acquainted. What's your name?"
"I am called Elaise." She dipped in a graceful courtesy. "Tirewoman I am to Milady Melisante, spouse to Sir Aglavaine of Silbury Keep."
"I'm Ronald Stratton-Ronny to my friends."
"Ronny. It falleth trippingly from the tongue. Ronny."
"Sounds swell when you say it. Strikes me we'd better try to find
some way out of here. I'm not hankering to spend the night in these woods. Might be damned unhealthy, judging from what we've seen here already."
"Whither thou goest I follow, Squire Ronny." She said it demurely, but he could have sworn there was a glint of amusement in the blue eyes over which her luxuriant lashes drooped. "Having saved my life from the ogre it is forfeit to thee. All I have and am is thine to command."
"The hell you say!" Stratton muttered. "Come on then." Was the minx laughing at him?
"Perchance thou mayst have need of this, Ronny," he heard her say behind him. He threw a glance backward over his shoulder, saw her tugging the dagger from the ape-man's breast. She got it out, started after him, wiping the blood from its blade with a handful of leaves. He shuddered at her callousness. Then he recalled the brawling, ribald, tempestuous age from which she came. Handling a gory dagger then was no more than cleaning a muddy tennis ball to the girl of now. . . .

Then- Now. Those terms no longer had any meaning. The concepts of a dead past, a living present, a future yet unborn-all were false, utterly false. All Time exists simultaneously, in the same manner that all space exists simultaneously. Minutes, hours, years, centuries are merely measurements of location in terms of time; just as yards, miles, light-years are measurements of location in terms of space.

Space-time, time-space-the terms of the mathematical physicists, their theories that had seemed to Ronny Stratton's realistic mind so much fairy-tale nonsense, had suddenly become breathing truths. If he had only paid more attention to them, tried to understand them! Didn't Einstein talk about ether-warps, about eddies in the flux of space and time? Was there such an eddy on Silbury Hill, through which he had slipped into some alien dimension?

Did the ancient Druids know it; was that why they had selected the spot for their savage rituals? Had
they erected those monstrous circles to warn their charges from the very fate that had overtaken Elaise and himself?

${ }^{\text {en }} 1$ONNY! Ronny!" The girl's cry recalled Stratton to awareness of his surroundings. "What enchanted domain is this?"

They were at the edge of the forest, at the edge of the plateau it covered. Ten feet from where they stood, the terrain dropped away in a precipitous, headlong descent.

Sheer down for a thousand feet the high cliff fell, and far below a great plain spread mile after mile to a vague and murky horizon, a limitless expanse of tumbled, grotesque rock. Queerly angular, strangely distorted, the tortured stone soared in needlelike spires toward the lurid sky, or lay strewn in the fractured fragments of some gigantic cataclysm; piled here in gigantic mounds, there flattened to jagged fields.
Nowhere in that far-flung tumulus was there any sign of verdure, nowhere the glint of water, the hint of human habitation.

But it was not alone the infinite desolation of that vast vista that gave it the eerie, ominous cast of a nightmare landscape. Color ran riot there. Violent greens warred with oranges virulent as the venom of the cobra. Fiery scarlet streamed shrieking between the yellow of a finch's breast and blue cold as Polar ice.
"Ronny!" Elaise had shrunk against him. Stratton was abruptly conscious of the quivering warmth of her body against his, of the fragrance of her hair in his nostrils. "See there. What manner of beings are those that dwell in this outland of hell?"
His arm went around her, drawing her closer still, but his gaze followed the gesture of her shaking hand. There was movement, just below. He saw them. . . .

Apparently they had come out of some cavern in the face of the very cliff on whose brink he stood, and they were half walking, half crawling, as though seeking to take advantage of every bit of shelter the broken
ground offered. Dwarfed though they were by the great height, Stratton could yet sense in their poses an odd combination of fear and aggressiveness. They were both hunter and hunted. They were stalking some as yet unseen enemy, dreading him and yet determined to attack him.

The American was by this time beyond astonishment, yet a chill prickle crawled his spine as he gazed down on the curious file. Their leader was a Roman centurion, the short skirt of his peplum swishing against swart thighs, breast and back protected by burnished armor, small round shield on one arm, stubby sword in the other.

He was followed by a squat, halfnaked individual whose long blond hair and yellow, walrus mustachios set him off as one of the Britons whom Cæesar's legions conquered. Behind came a gigantic, steel-capped Viking with strung draw-bow, then a hairy aborigine. . . . Had the eddy on Silbury Hill plucked from out of the dead years one of each race of England's long history to make up that small company? Jute, Pict, Saxon, they were all there, bound together with their common trait of cruel savagery!

THE shadow of a cloud drifted across the great plain. The Roman saw it, crouched suddenly low behind an emerald rock. The others dropped prone. Stratton was aware of a whirring sound. A flash of light darted across the field of his vision. The Briton-vanished!

Where he had lain was a small pit in the rock, its edges glowing red-hot !

The faint sound of a barked order came up to Stratton. The men he watched sprang up, dashed helterskelter for the shelter of the cliff whence they came. Before they passed from sight two others had whiffed into nothingness with the appalling spontaneity of the first. The whirring was louder, seemed to beat all about the watchers on the cliff with some indescribable threat.

Something was in the air, level with Stratton, an egg-shaped metallic
object suspended there without visible support. It flashed on him that this was the source of the spark that he had seen smash three humans into nothingness. Elaise whimpered, watching the wingless flyer hoverand then it was darting straight toward them!

Terror fanged the youth. His muscles exploded to throw him backward into the obscurity of the forest, carrying Elaise with him. His heel caught on a gnarled root and he sprawled, the girl on top of him. The whirring filled the forest with its menace. Stratton scrambled to his feet, jerked the girl erect. Side by side the two ran through the thicket, blindly, fear lending them wings, the fear of a terrible unknown from which they must escape. They plunged into a clearing.

A tree flared into flame, ahead of them. "This way," Stratton grunted, twisting to the right. Another forest giant was a column of fire, barring their passage. Behind, a third flamed.
"Oh-h-h," Elaise gasped. "The fiend ringeth us around with the flame of his breath. We are doomed."

They were surrounded by a roaring, torrid blaze. Heat beat in upon them, unendurable heat of an oven. Tongues of flame lapped toward them through the brush. They could not escape.

Stratton clutched the girl to him. "We're licked," he murmured. "We're licked, honey, before we start."

Her heart beat against his cheit, her arms were around his neck. "W"e die, my Ronny," she cried. "But we die together."
"Together." What was there in the blue eyes looking up into his that guenched the despair surging in his blood, that sent a thrill of ecstasy through him? What did these red and luscious lips demand? "Tegether!" Stratton's own lips found her avid mouth, clung. It was almost pleasant - to die-like this.
"Curious," a dry, shrill voice squeaked. "Curious indeed."

CHARRED, leafiess trunks surrounded them, but the fire was gone. The ovoid flying-machine rested
in the clearing, and a man stood before a black opening in its sleek side. "I must note the reaction," he continued, "really, I must note it at once."

This must be a native, Stratton thought. Surely there was never anyone on earth like him. His bulbous head, with fish-belly-white scalp utterly hairless, accounted for a full half of his height. The rest-his shrunken body, clothed in some tight, iridescent fabric of spun metal; his spidery legs-seemed too fragile to support that great mass. Eyes large as small saucers stared unblinkingly out from undor a bulging, immense forehead. His nostrils were gaping tunnels, his ears huge, flapping appendages, but his mouth was a tiny, toothless orifice. He was like some surrealist's caricature, like the spawn of some evil dream. . . .
"No," the monstrosity squealed. "You are wrong. I am Flaton, an Earthman like yourself. Some forty centuries of evolution make the differences between us."

What the hell! The fellow had answered him. But he hadn't spoken! Stratton was sure he hadn't spoken!
"You need not have," the response came. "I know what you are thinking as well as you do yourself. Nor am I talking to you, in your sense of the word. What you think you hear is the projection of my thoughts into your brain. Evidently in your period, telepathy had not yet replaced oral communication. - What was that period?"
"Nineteen thirty-" Stratton started to say. He did not need to finish.
"The twentieth century, in your reckoning!" The American felt a reaction of pleased triumph from his interrogator! "What luck! Wait till Gershon sees you. The fool insists the Fifth Glacier was down as far as the Fiftieth parallel, and life there extinct, by the beginning of the eighteenth. When I produce you he will have to admit that I was right in setting the beginning of the last Ice Age much later. . . . And this other is a female." His unfathomable gaze shifted to Elaise, and he fell silent.

No! Evidently his eerie method of
communication was focused by the direction in which he looked, for the girl was curtseying. "Five hundred and a score years since Our Lord's birth, master," she quavered. "An it please thee."

Another moment of silence, then she was speaking again. "I am hight Elaise, and this squire Ronny." It was like listening in on one side of a telephone conversation. She could not, of course, understand that she was not really hearing Flaton's questions. Stratton himself could not actually comprehend how it was accomplished, though, child of the Radio Age as he was, there was no magic in it for him. Were his thoughts exposed to the man of the future, he wondered, while the fellow's eyes were not on him? It might be important to know. . . .

Looking carefully at the odd craft that had brought Flaton here, he thought: "Maybe he's more developed than I, but he's weaker. Physical development has been sacrificed to mental. I can break him in half with my fist. I'm going to try it. Now!"

Nothing happened. In the youth's wrists a pulse throbbed. There was limit, then, to Flaton's powers.

Elaise screamed. "No," she shrilled. "No! Thou canst not do that to me! The Virgin Mary forfend-"

$\Delta$
TRATTON whirled to her. She was rigid, statuesque with terror. Her dilated eyes were fastened on Flaton's imperturbable countenance. but the fellow hadn't touched her, hadn't approached her.
"What is it, Elaise? What's scared you?"

She was shuddering within the protecting circle of his arms. "Didst not hear? Art thou once more bewitched?"

A cold chuckle within Stratton's skull was the echo of Flaton's cynical amusement. "Mankind no longer is divided into male and female, so I informed her that we should have to dissect her to confirm our records. Her reaction is curious. . . ."
"You devil!" Stratton shouted, and leaped for him. Started to leap. Abruptly he was without power to move, as his every nerve, his every cell, was
shredded by unutterable anguish. Through a dancing haze of pain he saw a small, black cylinder in one of Flaton's tentacular hands, saw a peculiar green nimbus haloing the end that was pointed at him.
"Fool," the future-man's thought battered at his understanding. "If you were not the sole specimen of your era we have found here I should have disintegrated you before you could pass over a tenth of the space between us. You saw what happened to those on the plains below who were stalking one of our geological parties. A slightly increased pressure of my thumb and every molecule of your frame would be blasted into its component atoms."

Agony twisted through Stratton, knotting his muscles, wrenching at his sinews. "Stop it!" he moaned. "Stop it! I can't stand it!"

The green nimbus flicked out. The excruciating torture relaxed, though his sinews still quivered with remembrance. "All this is a waste of time," Flaton said. "Come, both of you. Get aboard my stratocar. Quick, now."

Resistance was useless. Stratton turned his back to Flaton.
"We'll have to do what he says, Elaise. We can't fight him." He was between the girl and their captor, shielding her from that omniscient gaze of his. "Not now, anyway; but don't give up hope. I'll find a way out. Don't think about that when he's watching you. Don't think about anything except how helpless we are. We'll fool him yet."

## CHAPTER III

Lair of the Future-men

LAISE was like a small, fright-
ened kitten huddling in Ronny Stratton's arms on the strange curved floor of Flaton's curious conveyance. That floor was of no metal Stratton had ever seen. Darting with tremendous speed through the air it had been silvery, but now he could see that it shimmered with ever-changing striations embracing the whole spectrum
in their deep, variegated colors.
It was blood-warm to touch, too, and almost it seemed alive, vital with some force yet undreamed of in the twentieth century. Had the people of the future solved the obscure identity of energy with matter just dawning on the scientists of his present? Was this fabric fashioned of some element man and not God had created?

Flaton sprawled at ease in the bow of the sky-craft, his grotesque frame cushioned on a billowing, smoky substance, cloudlike in appearance. Although no machinery was anywhere visible, his pencil-like fingers played along a serrated bank of tiny levers; and in a screeen, placed just where he could watch it with a minimum of effort, the weird landscape of this weird space was blurred by projectilelike flight. He was taking them to others like himself. Was their advent here also accidental, or-
"No. We are an expedition sent to examine the specimens trapped here." Stratton was once more startled by the pat answer to his thought. "We are checking the fossil records of the rocks the Great Glacier left behind." Flaton's back was toward him. But a mirror to his right, the American saw now, brought to him a reflection of the prisoners. "History will be an exact science when we return."
"When we return!" Return was possible, then ! The thought sank deep into Stratton's consciousness. If they could escape-Good Lord! He had forgotten! He fought frantically to make his mind a blank, to bar from it even the flicker of a plan that Flaton, with his uncanny powers, might read and forestall.
"I'm a damn fool to think escape is possible," he forced to the surface of his brain. "I'm as much in his power as the Neanderthal Man would be in mine if I had him handcuffed and chained, with a machinegun trained on him. After all, Science must be served. Why should I object even to death if it will advance the knowledge of his wonderful civilization?"

Had he struck the right chord? A wordless communication from Flaton seemed to tell him so, although the
future-man's gargoylesque visage betrayed not the slightest expression. It was sexless, soulless-neither cruel nor evil, but more sinister than both in its utter lack of emotion. There was no pity in the man, no mercy.
"I am afraid," Elaise whimpered. "Oh, Ronny, I am dreadfully afraid. Whither doth he take us?"
"Hush, honey," Stratton whispered, pressing her quivering body to him. "There isn't any use in being afraid. We've got to take what comes, and take it smilingly. We can't do anything to avoid it."

IN the television screen the rushing
terrain below was slowing, was becoming more distinct. Evidently they were reaching their destination and the landing was absorbing all of the future-man's attention.

The varicolored rocks were taking on definite form. The stratocar was hovering over a circular pit in the plain which held a building of some sort.

They dipped lower still. Stratton could make out another grotesque creature like Flaton, staring up at them. Then they were within the rockwalled crater. It was that, he saw, rather than a pit.
So smoothly had the landing been accomplished it was not until Flaton rose that Stratton realized the stratocar was no longer moving. A wave of the future-man's tentacular arm and a hatchway opened in the vessel's side, apparently of its own motion.
"Get out," the voiceless command came. "We have arrived."

The surface upon which they stepped out was level and glasssmooth, as though the rock had been melted and poured into the cup of its stony walls. . . . Ronald Stratton brought his eyes back to Flaton in time to catch his thought, addressed to the man who had awaited him.
"Wait till Gershon sees this one, Talus. A man from the twentieth century. How he will howl to discover his chronology errs by at least two hundred years."
"I am troubled," Talus replied"Gershon and Frotal have sent no
messages for three quarter-hours. Have you seen anything of them?"

Flaton was undisturbed. "They were being hunted by some barbarians near the cliff they went to explore. I turned those back with a few blasts of the disintegrator ray. Our colleagues are probably making discoveries so interesting that they forgot your request for periodic signals."
"They should not. I don't understand. . . ."
"Naturally. Being merely a representative of the World League's Administration, you could not expect to understand how we scientists react to the acquisition of new knowledge." Stratton sensed discord here, a schism between the practical men of the Earth of the future and the students. Forty thousand years, he mused, had not served to reconcile that ancient conflict. "By the same token I am anxious to begin the examination of my own finds. Beside the twentieth century individual I have a female. Just think of that!"

Flaton flung around to Stratton and Elaise. "To the laboratory," he repeated the thought, making of it a command. "At once!"

His leveled ray-gun drove them before him, across the frozen lava of the stockade's floor, in through a high portal in the shimmering metal side of the structure at its center.

A pale blue luminance lit the interior, and the space seemed filled with a pounding, mechanical throbbing. Some sort of machine bulked before Stratton. No part of the complicated device moved, yet somehow it seemed instinct with the same sort of life as had animated the fabric of the stratocar.

THE door of the laboratory was narrow. Stratton went through first. In a larger chamber he glimpsed curious racks on which gleaming instruments were ominously ranged, high panels studded by glowing lights, a maze of tangled cables.

There was something terrifying about all this, some aura of the same dispassionate cruelty he had felt, once, in the experiment room of a
naturalist friend whose skinned frogs and guinea-pigs had twitched to the galvanic false-face of searching electrodes. They had been bundles of gory flesh, like the scarlet horror on a table near a second door in the farther wall. But that was-that had been a man!
"No," Elaise groaned, behind him. "No. I will not-" Her voice choked off.

Stratton whirled. The girl was writhing in the grip of Flaton's macaber weapon, her dear face twisted out of all semblance to humanity by the torture Stratton himself had found unendurable.

The cylinder's green nimbus blinked out and he caught Flaton's grim order. "Disrobe, or you shall feel the agony again. Strip off your garb, female."

Flaton's great eyes flicked to Stratton, and the youth read his appalling intention. Wrath lightninged through him, obliterating fear. He left his feet in a long low dive, his arms flailing ahead of him in a desperate stab at the future-man's spindly legs.

Because instinct, and not thought, inspired that mad attack, Flaton was not warned of it in time to bring his weapon to bear on the berserk youth. Stratton's shoulder crashed against the fellow's frail limbs. They snapped at the impact, and Flaton went down under the mad charge. Paper-thin bones crunched under his blow. Abruptly he realized he was pummeling a squashed thing that did not move, a thing out of which all life had expired.
"Ronny," Elaise was crying. "Here, Ronny. His wand of magic!"

Stratton pushed himself erect, shuddering now with revulsion from the touch of that which had been the fruit of all mankind's long travail, shaking still with the fury that had fired him to his unexpected triumph. Elaise was thrusting at him the black cylinder of the disintegrator ray. He snatched it from her, found the thumb-button that would release its fearful energy.

Somewhere outside someone called: "Flaton! Come quickly. I need your help. The barbarians attack us !"

## CHAPTER IV <br> The Siege of the Primitives

ee, groaned, twisting to the door. The portal, sliding open, revealed Talus, waving filamentary arms in a paroxysm of apprehension.
"Hold it," the American said grimly. "As you arel If you move, I'll ray youl"
"Flaton-dead-incredible! He has the ray-gun!" Talus' thoughts were a jumble of astonishment at the pulped remnant of his companion, of terror of the weapon Stratton held. "He will disintegrate me before I can draw my own. Defeated - from within and without. I should not have come-"
"Damn right you shouldn't," Stratton interjected. This telepathy business had its points, he thought. He knew he was master of the situation now. "What's going on out there?"
"Our screen scans the plain for a half-mile around. I have seen them approaching-the barbarians. They are converging on all sides. They will destroy us."
"That's lovely! How about our getting away in the stratocar?"
"I do not know how to navigate it."
"That means we've got to fight them off. Can we?"
"One man on each side of the wall, with our weapons we should have been impregnable. But you have killed Flaton-"
"Never mind that. I'll make a dicker with you. You take one side, I'll take the other. You ought to be smart enough to see that we've got to play fair with each other or we both lose out. How about it?"
"Done!"
Stratton couldn't distinguish any reservation in the man's mind. Not just now. Afterwards he might change. "Are there any more of these ray-guns around?"
"Another in the cabinet to the left. That one-"
"Elaise," Stratton threw over his shoulder. "There's a magic wand, as you call it, in that closet on this side
of me. Get it. You work it by pushing that little thing on its side. You come out with us, stay in the center of the blockade and don't take your eyes off this beauty. If you hear him think anything even a little bit hostile to me or you, let him have it. All the way down!" Then, to Talus, "You get that, don't you?"
"I understand." He was thoroughly cowed. "I shall give her no cause to disintegrate me. But we must hurry, or they will be over the wall.
"Let's go!"

THERE were steps in the sides of the stockade wall. Atop it was a runway protected by a rampart. If there were only four of the futuremen, Stratton thought, they must have been here a long time to have built this fortress. Then he saw that it was of the same glass-like consistency as the floor within. He tested the ray on it.

Its button pushed halfway down, the green halo formed around its end, but there was no visible effect on the fused rock. A little further. The green deepened to a brilliant dazzle that extended in a tight beam to the spot at which he aimed. The stone glowed red, then white. It melted, ran in little streamlets down the slick sides of the little wall. That was what they had done! They had melted the solid stone to make their lair.
"Gosh!" Stratton exclaimed. "Just think what full power would do to a man!" Then he recalled that he had seen just that . . . But he was forgeting what he was here for.
He could just see over the rampart. The piebald space outside was vacant. As far as his vision reached, nothing moved. Had Talus tricked him?

A swift glance over his shoulder showed him the future-man across the small space, peering intently over the barricade on his side. Elaise was tense beside the stratocar, her gaze unwaveringly on their strange ally, the ray-gun clutched in her small hand and focused on him. Admiration surged up in Stratton. She might be untaught, superstitious, but there was nothing lacking in her courage!

A tiny clink of metal against stone spun Stratton around. Had something dodged behind that boulder, out there?

Twanng! A harp-note sounded somewhere. Something zipped through the air, thudded against the rock wall below him. Again-twanng! -zzzip-thud! This time it struck sparks from the rampart-top a foot to Stratton's left, fell over onto the footway. It was an arrow, flint-tipped. The American ducked below the shielding stone, looked from the dart to the cylinder he held. Ages between these two weapons-but that arrow also could kill, and without a target his ray was useless.

His careless exposure of himself had given some marksman his range. Stratton ran, crouching low, along the wall. Popped up for another look. A shambling Dawn-man, pelt-girdled, dodged out from behind a rock, his ferocious countenance more bestial than human. The fellow poised a flinttipped javelin for the throw. Stratton took snap aim, thumbed his ray-gun's trigger. The dart-hurler whiffed into nothingness.

Revulsion twisted at the pit of the American's stomach, horror at the thing he had done. This death he dealt was worse than death itself. The most savage of warriors buried their dead and their enemy's dead, but he was leaving nothing to bury.

A wail rose into the dimness, hollow and somehow eerie with its keening of the dreadfully dead. A flaxen-haired youth, in leather jerkin and forestgreen breeches, was suddenly visible. His longbow was stretched to the tippoint of a feathered arrow and his keen, eager eyes scanned the wall for a mark. Stratton's arm jerked up-but he could not bring himself to press the lethal button.
"Wait", he yelled. "Wait!" There was in him some inchoate realization that the bowman was far nearer kin to him than the callous man of the future, that they two should be fighting shoulder to shoulder in a common cause. "Wait! I-"

The twang of the loosed bowstring cut him short. His ray caught the ar-
row in midair, sparked it into nonexistence. The beam melted a lurid, angry pit just in front of the archer, and the yellow-headed Saxon sprang back to safe concealment.

IF he could only get them to listen, Ronald Stratton thought desperately; if he could only get them to understand that he was not of the people who had come there to capture them and torture them.

Metal clanged, out there, and abruptly another figure was striding through the fantastic landscape of the Timeless Zone. A mailed knight, helmeted and visored, he came on jauntily, secure in the gleaming armor he could not deem other than invulnerable. His great, two-handed sword flashed bloodily in the fading light.
"Hey, you," Stratton called. "Hold up. Listen a minute. I don't want to kill you. Listen to me!"

The knight did not pause as he bellowed, "Ho, caitiff! Though thou art craven, Sir Sanguinor yields thee no quarter. Defend thyself!"
"You damn fool! Stratton snarled, exasperatedly. "I want to-" The dazzle of Talus's weapon hissed past him. Out there, where the knight had been, a pockmark in the plain glowed redly, a molten pockmark where a gallant man-at-arms was dispersed into myriad scattered atoms.
"Ronny," Elaise screamed. "Ronny."

Stratton twisted to her. An apevisaged aborigine, gigantic, was bringing down a great, stone-headed mace to demolish the shrieking girl. Stratton's flashing beam caught him, blasted him into extinction. The American left the rampart in a great leap, thudded down beside the cringing girl. A chorused jabbering of rage pulled his gaze to the farther wall. Forms were surging over it. Ravening, beastlike forms.

The American knew now that the die was cast. No chance for a truce now, for talk.

The future-man's ray swept clear the crowded wall. Swept it clear of swarthy, runted Picts; of long-haired, long-bearded dwarfs of the ancient
moors; of all the surging, fierce apparitions of a dreamlike past. But others, and still others, took their place: Roman legionnaires, shaggybearded Druids, archers who might have fought with Henry of Navarre at Poictiers, a longbowman in the forest green of Robin Hood's gay band. Indomitably they came on, and the silent death of Taius's fearful beam scythed them into oblivion.

A hurled spear ripped Stratton's thigh, sent agony searing through him. An arrow sliced his scalp. Talus gave vent to a high, piercing scream. A swift glance showed that his left arm was carried away. Grotesque, incredible in the gathering darkness, he carried on.
"Nerve!" the American exclaimed. "By jingo, he's got nerve!" A thrill ran through him, a tingling thrill of pride in the Race. All of these weirdly assorted participants in the uncanny, nightmare struggle staged in the dying luminance of an outer world were somehow ennobled by that high quality of courage. Ape-man from the fens of the immemorial past, Jute and Druid and knight, Roman and hooknosed Norman seaman, girl of the sirth century, man of the twentieth, man of the four hundredth-not one of them craven. Above them all fluttered the pennant of bravery that in all the ages must distinguish man from beast.

©UDDENLY the battle was over. Suddenly there were no longer any more attackers for the fearful ray to smite with its green oblivion. Ron Stratton slumped wearily, exhausted, feeling the agony of his wounds.
"They're licked, Elaise," he gasped. "They're licked."

Not the least uncanny feature of the uncanny fight was that, now that it was ended, so little remained to show that there had been a fight.
"All gone," Stratton groaned. "All-"
"You're wrong," Talus's message squealed in his brain. "There are still others of them out there. I can sense their presence, though they are too far off for me to make out their
thoughts." The fellow swore softly.
"The devil!" Stratton pulled himself to the rampart again, peered out once more into the tumulus whence the savage raid had come. Silence brooded, gravelike, among the fantastic rocks. It was a dead world he looked at, shrouded in a mournful dusk. A dead, unpeopled world. "I don't see anyone."
"They are there, nevertheless," he heard. "Hidden to plot a new at-tack-" That thought broke off; another took its place. "At last! Gershon and Frotal-"

The thought blanked out. Talus had veiled it, but a whirring sound, faint, out of the almost lightless sky, came to Stratton.

The two missing future-men were coming back!

## CHAPTER V <br> The Primitives Take the Crater

$\Delta^{1}$TRATTON saw suddenly a tremendous, reaching beam arc against the vault of the maroonshaded sky; saw a rock flick from its end to hurtle and crash devastatingly against the stockade's façade.

This was a catapult, he realized, a Roman catapult, heavy artillery of Cæsar's legions. Some military genius was directing the siege. But the future-man was equal to the new threat. The catapult's huge throwing beam flared suddenly into flame as the disintegrator ray struck it.

Above that pillar of fire, high above and miles distant, a glowing speck showed against the deep maroon of the sky. The same electric shimmer flowed in the skin of Flaton's stratocar. If only Stratton knew how to fly that-

What good, while Frotal and Gershon were aloft to ride him down? Better death at the hands of the barbarians than what they would do to Elaise and himself. Stratton's arm jerked up, brought to bear pointblank on Talus's spldery form. He pressed the button halfway.

The future-man was rigid, quiver-
ing in the clutch of that dreadful force.
"Take his wand, Elaise," Stratton yelled. "Quick."

No words sounded in his brain, telepathed from the future-man, but pain and terror impacted there in a chaos of transferred anguish. The girl sprang unhesitantly up the steps to the runway. Stratton flicked off his beam for the instant she needed to snatch away Talus's ray-gun, flicked it on again as Elaise turned questioningly toward him.
"Get into the thing in which we came here," was his next order, "and watch the hole in the wall. If anyone starts to come through, ray him down."
"Aye, Ronny, my love," she answered him. "I haste to do thy will."
"Now, you," Stratton addressed Talus, aloud. "Which way shall I move my thumb, up or down? Will you do just as I say, or do I blot you out?"

There was acquiescence in the message that came to him, cringing, tortured appeal. Stratton relaxed. "Come down and turn off the machine in there that holds up the stratocar."
"But you'll kill them," the agonized protest reached him. "They will fall."
"That's just what I've got in mind. Going to do what I say, or do I start with you?"

Talus's actions replied for him. He was scrambling down the wall. Stratton leaped down, kept right behind him. The future-man shambled into the powerhouse. The American threw a quick glance up into the sky. That ominous flier was nearer, much nearer. Shadowy forms were moving out there on the plain. All the sinister forces of this sinister land were closing in.
"Watch it, Elaise," he called and followed Talus into the building. "Hurry up," he flung at the cowed creature. "Turn it off."

The whir of the approaching flier came to him, high and angry now, like the irate whir of a worker bee whose hive is being attacked. Talus did comething-and the whir was gone.
Stratton faced about. Through the
open door he could see the sky. A star fell, leaving a long wake of electric flame behind it. The plain spurted a fountain of sparks, green and red and golden. Then there was only darkness out there. . . .

(1)NLY darkness and the long darting flares from Elaise's ray-guns as she fought off the oncoming hordes. Killing, killing. God, how weary he was of killing! Those poor fellows didn't know what it was all about. They knew only that strange creatures had come here to capture and torture and slay-and that they must fight to save themselves. Stratton jerked around.
"Turn on the power again."
Talus obeyed, thinking, "It won't do any good. The scientists are gone. No one, now, is left who knows how to fly the stratocar. The charges of the ray-guns will soon be exhausted and then--the end."
"Oh, yeah?" Stratton gritted. "I've got an idea. Come on, let's get into the flier and try it out."
"Ronny," Elaise screamed. "The wands hath lost their magic. We are lost."
"Coming, honey. Coming." He grabbed Talus by his one remaining arm, fairly hauled him to the flying machine, threw him into it, leaped in after him. He remembered the motions of Flaton's arms that had closed and opened the hatchway. Clumsily he imitated them. Elation leaped up in him as the hatch cover slid closed.

He twisted. Talus lay almost unconscious on the floor. Elaise stood above the future-man, staring fearfully at the view-screen above the control levers. Mirrored in it was the breached wall of the stockade; through the gap, Stratton could see the dusk-shrouded figures crawling in, atways in. Till the last man was gone they would persist in their attack, not intelligent enough to realize how hopeless it was.
"Talus," Stratton shouted. "You think you don't know how this thing works, but you must have been in them often. You must have watched the pilots manipulate them, and what
you saw is deep down in your subconscious. Don't think. Don't try to remember. Just try to picture Flaton, for instance, at some moment he was taking off."
"I cannot," the fellow's desparing whimper came to him. "I cannot remember."
"You've got to, man! Try. Try hard!"

Silence fell in the round-walled cubicle, a thick silence that seemed to quiver with tension. Stratton stared at the future-man, concentrating on his thoughts, on that storehouse of forgotten but never eradicated brainimpressions the psychologists call subconscious memory.

Ne words came to him, but pictures seemed to form on his retina, pictures like the hazy visions of a dream. They grew more definite in outline. He saw Flaton resting on his grey cloud cushion. He saw the view-screen in front of him. It was a porthole looking out on a platform thronged with hundreds of creatures in the nightmarish shapes of the world of the future. Silhouetted against a blue sky were towering pinnacles of gleaming crystal, fairylike highways leaping from façade to façade in a gossamer arabesque, clouds of ovoid stratocars. . . .

The view-screen drifted upward and he saw the lever-banks. Thin, boneless fingers reached out, pushed one down in its short slot. In the viewscreen the crowded platform shot down.
"I have it!" Stratton shouted, and leaped to the bow of the stratocar. He glimpsed the real view-screen, glimpsed a steel-capped Viking rushing in through it, a crowd of others behind him. His shaking hand found a lever, pushed it down.

The uprush of the stratocar flung him down on Talus, crushing the future-man as Stratton had crushed Flaton in his irate onslaught. But the flier was rising. The crater was dwindling in the television screen, was once more a pit in the plain's boundaryless surface.

Ronald Stratton struggled back to the control levers. "I've got to stop
this or we'll keep on going up forever." Talus was dead, could not help him any longer. He pushed the tiny handle back into the central point of its slot. The precipitate rise stopped; the stratocar hovered, motionless in the air.

Stratton stared at the control board. He saw now that the switch lifting the stratocar was the topmost of a vertical row of three, that to left and right of the central lever there were two more.
"It looks simple enough," he muttered, "now that I've got a starting point. Top-up. Bottom-down. Mid-dle-forward. Left-left. Rightright. Let's try it. I'll push down the middle one. Here goes!"

THE craft leaped forward. The problem was solved! He could fly the stratocar. But where? Where in this terrible place was safety for him? For Elaise?
"Look, Ronny!" the girl exclaimed. "It waxeth light again. The night here is indeed very short."

The strange red glow that passed here for day was growing in the screen. "It's just some kind of fluctuation of the light, sweetheart," Stratton thought aloud. "You see, there could not really be any day or night here because there isn't any Time."

Below, the eerily colored plain was visible once more, stretching undisturbed to a featureless horizon. No. There, straight ahead, something bulked against the lurid sky, a familiar, grateful green margining its upper edge.
"How would you like to come home with me, Elaise?" Stratton whispered. "Home to England?"
"Ronny!" She was wordless, but her arms around his neck, her kiss on his cheek, was enough.
"All right," he said. "Here goes."
The stratocar came down in the clearing where Flaton had captured them. Stratton stepped out of it, helped Elaise to descend. They turned shuddering away from the gruesome remnants of the last of the future-men.
"We came from that direction," Stratton said. "Maybe if we go back
there we'll find the eddy once again."
"Whither thou goest I will go," Elaise murmured. "I am thine, my knight, soul and body . . ."
"Not more than I'm yours, honey. Remember that when we get back to 1936. Come on."

The underbrush rustled against their knees, the trees whispered overhead. They passed the still body of the Neanderthal Man. Then-a wall confronted them, a wall of hazy, swirling nothingness.
"Here goes! Together does it, Elaise. One-two-three!" His arm around her warm waist, Ronald Stratton stepped into the haze.

## CHAPTER VI

Through the Eddy

IT was as if he had walked over the brink of an abyss, save that he did not fall. He was standing on the gentle slope of Silbury Hill. A great monolith loomed above him, black and gaunt against a dusk sky grey and haunting with the death of day. Not a minute, not a second had elapsed since he had taken the fateful step in the other direction.
"Look, Elaise," Ronald Stratton said. "Look down there. See the spire of Avebury Church? We can find a minister there, to wed us."

She didn't answer. "Elaise!" he said sharply, turning to her. She wasn't there beside him. She wasn't anywhere. . . .

## "Elaise!"

But she had walked into the eddy, close against him. She must have walked into it. What had happened? Where was she, the girl he had found in the Timeless Zone, who had fought so bravely by his side? The girl he had learned to love, the blue-eyed, fairhaired girl from the days of King Arthur?

From the days . . . Abruptly he understood. He remembered his first explanation of their strange adventure. "We've shot along the yearspokes of that great wheel, each from our own time, and met here at the
center. . .." The reverse, too, was true. Returning, they had each gone back along his own year-spoke, he to 1936, she to A. D. 520. Some vibration of their cosmos, some esoteric, unknown quality, had provided for that. They were fourteen centuries apart.

Ronald Stratton started slowly down the hill, descending toward the valley whose moor was already dark with the gloom of night. Little stars sprinkled it, lights in the homes of people like himself. Of people of the twentieth century. Above them, the red and green winglights of an airplane drifted across the dusk.
"I don't care how advanced your era is; if you haven't got love, I pity you." He had said that to Flaton. "It's the greatest thing in life."

Stratton halted, turned back to the monumental double-ring the Druids had built to warn their people of the terrible thing that lay within. Abruptly he was running back to the high stone that marked the boundary of the eddy. He stopped on its very edge.
"Elaise!" he cried into that dread maelstrom of haze. "Elaise!"

Mad! He would be mad to plunge back into it. She wouldn't be there, in the forest. She was hastening down Silbury Hill, fourteen hundred years ago, so as not to be late for evening prayers. She-
"Ronny!"
Her voice came out of the mists. He hadn't heard it, couldn't have heard it, across fourteen centuries. He was mad!
"Ronny!"
"I'm coming, Elaise. Wait for mel I'm coming!"

Above a forest of tall and ancient oaks a lurid sky bent its eerie dome. A tiny horse, three-toed and kneehigh to a full-grown man, peered through the underbrush at the couple walking, hand in hand, into the lowering, threatening future of the Land Where Time Stood Still. Hand in hand, heart to heart, the man of the twentieth century and the maid of the sixth went, together, into the Unknown.

## DEATH DIVES DEEP

## A Complete Novelette of Weird Thrills

## By PAUL ERNST

Author of "Devil at the Wheel," "Blood of Witches," etc.

## CHAPTER I

## The Metal Cylinder

THE dome building, like an overgrown igloo, secretively placed here in the mountains and woods, could scarcely be seen against the black sky. Professor Ogden had hidden it well. But if it looked bleak and forbidding from the outside, it did not from within.

Inside, a great arc light shed white beams over scientific paraphernalia, machine shop equipment-and the thing these elaborate devices had produced. That was a great metal cylinder, perhaps ten feet through and twenty-five long, set up on end in the center of the dome building.
"It looks like a great big tin can, sitting upright," Ria Marquis laughed.

She and John Street stood in the doorway of the dome building looking at the cylinder. "So this is the reason I haven't seen you all these weeks," she added.
"This is the reason," Street said.


He stared at the cylinder with dreams in his grey eyes, and with a certain tensity cording the muscles of his big body.
"That thing has to be guarded day and night. And I've been elected to

## Monsters of Stone, Buried a Million Years,



Streat caught up a sledge hammer and crashed it down.
do the guarding, since $I$ was the only one Professor Ogden allowed to help him build it."
"But what is it?" asked Ria, wrinkling her small straight nose in bewilderment.

Street gazed at her piquant face under its coppery hair, at her deep blue eyes, at her red lips.
"Well?" she smiled.
"Oh, pardon me! I was thinking of something more important than

## Rise to Threaten Civilization with Catastrophel

inventions. What is this thing? Well, it's an atom compacter. In plainer language, it digs holes."
"Digs holes," echoed Ria disappointingly. "That doesn't sound so mysterious. If that's all it does, why should the professor hide it out here in the wilderness and watch it day and night as though it were made of gold?"

Aren Rawl, a dark, tall young man who had been lounging wordlessly beside them, listening to the roar of the waterfall nearby, spoke up.
"It's more precious than gold, Miss Marquis. With it, if you liked, you could find many times its weight in gold. For with it you could sink shafts in a few hours to the deepest of metal deposits. Or you could build commercial tunnels at a rate of many miles a day. Or it could be used as a war instrument: You could sink in it behind your own lines, burrow forward through solid earth till you were under the enemy capital, and there lay mines to be exploded when you were far on your way home again."
"It sounds to me as though you had invented a kind of metal earthworm," sniffed Ria. "And I still can't see why it should be kept such a secret from the world."
"You were the first person besides Aren and Ogden and myself who has ever been in this building," Street said soberly. "You see-Gregor Cunao is after it."
"Gregor Cunao?" Ria exclaimed.
"Yes. The utilities magnate himself," Street said bitterly. "He has millions already, but with this he could possess billions! So he wants it."
"But the patents-"
"Daring, you don't pattern a thing like this. It is tuo revolutionary. And it couldn't be protected from the looting foreign nations."

FAR below them on the mountain leading to the dome building, an automobile's headlight shot into sight.
"The professor," Aren said. And, an instant later: "He's certainly coming fast, John. Look!"

The car was coming fast! At a rate
in excess of a hundred miles an hour it bored up the steep lane, though fifty should have been the limit there and even that would have been impossible without pneumatic springs Ogden had invented two years before, in 1947.
"Something's wrong," Street said quickly. "He'd never drive like that if-"

Behind the first set of headlights, two more pairs abruptly showed. At an equal speed, the two bored through the darkness after the first. Then a far-off, tiny red streak could be seen, and another, and a third. Then three reports sounded in the ears of the two men and the girl.
"They're shooting at him! My God, something has gone wrong!" Aren gasped.

The two men looked at each other, white-lipped.
"Cunao," Street said at last. "He has trailed Ogden here. It's to be a showdown fight!"

He grasped Ria's arm and rushed her inside the doorway of the dome building.
"I'll get this door ready to bar as soon as Ogden comes," he said tensely. "Aren-get to the power house. See that the camouflage there is all right-and stay in there! Don't come out for anything."
"Right," Aren clipped.
He started on a dogtrot through the woods, his path leading toward the roar of the waterfall.
"He'll-he'll be all right?" Ria faltered.
"I hope so," Street said somberly. "The power house is underground. Earth and shrubs conceal its door."

Many more shots burst out from the two cars speeding after the one in which Street guessed Ogden to be. The first car went even faster. They could hear the scream of its motor, see the wabbling of its lights over the uneven road.
"John! What will you-we-do?" begged the girl, blue eyes wide.

Street shrugged. "Bar the doors. Try to defend ourselves from Cunao and his hired killers the best we can."

The speeding car in the lead skidded around the last long turn. It
began to brake three hundred gards from the dome building, and slid with a scream of tires almost all that distarce in the gravel before stopping. From it leaped a tall, spare figure who darted to the doorway without bothering to turn the motor off or set the brakes. The car rolled slowly, unbeeded, into a tree.

The two cars behind, both capable of holding ten people, swept toward the last turn.
"Professor!" cried Street, holding the door open. "Here!"

The tall, spare figure ran into the building. Professor Ogden, coal black eyes blazing, lean, powerful face working, helped Street slide home the bolts. The last one shot into place just as the cracirle of machine-gun fire burst forth and the steel door leaped and clanged as though a devil's sledgehammer played taps there.
"Cunao?" asked Street, tight-lipped.
Ogden, the world's best-known inventor, nodded his iron grey head.
"In person. With fifteen men. We're trapped, John-Miss Marquis!"

Ria put her hand on his arm.
"I-shouldn't be here, should I, Professor?"

(1)GDEN sighed. "From the point of view of our secrecy, of course you should be here. You're to marry John. You're one of us. But from the point of view of danger-" He bit his lip.

Suddenly the big steel door buckled and clanged.
"They've got a battering ram!" exclaimed Street. He looked at Ogden in dismay.

The professor nodded, face grim and bleak.
"We're caught, John. There's no way out. The very fact that we hid our laboratory so far from other people militates against us. No one lives near enough to hear the shooting and comes to help us."
"Then what-"
Ogden cleared his throat. His voice was a little husky as he spoke.
"I thought pretty fast while Cunao and his men trailed me," he said. "The only answer I could see was to escape
in the atom compacter, immediately."
"But," gasped Street, "we've never tested it! We don't know how it will work."
"No, we bave never tested it." A second clang of the door punctuated his words. "I thought we'd test it now -with our lives forfeit if our work has been unsound. But I don't know what to do about Miss Marquis."

Ria looked from the young man to the elderly one.
"How could you escape from this windowless stone building, with only one door and that one being attacked by fifteen men?"

Street nodded to the giant cylinder, set on end in the center of the building.
"I told you that bored holes? Well, Professor Ogden's idea was that we get in it, bore down through the floor of the laboratory and underground for several miles, then come up again."
"All right," Ria said quickly. "Why does my presence stop that plan?"

Ogden shook his head.
"It might not work, Miss Marquis. It might leave us entombed deep in the earth. It might kill us before we got started."
"Professor," she interrupted steadily, "if we stay here till the men outside break in, we'll be killed anyway, won't we? " At Ogden's reluctant nod, she hurried on: "Then there's no argument. I'll get in the cylinder with you, of course, and share whatever fate you go to!"

The door was bending and buckling badly under the battering of the band outside. Ogden stared at Street, then started on a run for the big cylinder.
"Come on-it's our only way out!"
He pressed at a section of the magnesium alloy beside a hairline oblong in the wall of the cylinder. A door appeared. Swiftly the three stepped inside the cylinder.

Inside, it was like the cabin of a submarine. There were a few padded bunks, a few chairs, also padded, and bolted to the metal floor. The rest was machinery and engines and tanks in a bewildering array.

Street sprang to a metal bench on which stood a radio set. He switched
on the power, then began to speak.
"Aren! John talking. Cunao's men have us trapped in the dome building. They're about to break in. We're in the cylinder. Ria and the professor and I. We're going to bore down in the cylinder and tunnel up again a few miles away."

Ria could hear the gasp of the man hidden in the secret power house near the waterfall. Then:
"Right, John. There's power in plenty. I have the wave length set for its radio transmission to you. Try it-and God be with you!"

IDIMLY, as though from a far distance, they heard a door slam down.
"They're in the building," Street said to Ogden.

The professor nodded. He stepped to a gigantic power switch near the radio bench. Beside the big switch was a smaller one. He threw the smaller one first. Ria saw him moisten his lips.
"God help us if the protective screen doesn't work," he whispered.

There was a savage clanging against the metal walls of the cylinder. Ogden stared at Street, then at the girl.
"Hang on!"
He pulled down the big power switch.

There was a blinding arc as the switch made contact. An angry scream sounded from the end of the cylinder on which they were resting. The cylinder lurched wildly, then steadied.

Ria could feel motion. It was not rapid but it was distinct. They were going down, sinking.

Street gazed at Ogden with his grey eyes shining.
"Success so far, sir," he said, in an awed tone. "The protective screen works, and we're settling down in the earth."
"Yes," said Ogden somberly. "Down-in the earth- But I hadn't dreamed of trying it without more preliminary work. I'm praying nothing goes wrong."

The sinking motion continued evenly. Inside the cylinder three
white-faced people stared at each other.

Outside-
In the dome building a group of furious but half frightened men with a big, stocky man at their head, futilely watched a great cylinder sink through a solid concrete floor and continue to sink into solid rock, as a hot penny through butter, leaving a smooth round hole its own size behind it.
"Fire!" the stocky man, Gregor Cunao himself, cried savagely. "Damn them-"

Machine guns and automatics roared salvos. Bullets clamored against the blunt metal rear end of the cylinder. But they didn't even dent the alloy; and in a moment the cylinder could not be seen. It had vanished, leaving behind it a ten-foot hole, the walls of which were a gleaming vitreous black. Down and down that hole led, as though it went straight to the dark depths of Hell itself.

## CHAPTER II

To the Center of the Earth
ee $\$$ OULD you say five miles, sir?" Street said to Ogden.
The professor nodded. "That should be ample. Then we'll head for the western flat-lands, go for another five miles or so, and come up. We can do it in two hours, three at the most."

Ria Marquis gazed at him with her red lips parted.
"You mean to say you can dig down all that distance in this thing in a few hours?"

Street smiled. Ogden nodded more soberly.
"We are sinking at a rate of about five miles an hour. John, explain it to her while I look over the controls."

Street pointed to the floor of the ten foot space like a round room about them. Ria saw a quartz-glass trap door. She could see nothing but blackness through the glass, however.
"This floor is the upper part of a
sort of false bottom," Street said. "The real end of the cylinder is five feet farther down. Only there isn't any end that you can see. The end seems to be open."
"Seems to be?" Ria echoed.
"The real end of the cylinder, Ria," Street explained, "is something invisible. It is a tremendously powerful rotating magnetic field. And it is the secret of the cylinder. That field, acting on substance before it, disrupts its atoms and then whirls the components to the rim of the field. There, the atoms are compacted and condensed. A cubic foot of rock, for example, is compacted to a cubic inch, but retains all its original weight, of course, in spite of its shrinkage. Look."

He switched on a light, which lit the space under the glass trapdoor. Ria saw a whirling, furious mist, and, nearer to the glass, a sleek black wall, like black glass.
"The compacted matter, whirled to the rim of the hole the atom compacter is forcing for itself, is denser than any substance yet known and more than diamond hard. It makes a batter tunnel lining than concrete, don't you think?"

The girl nodded, wordless.
"Which is one reason why Cunao would kill to get it!" Street said grimly. "With this cylinder he could corner the world's subterranean building contracts. He could bore tunnels at a rate of five miles an hour, leaving them perfectly lined. Or he could sink shafts to mines, or be an underground pirate-"
He glanced swiftly toward Ogden, who was near the radio bench.
"The first rift, sir!" he said tensely.
Ogden nodded. He spoke into the transmitter.
"Rawl, is everything all right above?"
"All right, sir," came Aren Rawl's anxious voice.
"Plenty of power?"
"Plenty of power."
Ogden touched another switch.
"Watch this," Street said. "Andwe'll hope it works!"

Ria, looking through the glass, saw
no more whirling mist, which represented the disrupting and then reassembling and compacting of solid rock and earth. The searchlight beam showed vacant space beneath. A cave, of unguessable extent.

Then she saw four things like metal fishing rods extend down from the cylinder. She saw them stop, saw that they rested on the uneven floor of the deep cave.

THE cylinder lowered itself on the four supports, like four legs, lurched a little as it touched the rock of the floor, then steadied as once more it began to sink through rock, leaving a hole behind it like the hole an earthworm leaves as it goes blindly through dirt.
"I think I understand," said Ria, a little shakily. "The whirling field beneath us breaks up all substance into its smallest units, crowds the units to the side, and compresses them there. The cylinder sinks into the space made, and then does it all over again. But John, what keeps the field from acting both ways? Why doesn't it compact things behind it as well as ahead of it?"
Street nodded toward the smaller switch beside the big main one.
"You heard the professor speak of a protective screen? That switch controls it. When it is thrown, an invisible screen of electrical force is made between the cylinder proper, and the open end where the field operates. If anything goes wrong with that screen -" He shook his head. "Well, we'd be reduced to tiny things like little dolls, an inch high, weighing a hundred and eighty pounds-in my case, that is-made of substance harder than any metal!"

Ria shivered. "And you hadn't tested any of this equipment before now?"
"None, save in miniature and under laboratory conditions which are quite unlike real ones. Cunao forced our hand badly tonight."
"But we seem to be doing all right."
"So far," admitted Street. "But there are so many things that can go wrong! And being in a twenty foot
tin can, pointed straight toward the center of the earth, is not so secure if something does pop!"
"But it was that, or die with Cunao's bullets in us," sighed Ria. She was very pale, but composed. Street was filled with pride in her. Any other girl would have been mad with hysteria.
"John, how will you come up again? You can't point straight up and rise as you came down."
"No. We have to ascend on a slant. We can go straight down, but not straight up. When we go down as far as desired, we turn the cylinder slowly till it is horizontal, extrude retractable wheels from the cylinder's walls, and start slanting up. The whirling field opens a tunnel for us as before, and plenty of power applied to the wheels forces us upward along the slant. Power comes to us by radio transmission."

Again Street's voice broke tensely, harsh with excitement as he made an announcement to Ogden.
"Water ahead, sir."
The searchlight beam played on water, in which pallid blind things swam. An underground pool of God knew what size and depth.
"This may be the end," Ogden said quietly. "Well, there is nothing for it but to go straight ahead. We can't back up the tunnel-Look! John, my theory of the atom compacter was right!"

Breathlessly the three peered down through the quartz glass panel. Ria didn't know what Street and Ogden were looking for, but she saw a change.

The cylinder had been sinking soundlessly into a self-fashioned bore the circular walls of which were black and sleek like wet glass. Now a new type of wall was showing up.

EXTENDING down into the water she saw what appeared to be a ten-foot, milky shell that trailed off to nothingness just beyond the open rim of the cylinder. The milky shell thickened and became more opaque.
"Thank God!" said Ogden with a ragged sigh.
"We're boring a hole in water!" Street cried tensely. "Our last and most serious worry about the practicability of the compacter is set aside! Don't you see?" he said to Ria who was gripping his arm, gazing at the opaque tube which the cylinder was forming for itself in the water and down which it was sliding. "The atom compacter compresses and whirls to the side all the minerals in the water. More water flows in, more salts are compacted. A wall, or skin of minerals is formed. Professor Ogden always held that this would occur, while I always feared that the condensed substance would simply sink to the bottom. He was right. The compacted minerals are formed swiftly enough to adhere to each other before they have time to sink. On this point rested much of the success of the compacter: if it did not 'bore holes in water' the pressure of any subterranean pool tapped by the cylinder would send us flying back up to the earth's surface on top of a geyser."

Professor Ogden put an arm around each of them in a burst of satisfaction rare to him.
"Success!" he whispered. The whisper was heartfelt. "Our forced test is completely successful."

Street gazed at the depth gauge near the panel. The walls of the endless bore the cylinder was forming were black and sleek again. The compacter had sunk through the underground pool and was once more boring through rock.
"Five miles down, sir," he said. "Shall we start slanting up to the west?"

Ogden nodded. "Throw the switch while I make the adjustment that enlarges the diameter of the whirling field so we'll have room to turn gradually... John! John! Look!" ${ }^{\text {P }}$

Both men saw it at the same time, with appalled faces.

Around the control board in which the master power switch was set, blue flame licked and played.
"A short!" Street gasped. "We can't touch that switch! It's electrocution to the man who touches it!"

Ogden's jaws clicked shut.
"Call up to Rawl to shut the power off while we find the short and repair it."

Street leaped to the radio, turned the switch. His breath hissed from between set teeth.
"The set's gone! The short has burned it out. We can't get in touch with Rawl!"

Both men stared with stunned eyes at the control board. Ria's hand touched Street's shoulder.
"What's wrong, John?" she said. "Tell me."

Street hesitated, then faced her.
"All right. It wouldn't be a kindness to try to conceal it from you. Because of a short on the control board, we've lost all control of the cylinder. We can't turn or stop because we can't shut off the power to do either. We can't order Rawl, five miles above, to shut off the generators, because our radio transmitter is useless. Meanwhile-" His arm went around her. "Meanwhile, darling, we're sinking powerlessly down into the earth at a five mile an hour rate. God knows where we'll end. The center of the earth, if it is possible the power could be transmitted that far; a few hundred miles if it can't. But we won't be alive to see what's down there!"

CHAPTER III

## The Black Pit

THE three lay on the floor of the cylinder, panting with the weight of the air column in the interminable bore above the cylinder.

Ria's eyes were closed and she looked as though she might be sleeping, worn out with the hours of nerveracking suspense. Professor Ogden's deep-set eyes were riveted on the control board, over which blue flame still arced and hissed like deadly serpents. His thought could be read in his face. It was one of bitterness that so intricate and marvelous a machine as the atom compacter could be rendered unmanageable by a thing that any electrician's apprentice could have fixed,
if he could have reached it. A simple short circuit.

Street lay watching the depth meter. The cylinder had been sinking for twenty hours. The meter gave their depth as a hundred and seven miles. Over a hundred miles down in the earth! Neither he nor Ogden dreamed they would be alive at that depth.

At ten miles they had struck the peril they had thought would mean death. Heat! The thermometer read a hundred and twenty-five. They had panted helplessly in the metal cylinder. Ogden had asbestos suits, provided for their first test for just this emergency. They had put them on, wondering if it was worth the effort.

At a twenty mile depth the temperature had gone to two hundred and forty. Ria and Street had lain holding hands, while Ogden bitterly gazed at the unapproachable control board. They were going to be cremated alive!

But-they had not been!
At thirty miles the temperature was down to a hundred and fifty, and at forty-five miles it was a little over ninety, which was approximately the temperature right now.

They didn't know what had caused the change. Ogden thought it was because they had gone through the outer crust of comparatively loose rock which, pressing in on itself, caused heat by pure friction. He thought they had entered the lower strata, that great mass of nickel iron which according to some theories forms the entire ball of earth save for the outer skin of rock and dirt. The metal mass would be denser and more compact than the outer crust, and would resist the push of its own pressure to a point where insupportable heat vanisheđ.

Anyhow, it was tolerable now, where it had not been before. They had missed that form of death. But still the cylinder was sinking, uncontrollable.

The depth meter registered one hundred and eight miles down. Street glanced idly down through the quartz glass trapdoor. He stiffened in as-
tonishment so great that it could pierce even the lethargy with which they were all awaiting sure death.
"A rift, sir!" he said.
"A rift?" Ogden repeated sharply. Ria sat up and looked at Street. "You're mistaken! It isn't possible for a rift to exist at this depth!"
"I know," Street said. "We haven't passed through any since the twentyeight mile level. So much pressure here that any open space in the rock would be squeezed flat-so much that even the bore we make, lined with compacted substance, is squeezed oval behind us. Nevertheless, there's a rift ahead, sir! We have just poked our bow into it."

(1)GDEN scrambled to the glass panel and looked down, as did Ria.

In front of the cylinder's nose, with the searchlight beam streaming into it, was an opening in the solid stuff through which they'd been squeezing. Far down they could see the floor of the great rift, or cave. It looked like a telescopic picture of the moon, pitted and rough.

The cylinder moved relentlessly down into the opening.
"Extensions-full length!" snapped Ogden. "A rift here is impossiblebut it is a rift just the same. And I don't think our extensions will reach."

The metal bars at the sides of the cylinder flashed out and down to their fullest opening, a hundred and fifty feet. Stretched and did not touch bottom.

And the cylinder slid through the hole it had tapped in the ceiling of the rift, and shot downward.
"This is it!" Ria heard Street breathe. His hand was clutching hers so tightiy that the clasp was agony, but neither of them noticed it.

The cylinder stopped with a thundering jar as it lit on the far-extended ends of the bars. It swayed there, on lofty, spindling stilts, did not quite crash sideways, then finally started to sink downward as the extensions automatically retracted back into the cylinder walls.

Street clutched Ogden's shoulder,
"It's our chance!" he shouted. "Do you understand? Our chance to stop this endless descent! None of the other rifts have been deep enough for the maneuver. But this one is!"

Ogden stared at him, eyes dull with weariness.
"We can stop going down, here!" Street repeated. "We can check the retraction of two of the extension bars just before we get to the floor of this rift. That will leave two of them short under us. The cylinder will fall to that side-and we'll no longer be pointing downward. We can simply lie there till Rawl, above, shuts off the power on his own initiative, and we can repair the radio and the control board and then call up to him again."
"John," sobbed Ria, "do you mean we're saved?"

A little of Street's savage tensity left his face.
"It means we have a chance, anyhow, a ghost of a chance. We hadn't even that before."
"You're right," snapped Ogden. "Watch the panel, John! I'll handle the extension controls. Fortunately they're pneumatic and have nothing to do with the electric control board."

Hastily, John Street bent over the panel. Beneath the cylinder, the floor of the rift was rising steadily toward him as the extension bars telescoped. The floor, he thought, was of nickel iron, but he couldn't be sure. It was pitted and seared as if by fire, but fairly level. He couldn't see much beyond the sides of the open end of the cylinder, couldn't tell how far the rift stretched on either side of them.
"Shorten!" he called to Ogden.
Two of the bars stopped telescoping. The cylinder slanted more and more as the other two compressed beneath it. It swayed, sickeningly.
"This will be a bad fall," Street called to Ria. "Try to hang on to something-Here we gol"

1 NHE cylinder toppled. With a thunderous clang it fell on its side on the flinty floor of the rift, rolled a little, and was still.

There was silence in the shell as
the three, stunned and bruised by their shaking in the cylinder, struggled back to consciousness. The lights were still on; they had not been broken by the fall. Street sat up first.

## "Rial Professor!"

His voice was wild with the fear that he was alone, now, to face the hideous future. But the other two stirred on the floor, which was now the curved side of the atom compacter.
"John!" Ria choked.
"Are you all right, darling?"
"I hurt my arm. That's all, I think."

Street's eyes widened suddenly.
"Look! The control board!" he shouted.

Ogden exclaimed aloud. The blue flames were no longer playing over it. The rocking fall had jerked the switch from its socket. The short circuit could be repaired, now; also the radio. If the latter was repairable.

They leaped to the board, found the short-a circuit with a cable bared by faulty insulation. They taped it heavily, and went to the radio.
"A new condenser and two tubes," groaned Street.

Ogden smiled a little. "You'll find them in that cabinet over the radio bench," he said, "along with enough other spare parts almost to build a new set. You can put them in, now, without having them instantly blown by the short."

With Ria tensely watching over his shoulder, Street repaired the set. A muscle twitched along his jaw as the burr of power sounded when he threw the switch.
"Rawl! Aren Rawl!" he called. "Aren-"

A voice leaped back.
"John! What has been wrong in the compacter? I've been calling and calling, at three-minute intervals! Hours-I don't know how many hours! And now that I've got you, it's too late!"
"What do you mean, too late?"
"Cunao's gang! They've found the power house in spite of the camouflage. Found it over an hour ago!

They've been hammering to get in ever since. Where are you? On the surface again?"
"On the surface?" A bitter grin came to Street's lips. "We are, at this moment, exactly one hundred and eight miles under your feet! Couldn't get at the control board to throw the power switch. But we're all right now!"
"You're not all right! Didn't you hear when I said Cunao had located the power house?" There was a staccato explosion, then two more. "They've broken in, damn them! I got two with those three shots. The rest are behind the first generator! They'll get me in a matter of seconds! What they'll do then I don't knowwith you over a hundred miles down-"

There was the roar of another shot in the far world over their heads. Then, with stunning abruptness, the radio went dead.
"Either Aren is shot, or the set in the power house was shattered by a bullet," Street said to Ogden. "If I could get my hands on Cunao-"

Ogden threw the big power switch on.
"Come! We'll get as far on our way upward as we can! Cunao will probably cut off the power, thinking we have long since come to earth again and that he can find the compacter where we are forced to leave it powerless."

THE light in the shell, and the searchlight, dimmed as the power hummed to the whirling magnetic field, brightened again as the load was absorbed.
"Extrude the wheels," Ogden called.

Street pulled the lever that dropped wheels through slots in the cylinder wall, and another lever that raised the compacter up on the wheels.
"Forward," said Ogden. "We'll start upward as soon as we get to the end of the rift-"

The lights clicked out, and the faint roar of the motor geared to the wheels stopped. In pitch blackness and utter silence, the three gripped convul-
sively at whatever was nearest them.
Then Professor Ogden spoke, putting into words what all knew had happened. In his voice was a resignation more grim than any wild outcry.
"Cunao has cut the power. We're stranded in this rift, a hundred and eight miles below the earth's surface."

## CHAPTER IV

Mother of Pearl Monsters

FIOR the first time, Ria's nerve cracked. She began to laugh and cry. Street found her in the blackness, and his arms comforted her. They heard Ogden moving behind them, heard his fingers fumble with a catch.

Ria drew a shuddering breath, and controlled herself.
"I'm all right, darling," she said. "I won't do it again. Hysterics don't help, do they? Professor, what do you suggest we do now?"

There was a tiny click, and a little beam of light split the abysmal, incredible blackness which obtained at that great depth in the bowels of the earth. Ria cried out with tremulous gladness at the sight of it.
"Flashlights," said Ogden. "I have several more in this locker. I suggest we get out of the shell and search for water in this rift. I've put many things in the cylinder, but food and water are not there. Naturally! I never dreamed they would be needed for the short test I'd planned to make in a month or so. We haven't had anything to drink for over twenty hours. We've been too preoccupied to think about it. But we'll have plenty of time to think from now on!"
"You hope to find water? A hundred miles below the earth's surface?" said Street bleakly.

Ogden shrugged. "It sounds fantastic. But then, a rift is impossible here, too. Yet we have a rift."

He opened the heavy metal door in the cylinder wall. The door opened sideways, on account of their prone position, instead of up and down.

They crawled out, stood on the pitted floor of the great underground rift.
"Nickel iron, all right," said Ogden, studying the floor. "Here is mankind's future supply of metal, if the infinitesimal deposits in the outer crust ever run out."

He took from his pocket another flashlight, clicked it and set it on end next to the atom compacter. Its beam shot up until it lost itself toward the roof of the great cave, acting as a beacon.
"We might as well go this way," said Ogden, starting toward the front of the cylinder. We'll walk till we find water, or till we can't see the beacon light any more. Then we'll come back and try a new direction."

IRIA'S scream broke into his words. Street jumped to her side. She was trembling violently.
"Ria! What's the matter?"
"Look! Look!" she sobbed, directing her flashlight to her feet. "Oh, look! I nearly stepped on it!"

Ogden and Street stared at the white circle the beam of her flashlight made on the pitted, metallic floor. They saw a tiny figure there, on a sunken spot in front of the cylinder where the magnetic field had rayed out before the power was cut off.
"A child's plaything!" Ria sobbed wildly. "There are people down here! A doll!"

Grimly Street bent downward. He seized the little figure, which was about two inches long and vaguely manlike, and tried to lift it. He couldn't, as he had guessed before trying. With a shoulder-cracking heave, he got the tiny thing over on its side.

It seemed to be made of glittering white gold, and it looked like a deformed little man in armor, with jointed rings at various parts of its body. Small as it was, it was singularly hideous. There was terror inherent in it that gave Street the creeps.
"That's no doll, Ria," he said gently.
"But it must be! So little-"
"That thing," Street said, with a quiver in his voice, "was something
alive that got in front of the whirling magnetic field before the power was cut off! Something that came, attracted by the crash of our fall, and was caught by the atom compacter! You're right, there are people down here, mad as it sounds. At least there are live things. Like this tiny, compacted figure, only heaven knows how much larger! And if they are anything like this figurine-"

His voice broke off into a whisper. The three stared again at the sinister, tiny thing, like a crude doll of white metal on the dull, pitted metal of the cavern's floor.

Ogden's voice sounded a little hoarse, but calm and quiet.
"We still need water," he said. "That may have been a live thing a few minutes ago; or it may have lain here for millions of years. Probably the latter. It's insane to think there is life of any kind down here at this late age-"

He stopped, his words blasted in his mouth by the sound the other two had heard at the same time-the sound of something moving stealthily over the pitted metallic floor-in their direction.

It had come from behind them. And for perhaps ten seconds the three stood frozen, their flashlights pointing at the dread thing at their feet. Then Street turned his flashlight in the direction of the sound.
"Ria! Professor! I've gone mad!" he heard his own voice, high and tinny, shut off to sudden silence as he stared, with the others at the things his light revealed.

There were perhaps fifty of themthings that moved on two legs like men but were two feet taller than any normal man. They seemed to be made of a sort of dull mother-of-pearl, or at least to be covered, like hardshelled insects, with an armor of the stuff. They moved slowly but inexorably toward the three humans, with eyeless blind heads faced squarely their way. They moved in ranks, like trained soldiers; or rather, more like socialized insects with the instinct to move and work together in mass movement.

THEY had traces of features; but where noses should have been, there were shallow pits; and where mouths should have been there were foot-long tubes, which also seemed to be made of the hard stuff like mother-of-pearl.

In a nightmare circle the things surrounded the three humans and the cylinder they had come in. They pressed closer. Flexible pincers, at the ends of stringy lengths like arms cased in pearl, came out. The pincers clattered and rattled as they opened and closed investigatingly. They touched the bodies of the two men and the girl.

Street cried out hoarsely as the claws feeling at him closed hard over his thigh. The claws instantly opened, and the monstrous thing that owned them stepped back on stiff, armored stumps of legs. They had no eyes, and there were no openings for ears. But they could at least hear, it seemed. Probably because of sound's vibration.

Ria screamed, the sound piercing the limitless black cavern like a ragged knife. Street jumped forward. He swung his fist blindly at the thing that hurt her. His knuckles cracked on substance harder than bone. Pain streaked up through his arm-and he had not even staggered the being he had hit.

The monster turned its featureless face from the girl to him, and then moved a little toward the right of the cylinder. The others pressed against the three humans.
"They're taking us some place!" gasped Ogden, as the meaning of the moves became clear. "Hang onto your lights!"

Too appalled to speak, Ria and Street moved with the professor in a nightmare march ahead of the pushing, blind, adamant-armored monsters they had stumbled across here where by all laws of logic and science no living things could be.

They did not go far. About five hundred yards from the cylinder, still able to see the tiny dot of light which was their beckoning hope, they felt the press of the horrible herd against
them relax. They stopped, still with no idea of the extent of the great rift. It might be a hundred miles long; it might extend only a few yards farther.

They looked around them with their flashlights. Crude, irregular cubes from eight to fifteen feet high surrounded them. They seemed to have been made of blocks of the metallic stuff under their feet, roughly sawn and placed without cement or other binding substance to hold them in position.
"Dwelling places!"exclaimed Street. "Shelters! But why? There's no wind or rain or cold to beat at such cave things here."

Ogden pointed to the nearest wall. It was seared and pocked with furious heat.
"Somehow, at some time, heat must flare up here from the earth's core. Probably these shelters are to shield the-them against those blasts."

After milling around a little like hesitant cattle, the monstrous figures began to herd them away again. They went toward a cleared spot in the center of the cluster of heat-seared cube shelters. They looked more than ever like insects, with articulated, rocky joints clattering, and rounded backs like the backs of turtles. They gathered in a circular crowd in the clearing, around one that was taller than the rest.

That is, all but one of the nightmare things went to the clearing. One stayed behind. It spread armored, clanking arms, with pincers clashing threateningly, and moved toward Ria and Street and Ogden.

N
LOWLY they backed away from it, found they had been backed against the nearest of the metallic cubes, one of the bigger ones, perhaps fourteen feet high. There was a rough opening that was probably a kind of doorway, but no other openings. Escape from the threatening, clanking arms and claws led them through this doorway.

As soon they were inside, the thing stopped in the opening. It stood there, stonily. There was no mistak-
ing the pantomime: this thing was a guard, stationed over them while the rest met in conclave.

To do what? Discuss their captives in some queer, mute way?
"There can't be communication where there is no sound," Street burst out. "Professor, what are these things? How do they happen to be here-how is any life conceivable here -a hundred miles underground with no growing plants or anything else to feed them?"

Ogden was silent for some time, looking at Street in the light of his flash.
"It's fantastic even to theorize," he said. "And it seems futile to waste a thought on it, in our position. But -I'd say we are looking at a hitherto undreamed of manifestation of evolution. Hundreds of millions of years ago, perhaps, these things were surface creatures, of flesh like other surface things. I imagine now you'd find a little gritty stuff, like flesh, deep under the calcium armor they have evolved to protect them. They must have penetrated deeper and deeper into the earth as the millions of years went by, till now they are almost things of rock themselves, and of course have no sight or hearing, and not much feeling."
"But how do they live? What do they eat?"

Ogden spread his hands. "Who knows? Perhaps they have herds of some sort of creatures, armored like themselves, which feed on minerals instead of herbage, and which they slaughter now and then. Excess of lime and calcium, of iron and silicon, absorbed through millions of years, would make them things almost of solid rock themselves."
"They are discussing us!" Ria burst in suddenly, with a high, ragged edge to her voice. "And I think they've decided what our fate is to be!"

Street and Ogden looked toward the clearing.

The group of incredible figures there had been huddled close. Now they spread wider apart, and all kept turning featureless faces toward the cubicle in which were the three mor-
tals; three lonely human beings.
At a sort of soundless signal, the creatures clanked and rattled toward one of their number. This one, smaller than the rest, began to strike out with its terrible stone clubs of arms. Chips flew from the heads and bodies of the rest, that were crowding around the fighting one with grim purpose. They held it helpless at last. They threw it to the metallic floor, where the tallest of the group stood as though expectantly.

The clatter of the fight ended in silence. The lights of the three humans formed a dim circle around the leader of the subterranean things and the prone monster at its feet.

The light glistened on moving, rocky forms in their next move. And that next move was-to take the fallen monster apart.

IT was too grotesque to be shocking. It was too much like seeing a jointed wooden doll dissected, arm by arm and leg by leg, with the head coming off last.

Deliberately, with no sign of passion, the things did that to their overpowered comrade. They wrenched its legs and arms from their sockets, twisted off its head. Then they pounded the shell of its body apart, as though it were a walnut.

And finally they all faced toward the cubicle in which were their three captives-and began walking that way.
"Do you suppose," Street said, his words coming from pale, numb lips, "do you suppose those damned things are-are thinking of trying that dissecting act on us?"

Ogden's slowly dimming flashlight trembled in his hands. But his voice was steady as he said: "I'm afraid there isn't the slightest doubt of it, John."
Ria's quickly stiffed cry rang out. Her hand was cold in Street's hand.
"The things have a dim sense of purpose, undoubtedly," Ogden went on, still calmly. "They have dissected one of their number. I'd say that now they were going to dissect one or all of us for purposes of comparison."

## CHAPTER V

Monsters To Midgets

eeOD, if we could only get back to the cylinder!" grated Street. "We might at least last a while in there. That magnesium alloy is strong. It might keep them out permanently. We'd starve. But anything would be better than-that!"

He stared at the advancing phalanx of flint-armored beings. The group was within fifty yards of their cubicle, and clattering rapidly over the rough floor of the rift. The towering thing guarding the opening stood silent and unmoving while its comrades tramped nearer.
"If we could only get out of here!" again groaned Street.
"John, I think we could," Ria said suddenly. "It's worth trying, anyhow. This thing-and the rest-seem to hear only when the noise is fairly loud and near them, don't they?"
"They 'hear' by vibration, I guess," nodded Street.
"Then why can't we steal out past this guard, just by moving very slowly and very noiselessly? It couldn't hear us. The guard might hear any of its own kind trying to get past, but we can move more silently."

Street shrugged and nodded toward the guard, whose back was like dull mother-of-pearl in the beams of their failing flashes.

The thing had its legs apart and its arms out so that it made a living barricade from side to side of the opening.

Ria drew a long, shuddering breath.
"We might creep out-between the thing's legs," she said.

The two men set their jaws. The suggestion was somehow infinitely horrible. Go between those two stumpy, rocklike pillars? But there was life in them, of a kind! And presumably, feeling! Suppose one of them just chanced to graze one of the legs-and suppose the two rocky pillars clamped together? It would be like trying to slide through a hairtrigger trap, with death in the spring
of its iron jaws if it were touched in the least.

Street sank to hands and knees. Death waited them anyhow, if that crowd, now only thirty yards away, got them. He moved, very quietly, toward the opening.

With their hearts thudding in their throats, Ogden and Ria watched him.

He got his head and shoulders through the terribly small opening available to him. He got his body through. One of his legs almost touched the flinty substance of the stiffly erect guard-almost touched it

He was through! And the thing in the opening did not move.
"You next," Ogden whispered to the girl.

HE too got through. And Ogden followed.
"We're going to make it!" whispered Street, clutching the girl's hand as Ogden wormed between the dread rock pillars. "We'll get to the cylinder!"

His voice stopped, with his words clamped off by horror.

Ogden had touched one of the thing's legs with his left foot as he was almost through. And, even as they had dreaded, the stumpy, flintlike legs rasped together.

Ogden screamed in agony as the constriction on his crushed foot tightened. And - the approaching group of nightmare beings began to clatter forward at a swifter pace.

Street breathed a curse that was like a prayer. He leaped back toward the thing in the doorway. He hit it with all the power of his bunched shoulders and sent it reeling backward.

It swayed, tried to keep its balance on its stumpy rock columns, then fell. It fell backward into the cubicle the three had just left, with the thunder of four hundred pounds of rock thudding to the metallic floor.

Ogden crawled free, face white with torment.

Street got his arm around the older man's shoulders, and began helping him toward the cylinder.
"Run!" he shouted to Ria, who had
stood there with terror-glazed eyes.
They ran toward the cylinder. But the tiny beacon light was far away, and Street could not go fast with Ogden limping on an almost useless foot in the circle of his helping arm. Too, they could not guard against noise, now. And the rasp of their feet on the metallic floor of the rift guided the pursuing horde infallibly toward them.

The slow march ahead of the monsters to the cubicle in which they'd been held for a short time had been like a march in a nightmare. This flight was more than ever nightmarish -like the dreamed flight in the night's black reaches where one tries to run on leaden feet, with something unbelievably horrible behind and gaining with every step.

With torturing slowness the light by the atom compacter drew nearer. With appalling swiftness the clattering monsters behind lessened the lead the three had when they had begun the desperate race.
"We'll never make it!" gasped Ogden. "You two go on, I'm only in the way-"
"Shut up," panted Street, "and run."

Now the cylinder showed in the dancing beam of Ogden's light, which he had clung to through everything. Street's was gone, dropped in his attack on the guard. Ria's had slipped from her terror-numbed fingers. But the professor had his.
"We'll never make it--"
There was a grating crash behind them, like an avalanche echoing in the unseen confines of the great cavern. Street looked over his shoulder and exclaimed aloud.

One of their dread pursuers had fallen in his haste. And he saw now why the things had seemed to move a little more slowly than their stumpy legs could bear them.

The thing that had fallen had cracked one of its arms squarely off at the point corresponding to a human shoulder. Armored against attack like any man-made tanks, they were not invulnerable against their (Continued on page 113)


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# ScienceQuestions and Answers 




#### Abstract

7 HIS department is conducted for the benefit of readers who have pertinent queries on modern scientific facts. As space is limited, we cannot undertake to answer more than three questions for each letter. The flood of correspondence received makes it impractical, also, to promise an immediate answer in every case. However, questions of general interest will receive careful attention.


## TRANSMUTATION OF ELEMENTS

## Editor, Science Questions and Answers:

I have been reading your periodical regularly for the last several years, and I'd like to take advantage of your question and answer department.

Atthough chemistry tells us that the transmutation of elements, in the alchemist fashion, is impossible, I've also heard that the radioactivity of elements brings about a transmatation. How is this so? K. BURKE, 1901 R. Street, NW, Washington, D. C.
(The phenomena of radioactivity establish the transmutation of elements, long regarded as a delusion of the alchemists, as an indisputable fact. The energy change in radioactive disintegration is enormously greater than in ordinary chemical reactions. One gram of radium, undergoing spontaneous disintegration, would evolve about 120 calories per hour, and would continue to evolve this heat. at a gradually decreasing rate, for centuries. The total heat available would be over $2,000,000.000$ calories per gram. Uranium, the parent of all radioactive substances, disintegrates itself into a different element, radium. Naturally, uranium is not transformed directly into radium; the change must be of a slow period and through a series of intermediate radioactive substances.
The uranium series consists of the heavy element uranium, atomic weight 237 , which disintegrates very slowly into uranium $\mathrm{X}_{1}$, giving alpha rays. this into uranium $\mathrm{X}_{2}$, this into uranium $s$, in turn disintegrating into ionium, and ionium into radium. Radium cventually disintegrates itself into lead. Thus we have one parent element, uranium, actually transmuting itself into elements with different physical and chemical properties. Ed.)

## INTERPLANETARY TRAVEL

## Editor, Science Questions and Answers:

Will you please tell me why it is that scientists, and science-fiction writers, especially, associate interplanetary travel with the rocket? Is the rocket the only feasible
means for space-traveling? I wish you'd answer this.

HAROLD ARONSON,

425 West End Ave., N. Y. C.

(A speed of approximately 7 miles per second must be achieved before a spaceship could escape the earth's gravitation. Granted that man will eventually perfect a fuel or manner of locomotion capable of producing that speed power, science has not yet suggested any device for the transversing of interstellar space other than the rocket, for it is the only instrument which can propel itself in the absolute vacuum of outer space. Rocket recoil power functions in a vacuum as well as in the atmosphere. Inasmuch as all of space is a vacuum the rocket is the only logical method of transportation. Ed.)

## SATURN'S RING

Editor, Science Questions and Answers:
I am an amateur astronomy student and I have been perplexed as to the nature of Saturn's rings. Is there any explanation for their origin, etc.? I'd very much appreciate hearing from you on this. BENJAMIN COHEN, 577 Jeanette Street, Union City, N. J.
(Saturn's ring system was discovered by Galileo in 1620, just after the invention of the telescope, but he did not explain correctly what he saw. He thought the planet's ball had two appendages or ansae, and announced that it was triple. Huygens, in 1655, gave the correct explanation of the visible phenomena and showed that the planet must be surrounded by a ring. The ring system is round, but appears oval as a result of foreshortening, since the plane of the ring is not square to our line of vision. At other times the ring disappears altogether, in consequence of its plane passing between the earth and the sun. When this occurs, only the side of the ring toward the sun is illuminated. Modern observers have found the ring to be in reality triple, consisting of concentric parts. Mathematical researches have shown that its durability would be impaired if it were solid. If such were the case, any tem-
porary disturbance or perturbation would suffice to disrupt it and the fragments would be precipitated on the planet. Nor can the ring be liquid. The only remaining conclusion is that it is composed of a very large number of small satellites, analogous to the ring of small planetoids surrounding our sun and lying between the orbits of Mars and Jupiter. This theory of the rings has received strong confirmatory evidence from spectroscopic observations by Keeler. Ed.)

## GASEOUS POISONS IN WARFARE

## Editor, Science Questions and Answers:

Just how many different gases have been used in the World War? And how did they differ?
K. B.,

Asbury Park, N. J.
(There are three varieties of gas attack: I. By emanation. 2. By drift gas, gas cloud, or gas mist. 3. By chemical shells. The emanation process consists in scattering chemicals about the trenches or other places which it is the intention to desert. When such chemicals are disturbed or dug up, or brought into contact with moisture, by the new occupants, a poisonous gas is produced. Calcium Arsenide, one of the chemicals, generates Arsene, a gas having faintly the odor of garlic.

In the drift, cloud or mist gas attacks, Bromine, Chlorine and Phosgene are the chief chemicals used. The gas is carried up to a front line or trench, compressed in steel cylinders or tanks and liberated when a suitable wind is blowing in the direction of the adversaries.
In chemical shells, and such other gas projectiles as hand grenades, trench mortar jobs, etc., the chemical shells commonly contain small quantities of cloud or other gases in a liquid form. Among the poisonous gases used in shells are also Methyl Sulphate (of the wood alcohol group), Pelite, also a gas having the irritant character of mustard, etc. The most effective gas employed during the World War was, from a military standpoint, the so-called mustard gas, dichloro-ethyl sulphite. It is not a gas, but a liquid, and readily volatilized. It is a heavy substance, its vapor being much beavier than air. In its liquid form, leather and ondinary clothing are readily penetrated by it. Ed.)

## In the Next Issue

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THINGS TO COME. Produced by London Films. Released in this oountry by Unitad Artists. From the H. G. Wolls book, "Shape of Things To Como." Diracted by Willam Cameron Menzles. An Alexander Korda Production.

THINGS TO COME is undeniably the most spectacular and fascinating of the various science fiction movies. It opens swiftly, painting a vivid picture of the horrors of the next world war. Silently, out of the night, come unknown raiders blasting the cities of the world. Poison gases blanket a stunned population. And the war continues for several generations !

Strange blights menace civilization-the "Wandering Sickness," a grim malady that knows no cure and which claims more victims than the Bubonic Plague. The foundations and landmarks of man's progress gradually vanishing, society reverts to an almost medieval state! Such are the startling terrors in this grim prophecy of the next world war.

Then, "Wings Over the World"-united scientists who have banded together to salvage humanity and rehabilitate the globe. Their cities of the future, where television, transparent houses, supermachinery which builds structures a story at a time, gargantuan drills, are all realities. A tense climax, in which the men of the future shoot two people to the moon through their giant "Space Gun."

THINGS TO COME is good entertainment for the follower of science fiction, and his enthusiasm for the technical wonders of the picture should make up for any deficiencies the plot and underlying philosophies may have.
—M. W.

[^10]
## DEATH DIVES DEEP

(Continued from page 108) own mishaps. That mother-of-pearl shell that cased whatever sort of finty flesh they were made of was brittle. They dared not risk falls!
"Faster!" panted Street.

IBUT Ria, unencumbered, was at the door now, and waiting for them with horror whitening her lips. She slid through, and the next instant Street literally hurled Ogden after her and slithered in himself. He slammed the door.

A claw, clashing savagely, caught in the crack between door and shell. Street caught up a sledgehammer and crashed it down. The claw broke from the flinty arm, snapped open and shut once like a thing with volition of its own, then was still. The stump it had broken from was jerked back, and Street got the door shut and shot the bolts home.

He sagged against it for a minute, then wiped great drops of sweat from his forehead. He looked at Ogden, who had sunk to the floor to relieve his mangled foot of his weight; and at Ria, who was staring with fainting eyes at the claw.
"Saved," Street grated, with a harsh and hopeless laugh. "Saved-for slow starvation in this shell, while the things outside stand guard over it!"

He stopped as Ria's sudden gasp sounded. Then he gazed at her in an alarm that overcame all his bitterness as she pressed the back of her hand against her lips to stifle the screams that bubbled past the barrier anyway.
"Ria!" he cried, stepping toward her. "Don't look like that-act like that! We'll do something, darling! We aren't dead yet l"

He stopped as, once again, storms of laughter and tears swept over her.
"John! John! We've been in here two or three minutes-and we haven't even noticed that the lights are on!"

Street stared at the incandescent globes set in the metal of the cylinder. It was true. They were on! And in their emotional chaos they hadn't (Continued on page 114)

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## AT ALL NEWSSTANDS

(Continued from page 113) noticed the thing which was, after all, a commonplace normally.
"My God, that means the power is on!" breathed Street.
He stared at the radio bench. The tubes were faintly glowing. He sprang to the transmitter.
"Rawl! Somebody-" He shook the bench in his eagerness. "Is there anyone listening in? Anybody-"

A voice interrupted, a faint, exhausted voice, scarcely recognizable, scarcely audible.
"John-this is Rawl. I've been calling and again you-didn't answer."
"Rawl!" Street calmed a little. "You'll never know how glad I am to hear that unmusical croak of yours! But, Cunao-what of him and his men? The last I heard you were fighting them off."

Rawl's weary voice came back: "They won't bother us again. Won't bother anybody again! You know the powder room off the main power house?"
"Yes," said Street, with his flesh beginning to turn a little cold as he guessed the answer.
"They locked me in there. There's a concealed back door to it, you know. I went out of the way, set a fuse, and locked the door after me. Then I banged on the closed door. They crowded in to find what had become of me, and the fuse caught-" Rawl was silent a moment. "The explosion unroofed the power house and cracked number two generator. But the other three are in good shape and should give you all the juice you need."
"Give it to us!" snapped Street. "Power! All the power you can get out of those three generators!"

H
E jerked off the headphones and stepped toward the main switch. Ogden already had the cylinder moving slowly forward on its clumsy retractable wheels.

The searchlight sprayed the blackness ahead of the cylinder. They could see the grim, sightless monsters waving their clashing pincers as they massed in front of the moving thing and tried to stop it.
"And now watch this," said Street, teeth bared a little in a savage grin.

He shot home the power switch. Up in front, beyond the protective screen, the whirling magnetic field began to build up that mighty power that could disrupt atoms and fling their elements to its rim, where they united in a condensed form such as probably existed nowhere in the universe outside of Sirius' small but mighty companion.

And in the beam of the searchlight a fantastic thing happened.

The mass of things before the cylinder stopped moving. They became as rigid as inanimate instead of animate stone. Then-they began to shrivel in size like wraiths of mist.

Ria cried out, and hid the sight from her eyes. But she could not shut out the feel of the cylinder's wheels crunching slightly as they passed over tiny figures, like two-inch dolls made of white gold. Tiny dolls that an instant before had been eight-foot monsters with flinty armor to make the horn armor of the ancient dinosaurs seem frail by comparison.
"There, darling," said Street, taking her in his arms, "it's all right now. Everything's all right now."

He lifted her face and gently kissed her. And with clumsy steadiness the retractable wheels bore the cylinder toward the nearest rock wall, where the atom compacter could enter the solid substance which was its native element, and begin the long slant up to outer earth.

## In the Next Issue

Strange Beings from the Far Spaces of the Sky Come to the Earth in

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TION LEAGUE. Science fiction stimulates the imagination, and its numerous followers, because they look forward to the realization of man's dreams of today, are the true visionaries of tomorrow.

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Tear off the name-strip on the cover of this magazine, so that the date and title of the magazine show, and send it to SCIENCE FICTION LEAGUE, THRILLING WONDER STORIES, 22 W. 48th St., N. Y. C., N. Y., enclosing stamped, self-addressed envelope, and we will be glad to mail you your certificate of membership free and further information concerning the activities of the League.

## MORE NEWS TO COME

We will publish detailed accounts
of the various activities of SCIENCE FICTION LEAGUE members in succeeding issues.

Don't hesitate to write the editor! Let me have all your ideas, suggestions and comments! This is YOUR magazine-and we want your opinion of every issue! Criticism is as welcome as praise. All letters will receive most careful attention. THE EDITOR.

## THE SCIENCE FICTION LEAGUE

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There are thousands of members in the League with about forty chapters in this country and abroad, and more than that number in the making all over the world. An application for readers who have not yet joined will be found on Page 119.

## NEW CHAPTERS

Barnsley Science Fiction League, Chapter Number Thirty-Seven. Chartered February 20, 1936. Director, Jack Beaumont, 30 Pontefiact Road, Barnsley. Yorkshire, England.
Boonton Science Fiction League, Chapter Number Thirty-Eight. Chartered March 1, 1936. Director. James Johnston Hitchcock, 216 Myrtle Avenue, Boonton, New Jersey.

## FOREIGN CHAPTERS

Lacds Science Fiction League (Chapter No. 17). Director, Douglas W. F. Mayer, 20 Hollin Park Rd., Roundhay, Leeds 8, Yorkshire, England.
Belfast Science Fiction League (Chapter No. 20). Director, Hugh C. Carswell, 6 Selina St., Belfast. Northern Ireland.

Nuneaton Science Fiction League (Chapter No. 22). Director, M. K. Hanson, c/o Mrs. Brice, Main Road, Narborough, Leicestershire, England.
Sydney Science Fiction League (Chapter No. 27). Director, W. J. J. Osland, 26 Union Street, Paddington. Sydney, N. S. W., Australia
Glasgow Science Fiction League (Chapter No. 34). Director, Donald G. MacRae, 36 Moray Pl., Glasgow, Scotland.
Barnsley Science "Fiction League (Chapter No. 37). Listed under "New Chapters."

## OTHER CHAPTERS

There are other domestic Chapters of the LEAGUE fully organized with regular meetings, in the following cities. Addresses will be furnished upon request by Headquarters to members who would like to join some local branch. Chapters are listed chronologically according to Charter:
Brooklyn, N. Y.; Lewiston, Ida.; Erie, Pa.; Los Angeles, Calif.; Monticello, N. Y.; Mayfield, Pa.; Lebanon, Pa.; Jersey City, N. J.; Lincoln, Nehraska; New York, N. Y.; Philadelphia. Pa.; Oakland, Calif.; Elizabeth, N. J. coma, Wash.; Austın, Tex.; Millheim, Pa.; Bloomington, Ill.; Newark, N. J.; Stamford, Conn.; Denver, Colo.; Lakeport, Calif.; Ridgewood, N. Y.; Woodmere, N. Y.; Beckley, W. Va.; Tuckahoe, N. Y.; South Amboy, N. J.; Pierre, S. Dak.; and Albany, N. Y.

## CORRESPONDENCE

-where members of the Science Fiction League can ask for correspondents.
M. R. Berke, 162 Osgood St., Ottawa, Ont., Canada -is willing to answer questions by League members on chemistry, microscopy, photomicrography, and (continued on page 118)

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## CHAPTER NEWS AND GENERAL ACTIVITIES

The Shreveport, La., Science Fiction League is getting off to an enthusiastic start, according to Forrest G. Bey, the director. At recent meetings Mr. Bey gave a talk on spacial distances and the fourth dimension. Mr. Kouts, one of the Chapter members. has held discussions on the atom and light. Mr. Demint, another member, gave a talk on radium.
W. S. Hofford, director of the Los Angeles Chapter, reports that his chapter is now holding regular meetings for the purpase of social activities and discussions on science fiction. Mr. Marshall one of the members of this chapter, recently received quite a bit of editorial attention from Los Angeles newspapers for a nev discovery in three-dimensional photography. Won't Los Angeles readers of THRILLING WONDER STORIES attend one of the Chapter's meetings? Address Hofford at 451 So. Clela Avenue, Los Angeles, Calif. At the last meeting, Mr. Feeley, teacher of physics at the Los Angeles Junior College, gave a very interesting talk on astronomy and several allied topics. D. G. MacRae, directer of the Glasgow Fiction League, holds regular meetings now. The highlight of their last meeting was a fascinating discussion about the possibility of another dimension.

Forrest J. Ackerman, of the Los Angeles Chapter, reports that the H. G. Wells scientifilm, "Things To Come," recently opened in Loadon with a booking for four months solid. Mr. Ackerman has a great variety of stills of this picture. which he is exhibiting to bis Los Angeles science fiction friends.
Members of the Science Fiction League and Chapter directors are urged to write in to Headquarters with anything they feel may be of interest to the League. Send in your news notices promptly if you want them to be included in the next issue.

## NEW MEMBERS United States

Robert Huber, 584 Bell Street, Alron, Ohio; Roscoe Wilmeth, 648 West Vine Street, Springfield, I11.; Sidney Goldman, 648 West Vine Street, Spring Geld, 111.
Charles Goldstein, 467 15th St., Brooklyn, N. Y.; Stanley Feller, 105 Love Lane, Hartford, Conn; Mrs. T. B. Thompson, Boz 152, Urttenberg. Wisconsin; John Shine, 5412 Van Buran Strcet, Chicago, I11.; Bob Young, 1542 Lawson Street, Houston, Texas.

Herbert Cannon, St. John's Military Academy, Delafield, Wisconsin; Jerome R. Salveson, Box 232, Thief River Falls, Minn.; Charles Roster, Ir., 91 Hunnewell Ave., Newtown, Mass.; Harold Weigyberg, 901 East 179th St., N. Y. C., N. Y.
Leon Richardson, 41 Avenue $D_{4}$ Rochester, N. Y.; Merwin Crisman, 6056 Kimbark Ave., Chicaga, Ill.; Aretas Williams, 582 Seibert St., Columbus, Ohio; Julius Nelson, Windber High School, Windber, Penn. : Donald' F. Catz, 27 West 96th St., N. Y. C., N. Y.: Wilbur J. Widmer, 679 Park Ave., West N. Y.: Wilbur J. Widmer, 679 Park Ave., West East, Barksdale Fiald, Louisiana.

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Lloyd Tufts, 30 Summit Street, Halifax, N. 8., Canada; Dr. M. Ralph Berke, 162 Osgoode St., Ottawa, Ontario, Canada; Ralph Moxley, 805 Rathbourne Avenue, Woodstocle, Oatario.

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 of handling, etc.

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8-36

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## REVENGE OF THE ROBOT

(Continued from page 77)
brain, of course, gives off these electrical impulses.
"But before Bradshaw could obtain the two brains, he found himself at the point of death. He called upon his two friends, Frank Gunning, the surgeon, and Yvonne D'Arcy, his nurse, to transplant his brain in this solution.
"Mr. President, judges and spectators of this contest-as you may readily see, I am a robot physically. Mentally, I am Albert Bradshaw. Since there was no specification in the contest rules that organic as well as inorganic matter might not be used, I submit that I am the robot for which you offered the grand prize-the reasoning robot."

The President turned and conferred with his Cabinet members for a few moments. Then he stood up.
"It is the unanimous opinion of the judges of this contest that the prize of one million dollars be awarded to the robot of Albert Bradshaw," he announced.
"I thank you, Mr. President and gentlemen," bowed the robot. "And now, since I am to depart once and for all upon that greatest of all adventures, death, I will first make a few bequests. To you, Mr. President, I hand my complete plans and formulæ for the construction of reasoning robots. By the employment of these plans and formulæ, everyone who wishes to do so and whose brain is not too badly injured, may add to his short span of physical life a thousand useful years.
"One half of the prize-five hundred thousand dollars, I set aside for a fund to be devoted to the manufacture of reasoning robots. The other half I bequeath to my friends, Dr. Frank Gunning and Yvonne D'Arcy. I once thought that Yvonne loved me with a devotion that would endure, but now, since I have become a robot, I see how it is between these two, that it was my friend the doctor whom she really loved-so I wish much happiness to both.
"You will now see a demonstration of the way a reasoning robot can end his existence any time he cares to do so."

He took a small hammer from his coat pocket, and raised it over his head.
"Are there any questions before I break this glass shell that will release me?"

There was a scream from Yvonne. She ran up to him, caught his arm and snatched the hammer away.
"So! You thought I didn't love you, Albert!" she cried. "You were always inclined to be obtuse where women were concerned, however brilliant in other ways. I'll show you whether I loved you. Look!"

She snatched at her hair, tore a glossy black wig away, together with a skull-case, revealing another brain suspended in a glass container.
"I am a robot," she cried, "the robot you molded with your own hands! Do you want more proof than this?"
"But how-" stammered the bewildered Bradshaw.
"After Dr. Gunning had removed your brain and sealed it in the container," she said, "I asked him to do the same with mine. He refused. Said it would be murder and tried to dissuade me. For months I begged him to perform the operation. That is why you saw us so much together. Finally, in desperation yesterday, I swallowed a corrosive chemical that would burn out my abdominal organs without injuring my brain. The doctor tried to use a stomach pump. I fought him off until he knew it was too late to save my life.
"When at last I sank to the floor, in agony, he agreed to perform the operation, and mercifully administered the anesthetic. I awoke as I am now-a robot-your robot. Don't you want me, dear?"

Bradshaw clapped on his own wig and skull case, and gently replaced those of Yvonne.
"Want you?"
Suddenly he caught the slight, black-haired figure in his arms.
"Darling, I want you for a thousand years."

## Arrest Him, Officer!

IILL HAVE COMPLETE FACTS ON THE OTHER FELLOW TONIGHT!


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> N this department we shall publish your opinions every month. After all, this is YOUR magazine, and it is edited for YOU. If a story in THRILLING WONDER STORIES fails to click with you, it is up to you to let us know about it. We welcome your letters whether they are complimentary or criti-cal-or contain good old-fashioned brickbats! Write regularly! As many of your letters as possible will be printed below. We cannot undertake to enter into private correspondence.

## Stenlay G. Weinbaum

It was with the deepest sorrow that I read in the April issue of your magazine of the death of Stanley $G$. Weinbaum. Mr. Weinbaum's demise has left a conapicuous vacancy in science fiction's Hall of Fame that may take years to refill. His warm, inimitable style never failed to please and was always effectively fresh and simple. I shall never forget his stories, "The Worlds of If," or "The Ideal," for in them Weinbaum expressed, ever so strikingly, the thoughts of every one of us.

Farewell, Stanley Weinbaum; your admirers and followers will always remember Foul-Jerry Turner, Hotel Clifton, West 79th St., N. Y. C., N. Y.
(We are deeply grateful to Mr. Turner, and to the hundreds of other readers who bave written to us in appraciation of Weinbaum's stories. One of the most popular acience fiction writers in the country, we will all miss him. "The Circle of Zero," in this issue, is one of the last Weinbaum stories written.-Ed.)

## Roys and Rockets

I have been a silent fan of your popular magazine for the past six years. And I'd like to make your contributors aware of a certain variety of fallacy that they've been unconscious of in their interplanetary stories. I'm referring to the "red, blue," or variegated color "death-rays." In the first place, all death-rays would have to be invisible. Naturally these rays must necessarily be below 0.0008 millimeters and above 0.0004 millimeters. Consequently, above or below these atomic vibrations, the rays are invisible, as are the ultraviolet, infra-red, or cosmic.
Now that I've got that off my chest, I'd like to urge readers that are interested in astronomy to get in touch with me. I am an amateur, and have done everything from polishing reflecting lenses to building model rockets.
By the way, since so many of your readers are strongly interested in the per-
fection of rockets, how about starting a rocket contest?-J. Mallory, 123 E. 102 d St., N. Y. C., N. Y.
(Your argument that our authors' death-raya should he described as invisible is a logical one and we'd like to hear from scientifically inclined readers who may care to investigate this. Don't you think, though, that rays may have color characteristics under different conditiona? The ray may not be visible in itself, but the color identifying it may be the result of a phyaical or chemical change necessary to the production of the ray. Your suggestion about a rocket contest is a good one, and we will consider it.-Ed.)

## Meritt Wanted

I notice a plea from an English reader, James W. Dadley, for stories by Edw. Searles Brooks. Mr. Brooks has long been a favorite writer of mine with his many colorful stories. Just lately he has branched out into the western and detective story fields. Mr. Brooks has written a number of science fiction stories, and he handles the subject rather adeptly. I personally would give a great deal to see his work in your magazine. I'm sure he would become one of your successful contributors given the chance.
Incidentally, I enjoyed Joe Skidmore's story, "A World Unseen." How about publishing material by A. Merritt-or is that impossible?-Ralph Eadmer Clarry, 14 Algonquin Ave., Toronto, Ontario, Canada.
(From all we've heard of Mr. Brooks, he sounds pretty good, and if he should care to aubmit any of his work to us you may be sure that it will receive our careful attention. You've got your wish regarding Merritt. His story in this issue is a particularly good one, and wo wish all of you would let us tnow what you think of it. Ed.)

## Ray Cummings Liked

Give me stories that are possible! This cuts out stories of other dimensions, atoms (reducing in size), and others that could never happen. Time-traveling tales belong in the same class, but as you read them they sound good as, for example, Ray Cummings' old serial, "The Exile of (Continued on Page 124)


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(We try to guard against redundancy in titles, but sometimes the exigencies of publication do not mate a correction of dublication convenient. As for material by Dr. Kefler, just as soon as he serds us something good we'll use it.-Ed.)

## Short Shons

Inasmuch as the detective, western and other types of magazines regularly balance their table-of-contents with several short shorts, I'd like to suggest that WONDER give the readers more of these miniature stories. Quite frequently I haven't the time to wade through the long stories, and reading a few short shorts whets my desire to tackle one of the longer ones. Better still, why not conduct a short short corner, wherein readers can contribute short short science fiction stories with surprise endings? I'm sure your readers would welcome the idea-J. Randall, 115 State Street, Stamford, Conn.
(Short shorts with effective plots and good surprise twists are rather difficult to find, particularly science fiction ones. We are, however, receptive to this type of story, and intend to publish as many good ones as we can secure.-Ed.)

## Attention, Artists

This is my first letter in some time, but 1 assure you it was for no lack of interest on my part. During these past months I have been reading WONDER with more interest than usual, because I find that the stories themselves are really of a much higher literary and scientific quality than heretofore.

As for your last issue, I have not yet read "Cosmic Cocktail," but the other stories rate as follows: "A World Unseen," "World of Singing Crystals," and "The Emotion Gas" are all worth remembering as very interesting stories. "Earth's Lucky Day," "The Duplicate" and "The Imperfect Guess" balanced the magazine just right. "Futility," the contest story, didn't hit me as such a good story, but I guess that's because it's so hard to fit such a short story around so interesting a cover.

Chapter Five in Monticello is on the way to reorganization. We expect to accomplish a great deal in the near future.
I wish that all amateur artists, illustrators, or cartoonists will please communicate with me. I have something of interest for them concerning science fiction. Simply drop a postcard to me and I will write to you personally concerning that which I am sure you will be greatly enthused in knowing.-David A. Kyle, Monticello, New York.
(We're gratified for your interest in our magazine. Will amateur artists write to Mr. Kyle?-Ed.)

## Memorial for Weinbaum

The late Stanley G. Weinbaum was perhaps the most loved of science fiction (Continued on Page 126)

## Kidneys Must Clean Out Acids

The only way your body can cleap out Acids and polsonous wastes from your blood is through 9 mil Iton tiny, delicate Kidney tubes or filters, but beware of cheap, drastic, irritating drags. If functional Kidney or Ifladder disorders make poa mufier from Getting Up Nights, Nervousness, Leg Pains, Backache, Circles Under Liyes, Dizziness, Rheumatic l’ains, Acidity, Burning, Smarting or Itching, don't take chances. Get the foctor's guaranteed preseription called Cystex (Siss-Tex). Works fast, safe and atare. In 48 hours it must bring new vitality, and is guaranteed to do the work in one week or money back on return of empty package. Cystex costs oniy 3 c a dose at druggists and the guarantee protects yon.

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(Continued from Page 125)
authors, and his loss is a great one. Your pages will miss him. His followers will miss him.

The Milwaukee Fictioneers, with the approval of numerous fan organizations, Fantasy Magazine, the American Fiction Guild, etc., propose to publish a volume containing the best of his works, including some original work as yet unpublished. Among them will be, in all probability, "Birth of Flame," one of his superior novelettes.

I would like to hear from those of your readers who approve of this memorial volume, and who would like to possess a copy. I would also like their opinion on which of his published works they would prefer to see in the volume, including "Circle of Zero," which, I understand, you intend to publish. Please send no money. This is essentially a non-profit enterprise, and any surplus will be turned over to Mrs. Weinbaum, who has given the project her approval. All communications should be addressed to: Milwaukee Fictioneers, c/o Raymond A. Palmer, 3637 W. Park Hill Ave., Milwaukee, Wisconsin.
(THRILLING WONDER STORIES strongly endorses this project for a memorial to Stanley Weinbaum, the science fiction writer- As the first magazine ever to publish his material, we are proud of Weinbaum'e record. Certainly, every science fiction reader should avail himself of this opportunity to secure permanent anthology of Weinbaum's masterpieces.- E d.)

## Overseas Opinion

Allow me to voice my opinion of WONDER. It's the finest science fiction magazine I have ever read. The most interesting parts is the Science Questions and Answers section, where some interesting scientific facts are disseminated.

Contrary to most readers, I like all the stories. I have been reading them for several years and have gained a considerable amount of knowledge in the various branches of science. In regard to authors, I think Stanley G. Weinbaum puts he-man punch into all his stories. Others such as Eando Binder. J. Harvey Haggard and Edmond Hamilton are not too dusty.
Should any of your readers like to hear from a young New Zealander, here's their chance. I shall answer all letters, and will be pleased to hear from science fans, including the feminine ones. Many thanks for the fine stories you have been running lately.-John S. McLeod, Matahana, North Auckland, New Zealand.
(Thanks for the words of appreciation. We're planning storien by your favorite writers for future issues.-Ed.)

## Science Vs. Human Interest

Might I suggest that you publish stories with more of a human interest element in them than you do? Strange as it may seem,
the average person who reads science fiction would enjoy them even if they had human interest trimmings, more emotional conflict, a Iove element. Naturally we read these stories for enjoyment, and not for the rather dubious and often inaccurate science that may be found in them. Therefore, I wish you would encourage writers to make their stories more appealing with human situations, such as Edgar Rice Burroughs did competently with his Mars series.-Herbert Finley, Hotel Royalton, 1808-12 Jackson Boulevard, Chicago, Ill.
(The Weinbaum gtory in this issue and the Interplanetary novelete oy Ray Cumminga, also in this isaue, should be down your alley. Are they? -Ed.)

## Lowdown on Luminol

In your February number 1 noticed that the question about "Luminol" by the young chap in England could not be answered.

Luminol is 3 Aminophthalhydroxide and it is made luminescent by the oxidation of it by means of sodium hydroxide and potassium ferricyanide. Further explanation as to the complete experiment will be supplied if wanted.-George Chobanian, 307 Lake Avenue, Lyndhurst, N. J.

## ANNOUNCEMENT <br> OUR NEW "SWAP" COLUMNa FREE Service!

Our new "Swap" Column, starting in the next issue, will provide free service for readers. It will enable you to exchange something you have but don't want for something someone else has that you do want.

For example, if you have a telescope and don't use it, and would like to have a microscope, write: "Have four-inch telescope, good condition, will exchange for bi-focal microscope.-John Smith, 49 Park Street, Albany, N. Y."

You, are invited to submit your "Swap" item now, for early inclusion.

Limit your request to 25 words. No goods for sale listed, nor requests concerning firearms or any illegal articles.

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#### Abstract

 




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LONFIY HEARTS Join ourcellob. Worlde Greatent Soivial Ex. tension Bureau. Happiness awaita you, cortespondents everywhere, seekjng congenial mates. Quick reawits. Confidential mervice. Particulars FRES STANDARD CLUB, Box 607-J, GRAYSLAKE, ILLINOIS

## GRANDER and GAYER THAN EVER!

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 HUMOR NO்W $15 c$
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# WEAK, RUNDOWN. NERVOUS,SKINNY! 

# How NATURAL IODINE Builds Worn-Out, Pale, Sickly Folks Into Strong Red-Blooded Men and Women! 

Seedol Kelpamalt, New Mineral Concentrate From The Sea, Rich in Natural PLANT IODINE, Feeds Starved GlandsMust Build Good Red Blood, Put on Lbs. of Solid, "Stay-There" Flesh, Give Steady Nerves and Day-long Energy in First Week or Trial is Free!

HERE'S new hope and encouragement for thousands of tired, weak, worn-out, hag-gard-looking men and women whose energy and strength have been sapped by overwork and worry who are nervous, irritable, always half sick and ailing. Science says one of the principal causes of these rundown conditions is "GLANDS STARVING FOR IODINE." When these glands don't work properly, all the food in the world can't help you. It just isn't turned into flesh. The result is, you stay skinny, pale, tired-out and rundown.

The most important gland-the one which actually controls body weight and strength-building-needs a definite ration of iodine all the time - NATURAL ASSIMILABLE IODINE not to be confused with chemical iodides which often prove toxic. Only when the system gets an adequate supply of iodine can you regulate meta-bolism-the body's process of converting digested food into firm flesh, new strength and energy.

To get this vital mineral in convenient, concentrated and assimilable form, take Seedol Kelpamalt - now recognized as the world's richest source of this precious substance. It contains 1,300 times more iodine than oysters, once considered the best source. 6 tablets alone contain more NATURAL IODINE than 486 lbs. of spinach or $1,387 \mathrm{lbs}$. of lettuce.
Try Seedol Kelpamalt for a single week and notice the difference. See flattering extra pounds of "stay-there" flesh appear in place of scrawny hollows. Notice how much better you feel, and if you don't galn at least 5 lbs . in one wegk the trial is free. 100 jumbo size Seedol Kelpamalt tablets-four to flve times the slze of ordinary tableta-
cost but a few cents a day to use. Get Seedol Kelpamalt today. It cost but a few cents a day to use. Get Seedol Eelpamalt today. It
costs but little at all good drug stores. If your dealer has not get costs but little at all good drug stores. if your dealer has bot in supply. gend $\$ 1.00$ for special introductory size botis of 65 tablets to the address at the right.

## 

# MINER'S DISCOVERY OVERHAULS MOTOR <br> <br> at <br> <br> at $95 \%$ $95 \%$ Savin $g$ <br> New Scientifically Approved Product Called OVRHAUL 


how ThIS
stramge discovery WAS MADE
Far up in the Roeky Mountains a miner built a fire, on the shelter of a clift. A strange uew mineral in an overhanging rock expanded rapilly when the heat reached it. Samples were submitted to the Bureau of Mines at Washington. D. C., and Colorado School of Mines. Thousands of tests were mide by cliemists and engineers. The results is $0 V R$ BaCL. Heat expands OVRHALL 30 times.

## TESTING LABORATORY REPORT

Industrlal Testing Laboratory, Inc. Analytical and Consulting Chemists
'We hereby certlify that we have tested OVRHALH CVDER WORKIVG CONon 1828 Fontiac driven $72,000 \mathrm{miles}$. 'iOTAL GALN in compression 92 pounds (nearly normal according to manufacturer's apeciflcations). OVRHAUL does NOT scratch, abrade or otherwise injure the motor. The pick-up." speed and hill ellmbing perfurmgnce were increased ENORMOUSLY. Car runs practically as well as when new."

Industrial Testing Laboratory. Inc.
IBy R. M. SNIMER

## AMAZING PROOF FROM USERS

"siew Bings Un-1 "Csed 08 gallons of necessary. $\longrightarrow$ C. Stagg, Colo.
Stops Oil PumpPennsylvania.
-Sares Rebore Job." Gares Rebore Job. - Nearly Doubles Gas Mllease." - W. Firbs. Colo.
"Car Shoots Ahead When I Step on the Gas" - Albert ThoMRaised Compression, cut oil con-
sumption." $-\mathbf{F}$. Cu sick, Mich. trip (abot 1.250 mile to a gallon) BE HALL. Made same trip A F T E OVBBHATV and usel only 48 gallons (which is 26 mile P. D. Collins, Ind.
"No smoke on start ing, marked reduc tion in consumptinn Shank, Mich. Makes Ring and Rebore Job Unnecessary. Stops Oil and Gas Waste, Checks Piston Slap and Oil Pumping, Restores Compression, Fills Scores, Brings Back "New Car" Pep, Power and Quiet, Increases Top Speed. Cannot Harm the Finest Motor. Costs Less Than Spark Plugs and Quickly Pays for itself in Oil and Gas Savings. READ BELOW HOW YOU CAN TEST THIS NEW DISCOYERY free OF RISK. Then Mail Coupon.

If gas and oil bills are kreping you broke geience at last has developed a Fevolutionary new way to solve your motor roubles at
practicalls no cost. It is now unuccessary

## ADDS UP TO 45" GAS MILEAGE SAVES UP TO 50\%ON OIL

This new scientifically approved method of harm the flnest motor. Using OVRFALCL motor reconditioning called OVRHALL is so utterly amazing in its action that salesmen and distributors are fast coining money. It is revolutionary-entirely dilperent. NOT a gasoline dope. carburetor device or othe? graget-does Not contain graphite. It has turned thousands into enthusiastic boosters OVRHAUL fils scores, and plates cylinder walls, restores compression and adds astound. ing pep and power, increases top speed. Certified latoratory tests prove it cannot


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Here's the OUICKEST SELLER and RICHEST PROFIT OPPORTUNITY In YEARS. One sale multiplies itself in many more sales for YOU.
H. L. Wright, Wright Welding Works, OVisculsin, who has ordered orer 300 to rery fine reports and our own tests of our firsi customers we are mor enthused than ever.
John Richman, Florida, says: "My net profits hase been as high as $\$ 78.80$ in a single day.
Roy Hesseltine, Washington, turns $\$ 67 \div .60$ in less than a month.
Geo. Bzowery, Alberta, Canada, reorders $\$ 678.50$ in $11 / 2$ months.
H. Phelps, New York, reports 792 sales in less than omonths. Says will soon sell 1.000 a day.
Clip coupon qulck-be first in your local territory-the positive facts about ACTION NECESSARY-Mail COUDOM N.O.W !
is as simple as A B C, and necessary only erery 10,000 miles.
So slarting is (JV゙RHACL, so marvelously successful, that our sales representatives are piling un big mrofts. The OVRHACL Compary is willing to send this amazing new product for test on any car. Yot cais RISK. And here's a wonderful opportunty to make' a hanisome income overating an authorized JVBHAUL SERVICE AGENCY

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## SAMPLE SENT

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J-912, Kansas City, Mo.


[^0]:    Publehed bl-monthly by BiPACON MAGAZINESS, LNC., 22 West 48th Street, New Yark, N. Y. N. 1. Pines, Fresident. Copyright, 1936, by Beacon Mrgexines, Ino. Yegrly $\$ .90$; single copies. 5.16: Foreign and Canadlan, postage extra. Appication for entry as second-class matter pending at the Pest Office at New Fork, N. Y.
    

[^1]:    
    Name ...... (Please print or write plainly)
    Address

[^2]:    *The Moon's gravity is approximately onesixth that of Earth.

[^3]:    * A Moon vehicle-a toboggan-shaped metal air sled, with low siderails equipped with gravity plates electronized in the fashion of a tiny space fyer. The vehicle is impractical, largely used for sport, the safe handling of it requiring extraordinary skill, the manipulator lying flat, working its controls, and maintaining balance largely by rapid shifting of the body from side to side.

[^4]:    NOW he was far enough to give safety to Aura. On a cragpinnacle he stood with the Earth-

[^5]:    - The Bolar current, popularly misnamed the paralyzing ray, has no effect whatever of a physical paralysis. It merely generates a sudden gravitational force, transitory, but of extreme intensity so that the victim stands momentarily "rooted to the ground." The subject is highly "rooted to the ground." The subject is highly technical of explanation. The affected, matertal the case of an electronized gravity plate with full attractive force; the paralyzing beam acts more in the nature of magnetism-at the contact point of the affected object and the ground into which the Bolar current is discharged.

[^6]:    - Ilton: The ruling race of Mars, and the language of the Martian Union.
    *The average stature of Iltons is around meven leet.

[^7]:    * Ferrok-Shahn: The capltal city of the Martian Unlon. The Iltons are an exceedingly intelligent, advanced race. And even those of limited education learn languages with great facillty.

[^8]:    - Ilton phrase of extreme opprobrium, difficult to express in English. Swerol is an unclean Martian animal.

[^9]:    ce「OU see," Ainsworth was telling the head of the Federal Crime Bureau hours later, "I knew that nothing in the world could ever make Waxman confess. I knew that your men had tried everything on him without getting any results. No third degree could break his iron will. And after a terrific beating-if we gave

[^10]:    GUIDE TO SCIENCE KNOWLEDGE ANSWERS (See Page 77)

    1. Page 14 in BLOOD OF THE MOON
    2. Page 38 in THE HORMONE MENACE
    3. Page 39 in THE HORMONE MENACE
    4. Page 80 in THE LAND WHERE TIME STOOD STILL
    5. Page 101 in DEATH DIVES DEEP
    6. Page 106 in DEATH DIVES DEEP
    7. Page 64 in THE NTH DEGREE
    8. Page 30 in THE DRONE MAN
    9. Page 73 in REVENGE OF THE ROBOT
    10. Page 77 in REVENGE OF THE ROBOT
    11. Page 77 in REVENGE OF THE ROBOT
    12. Page 77 in REVENGE OF THE ROBOT
    13. Page 51 in CIRCLE OF ZERO
    14. Page 52 in CIRCLE OF ZERO
    15. Page 52 in CIRCLE OF ZERO
[^11]:    Rernington Hand, Inc., Dept. 169-7.
    205 E. $42 d$ Street, New York, N. Y.
    Please tell me how I can get a new Remington Noiseleas Portahle typewriter, plua FREE Typing Course and carrying case, for only 10 c a day. Also send me new illostrated catalogue.

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