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ORIGINAL TITLE: *Teen-Age Science Fiction Stories*

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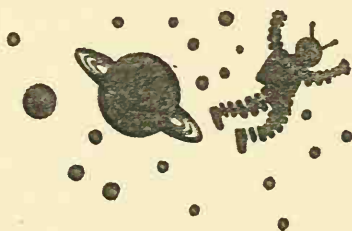
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# SCIENCE FICTION STORIES

By  
RICHARD M. ELAM, Jr.



ORIGINAL TITLE:  
*Teen-Age Science Fiction Stories*

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PRESS BOOK

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## SCIENCE FICTION STORIES

(Original title: *Teen-Age Science Fiction Stories*)

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*To Justin*



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*Science Fiction Stories*





## *What Time Is It?*



"THIS IS the house," Tom Lester said, pointing to the big, rambling, Spanish-style home surrounded by date palms.

"A college engineering teacher's pay must be good these days," quipped Chuck Parker, as they walked up the winding flagstone path to the house.

Tom, who was tall with wavy blond hair, looked down on his shorter, freckle-faced companion. "A professor's pay couldn't afford this, Chuck. Dr. Haley's one of the outstanding scientists in the country. It's his great inventions in electronics that have brought him the extra cash."

"Wonder what he wants to see a couple of high-school goofs like us for?" Chuck muttered.

"We'll know in a few minutes," Tom answered.

They rang the bell, and the door was opened by a girl their own age.

"Hi, Jean," Tom said. "Will you tell your father we're here?"

She smiled and invited them in. Leading them through the house she said mysteriously, "You two are really in for a surprise!"

The boys looked at one another in wonderment. But they said nothing until Jean led them into the presence of Dr. Haley in his laboratory, which was located in the west wing of the house.

He was a heavy-set man in a soiled smock, and his hair, graying along the sides, was in disarray. He smiled in greeting and shook hands with the boys as they entered. Only after their eyes had become accustomed to the bewildering litter of vacuum tubes, generators, and mechanical equipment did the boys notice the giant aluminum box sitting in the corner.

"I see you're interested in the big box," Dr. Haley said. "I don't blame you. That object holds the secrets of the past and future."

"Huh?" Chuck gasped, rubbing a hand through his red crew cut.

"What do you mean, Dr. Haley?" Tom asked.

The scientist approached the box. "Help me roll it into the middle of the floor, will you, fellows, and then I'll show you all about it."

The three of them had no trouble pushing the bulky object, measuring about six feet high by some four feet square, farther into the room, as it was resting on a low platform equipped with rollers. Jean was still present, looking on with an amused glance.

"Watch," Dr. Haley said and simultaneously pressed two buttons on the side of the aluminum

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box. Two opposite sides began rolling up like curtains. They disappeared into the top, revealing an inner framework of braces wrapped in copper wire. A narrow panel, containing gauges and a back-and-forth lever, ran from top to bottom on the opposite side.

"Wh-what is it?" Chuck asked, completely baffled.

"I call it the Time Traveler," Dr. Haley answered.

"*A time machine?*" Tom asked, astonished.

"Exactly," the scientist said. "I've been working on it during my past sabbatical year away from the Institute. It works too. I've sent guinea pigs into the past and the future."

"It's incredible!" Tom breathed.

"Meaning unbelievable?" Dr. Haley said. "I think you will believe it tonight when I put on my demonstration before a science convention in the auditorium of Southwest Institute."

"Dad's been working in secret with the Time Traveler," Jean said, "the whole year. See, the windows are blacked out. He worked under mercury-vapor lights all the time."

"But why have you told us two all this, sir?" Tom asked.

"Tonight I'll be plagued with questions no end from scientists and reporters. I'll need you two to help Jean explain some of the more elementary facts of the Traveler to these men, especially the reporters. Also I'll need some help in operating the machine for the demonstration."

"How did you know about us?" Chuck asked.

"I asked Jean if she knew of a couple of above-average science students in her class at school who could keep their mouths shut until the proper moment, and she suggested you two. Will you take the job?"

"Will we!" Tom said enthusiastically.

"Let's get started!" Chuck put in.

"I won't go into the complicated physics of the project," the professor said, "because you wouldn't understand them in the first place." He put his hand on the aluminum box. "This is only the insulating cover. The machine itself is the inner part. The electronic system that operates it is located in the top and bottom portions. When the current is on, an electromagnetic field is set up between those coils that resembles a framework, and that's what transports you through time."

He showed them the back-and-forth lever that operated the Traveler. Its box was calibrated in approximate ages, the present being in the center. "I haven't used the lever yet," he said. "That's for a human traveler to use should we ever dare send human beings through time. I have a remote-control panel I've been using on the guinea pigs."

The explanations went on for another half hour. When they were over, Dr. Haley lowered the shutters, closing the box. Experimentally, he pressed the buttons to raise the sides again, but he found that they wouldn't move.

"I was afraid of that," he said. "The switch is faulty and I don't have time to work it over. I'm glad now I put a mechanical lid on top of the



box so that we can get into it when the sides fail to open."

Under the scientists' directions, Tom climbed in through the top and adjusted the switch so that it worked again.

Dr. Haley gave his final instructions to the boys before he dismissed them. "Come by about seven. We'll load the Traveler on a panel truck I've rented, and then we'll take it over to the college."

At eight o'clock the auditorium of Southwest Institute was packed with scientists who buzzed in anticipation. To avoid a crowd of the merely curious, the fact that the most remarkable invention of the century was about to be revealed had not been let out. So far as the audience knew, they were about to hear merely another lecture.

Tom and Chuck felt a certain amount of pride as they sat beside the Time Traveler in the company of Dr. Haley, his family, and the regents of the Institute. Dr. Haley was introduced as one of the most learned physicists in the country and an honored member of the college staff.

When Dr. Haley described his earth-stirring invention, the auditorium burst into an outspoken mixture of reactions:

"A time machine! Fantastic!"

"Entirely fictional!"

"This is the greatest thing since radio!"

Slowly then, the incredulous and believing alike subsided as Dr. Haley went into details. Before long he had an open-mouthed audience who sat in silent,

awed attention. He still had not revealed the inside of the aluminum box.

"The energy for driving the Traveler takes many months to store up in the special generator required," he continued. "For the demonstration tonight I will send a guinea pig into the past and another into the future, just as I was able to do in my laboratory. The generator is loaded to seventy-five per cent of its capacity, which will just about take care of our two journeys. Now to reveal the inside of the Time Traveler." He pressed the two buttons on the case, but the sides failed to lift.

He grinned at Tom and Chuck. "It's acting up again," he said to them. "You'll have to climb inside, Tom."

The scientist explained the situation as a chair was placed beside the box and Tom climbed onto it with a kit of tools. Lifting the lid and throwing it back on its hinges, he dropped to the metal floor inside and began work on the defective switch. Then he saw that it would take an extra hand to hold one of the springs in place. He called to Chuck, and his friend's face appeared at the top.

"Give me a hand, will you, Chuck?" Tom asked.

The shorter youth was blushing as he struggled into the case. "I feel like an acrobat performing before all these people," he grunted, dropping to the floor beside Tom.

It was a tight fit for the two of them. Tom handed Chuck a screw driver and showed him what he wanted. Chuck lifted the spring, but it popped

back into his face. Chuck swung his arm back, startled.

And then it happened.

The boys' eyes suddenly became blurry, and they felt as though they were going down in a whirlpool. Their knees buckled, and they alternately felt terrible heat and icy cold. Then they blacked out. . . .

Tom was the first to come to. Slowly, his daze left him, and the first things that focused before his eyes were the calibrated markings on the lever box. The soft metal was dented, and the lever was shoved nearly as far back into the past as it would go!

He shook his friend, whose eyes opened in wonderment. "What happened?" he asked in a weak voice.

"Your arm struck the lever," Tom replied. "We're probably thousands—maybe millions—of years back in time!"

Chuck tried to say something, but only a frightened croak came out of his mouth. It looked to Tom as though his freckles had become more vivid in his fear. They looked around them. They were at the mouth of a cave in a forest area. Patches of strange, high grass and dense brush grew out of marshy ground. Gnarled trees with thick boles dotted the area. Through the trees Tom sighted a rugged mountain range several miles away.

"Look!" he exclaimed. "That range over there looks just like Spice Mountain! If it weren't so rugged it would be identical with it!"

"It *is* Spice Mountain, Tom," Chuck said positively. "Only one mountain in the world could ever look like that!"

Then it came to Tom. "I've got it! This spot is the same that the college is on, only many, many years earlier! Spice Mountain is younger now; that's why it's less eroded!"

"This may be the same spot, but it sure doesn't look familiar!" Chuck muttered, peering back uneasily into the cave. "I think we'd better get back to the present—I mean the future. Hang it, I don't know what I mean!"

"Hold on, then!" Tom said. "We're going back."

He shoved on the lever, but it would not move. He pushed again, but it was still stuck. "It looks like you jammed it, Chuck, when you hit against it. I don't know whether we'll ever get out of here or not!"

Just then a chilling growl raised the hair on their necks. The sound had come from deep within the cave.

"Tom!" Chuck cried. "This is the den of a wild animal!"

Then they heard it again. It was just like a deep, ragged note on a bass viol. Tom's eyes searched the forest and lighted upon a big tree, not far off, with a lot of low branches and foliage.

"We've got to make it to that tree!" Tom whispered urgently to his friend. "Come on!"

They climbed out between the coils of the machine and started running swiftly across the soft ground toward the tree. Chuck tripped and fell

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when they were about halfway across, and Tom had to help him up and drag him the rest of the distance. Tom swung up in the branches and leaned down to grasp Chuck's hands.

A full roar burst on their ears. They turned; the most formidable creature they had ever seen came bounding out of the cave. It was catlike and as big as a small horse, massively built, and sprouting a pair of foot-long tusks from the upper jaw. When the beast caught sight of the boys, he roared again and plunged after them.

Tom strained and finally got his shorter companion off the ground. The big cat sprang, and his raking claws grazed the youth's back. When the boys were at a safe height they looked down, panting heavily, at the fearsome attacker.

"It's—it's a saber-toothed tiger!" Tom said. "Remember the picture in our zoology book? It looks a lot like this big fellow!"

"Ugh, what a brute!" Chuck said with a shudder. "He almost made ribbons of my back!"

"Look at those terrific shoulders—and the size of him!" Tom murmured. "No two tigers in our time would be a match for this one!"

"What're we going to do, Tom?" Chuck asked gloomily. "He may sit under this tree indefinitely!"

"I don't know," Tom answered gravely. "We've just got to get back to the Traveler. I guess the tiger will leave to eat sometime."

The sabertooth started back to his cave, glancing back occasionally as though making sure that his treed victims did not try to escape.



"Look, Tom!" Chuck suddenly said, pointing through the trees.

What appeared to be two walking tanks were passing through the forest. They were plated all over, and on the end of each one's tail there was a bristly club. The beasts were fully fifteen feet long and stood about six feet tall.

"Giant armadillos!" Tom said. "They're called glyptodons!"

The beasts passed, but it seemed to be only the beginning of a parade of fantastic creatures. A herd of tiny animals resembling miniature rhinoceroses trotted past. Behind them plodded a massive bear-like creature with very long claws. He was easily twenty feet in length. From his zoology training, Tom was certain he was watching a giant ground sloth of the Pleistocene epoch.

"The sabertooth is pawing at the Traveler!" Chuck shouted. "If he damages it, we're stuck here for the rest of our lives!"

Tom watched in helpless silence as the prehistoric beast growled and struck at the mechanism with his broad forepaws. A single torn wire could mean disaster for the boys, because neither of them knew how to repair the complicated time machine.

Suddenly, to the boys' vast relief, the big cat paused stock-still and lifted his nose into the air as though sniffing. Tom and Chuck heard a drumming sound, as of numerous small tom-toms, and looked into the distance. On a grassy plain a herd of odd antelope flitted into view. The sabertoothed tiger left the cave and slunk into invisibility through



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the high grasses in the direction of the antelope herd.

"He's gone to catch himself a meal!" Tom said. "We'll wait a few minutes, then try to make a break for the machine."

Just as they were getting ready to descend from the tree, the largest brute they had yet seen emerged from some thick brush across the way.

"Jiminy!" Chuck cried. "What a whopper of an elephant!"

It was an elephant rightly enough but, more specifically a wooly mammoth, with enormously long hooked tusks. The huge beast was every bit of thirteen feet in height. His mountainous bulk thrashed through the brush, snapping saplings like matchsticks. As soon as he spotted the boys, he snorted and threw up his trunk in a bellow.

"We've got to get higher in the tree!" Tom said.

They climbed higher, until they ran out of branches. All they could do was hope the animal's long trunk could not reach that far up. The mammoth hooked his gracefully curling tusks around the upper slenderer part of the bole and began pulling. The youths felt the tree bending and themselves swaying over toward the animal.

"You don't think he'll snap it off, do you?" Chuck cried in terror.

"He's sure trying to!" Tom answered tightly.

It was a nightmare for the next few minutes. The mammoth squealed in rage as the stubborn tree refused to snap under his repeated efforts. Once or twice he let go suddenly, and the boys felt

themselves whipped back in the opposite direction so forcefully that they nearly lost their clutch on the tree.

Finally the mammoth gave up trying to break the tree and began probing with his hairy trunk up through the foliage. The fingerlike tip was so close to Tom he could see the quivering pink flesh inside. The tip was barely short of reaching him. The elephant's red-rimmed eyes burned with hatred. He withdrew his trunk and, with a furious bellow, crashed off through the trees.

When the noise of his passing was gone, Tom said to Chuck, "Let's get out of here—we don't know when that sabertooth will be back!"

They scrambled with almost reckless haste down the trunk of the tree and, after a cautious look around, set out across the area toward the cave. Tom entered the Time Traveler first and desperately wrenched at the operating lever.

"Get in here with me, Chuck," Tom said. "I think it's beginning to budge." When his friend had crowded in beside him, Tom studied the energy-supply gauge. "We've got only forty per cent power left. We used almost half getting here. We can't afford to be careless now, setting it."

Tom was trying to work the dent out of the lever box when Chuck suddenly dug an elbow fiercely into his side. Tom whirled. The giant tiger was back. He stood only a few yards away, a large antelope in his jaws. He studied the boys with baleful eyes. The sunlight, filtering through the trees, gleamed on his yellow saber fangs. The slain an-

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telope slipped from his teeth. Then he advanced on the youths, lips, drawn back.

Tom had no other choice but to jerk the lever as hard as he could. In his haste he tried to set it approximately in their own lifetime, but even as the lever slid across and he felt that whirlpool sensation taking hold of him, he knew he had missed the date. . . .

Tom came out of his blackout in the same sort of daze that had marked his last journey through time. He shook his head to clear it. He started to rouse Chuck, but this time his companion had been the first to waken. They both stared out over a sun-baked desert.

"We missed it!" Tom groaned, looking at the gauge. "There's only seven per cent energy left in the machine now!"

"I don't think we missed it very far," Chuck remarked. "This is a whole lot like the country around the Institute. Look at the yucca plants and prickly pear cactus. And there's Spice Mountain again, a little more smoothed off than it was way back there!"

Tom scarcely heard him. He was studying an adobe-walled village in front of them, mentally reviewing his archeology and trying to place the exact period. Then Tom noticed a river in the distance and a network of canals.

"The ancient Canal Builders!" Tom said suddenly. "This is six or seven hundred years before our time. Some of this race's artifacts were recovered

on the northwest corner of the campus last year—just about the spot where that village is!”

“It seems peaceful here,” Chuck said, stepping out of the Traveler. “Maybe we’ll be able to get the lever straightened out without having anything bother us. I think I’ll look around a little if you can handle it by yourself.”

“Go ahead,” Tom said.

He began working on the lever, and Chuck scrambled to the top of the hill on which they were perched. It seemed that the ancient saber-toothed tiger’s den had grown into a sizable mound over the years.

Tom had hardly started before he was startled by a panicky shout from his friend and saw him come hurtling down the sandy incline. At the same time Tom heard a throb of drums and saw that the wall of the village was covered with shaggy-haired Indians, clothed in animal hides and brandishing bows and spears.

When Chuck reached Tom’s level, he pointed up the slope. Limned against the deep-blue sky on the hill’s summit was a solid rank of grim-faced painted figures, as shaggy as those who stood on the village wall. They, too, were armed to the teeth. The next instant the air was filled with arrows and the most blood-chilling shrieks the youths had ever heard.

Down the slope the attackers plunged, obviously heading for the village. They appeared unaware of the cringing youths and their curious machine. In a moment Tom knew they would be on top of them.

He yanked the fear-paralyzed Chuck into the

Traveler. An arrow from the village defenders skimmed so close to Tom he could see the turkey-feathered shaft. His hands trembling, he seized the lever and shoved it forward. Once again they were hurled into the stream of time. . .

The next thing Tom knew, he was in a place that seemed strangely familiar. The Time Traveler was on the stage of a huge auditorium. The platform had a lot of features like those at Southwest Institute, but they seemed to be finished off in more modern designs.

"Where are we now?" Chuck asked.

"I don't know, but this sure looks like the auditorium at the Institute, only all dressed up," Tom answered. "Look how many more seats there are out there and how comfortable they look, just like easy chairs!"

"Tom!" Chuck exclaimed. "There's only two per cent power left in the machine!"

"That means we used only a little to get here," Tom said. "We overshot our mark. We're in the future!"

They had been so interested in their surroundings, they were just noticing that it was nighttime. The auditorium was lighted by an invisible soft radiation. Through long panorama windows, sparkling city lights were visible. The huge room was utterly deserted except for themselves.

"Let's take a look around!" Chuck suggested excitedly.

"Hadn't we better be getting back—or trying to



get back—to our own time?” Tom asked. “I guess Dr. Haley is still wondering what’s happened to us.”

“We’ve got time for that,” Chuck said. “We may never get a chance to see this age again.”

“It seems to be a late hour,” Tom said reflectively. “There aren’t any sounds in the building or any people around. I don’t suppose there’s anybody to notice us.”

They walked down the steps of the stage toward the windows.

“Look at the floor, Chuck,” Tom said. “It looks like glass.” They stooped and examined it. “Plastic,” Tom said. “Unscratchable green plastic.”

The windows were huge long rectangles that were crystal clear. The boys decided that these must be a kind of Plexiglas. They looked out one of the windows and gasped at what they saw.

It was definitely the future. The air was full of low winking lights that turned out to be helicopters. It seemed as though nearly every family in the city must own one. There were a number of triple-decked highway trestles, completely lighted, over which sped teardrop-shaped automobiles.

“There’s Spice Mountain again!” Chuck said.

“Look at the houses!” Tom pointed out. “They reflect the city lights just like metal! They *are* metal—prefabricated, probably.”

“I wonder what year it is,” Chuck said.

“I don’t know,” Tom answered. “It’s sure hard to think of our town ever looking like this.”

Every thoroughfare was evenly illuminated by brilliant lamps on tall posts located at regular in-



tervals. There were no dark streets whatsoever. Like a giant reposing wheel, what appeared to be an immense airport lay in the center of the city.

The spokes radiated out into city streets, making the airport the major feature of the metropolis. Sleek planes and buzzing helicopters rose and landed on the airstrips.

But the greatest drama was yet to come. Both boys saw it the instant it happened. A vertical thread of light rose swiftly in the air, and several moments later there was a loud roar. Tom and Chuck watched the silvery object at the top of the thread until it was lost from sight in the immense starry night.

"A rocket!" Tom cried. "That was a rocket ship!"

"I wonder where it's going!" Chuck said.

Their enthusiasm for the wonders of this new age meant further postponement of their trip back to their own times. They decided to go out into the corridor of the Institute and see what was out there.

The floor of the hall was of the same plastic as the auditorium floor, and there was not a scratch on it, although it carried the dusty footprints of many feet. The same soft, invisible lighting prevailed here as well. The boys paused before a bulletin board containing some typed items. They looked them over interestedly.

Tom read the beginning of one aloud: "At 2300 on March 3, 2007, Dr. Leeds, professor of chemistry, blasts off for Luna on a research expedi-

tion. . . ." A card pinned over the bulletin board carried the same date.

"That 2300 figure is the armed service's method of counting time," Chuck said. "I guess the people of the future have adopted it—or will adopt it. There I go getting mixed up on tenses again!"

"That rocket we just saw must have been the professor taking off," Tom said. "Twenty-three hundred means eleven P.M., our time. I suppose that's why the college is deserted."

They moved down the corridor and came to what appeared to be a classroom. They pushed open the door. In the light of the hallway they could see much of what the room contained.

"Look at that double-lens camera," Tom said, pointing to an object at the back of the room. A double screen was at the front. "Stereo motion pictures!" he said, as it came to him.

Chuck sat down at one of the desks. The seat was soft foam rubber, and the desk itself was of mirror-smooth blue plastic. "If we had desks like this back in our time, going to school would really be a pleasure," he commented.

He found that the desk lid raised. Out of the compartment underneath he pulled a thick, strange-looking book. The metallic pages contained only chapter headings, and opposite each item there was a push button. Into the side of the book ran two wires to which were attached a pair of lightweight earphones.

Chuck hooked the earphones over his head. He found a switch on them and snapped it on. He

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opened the book and pressed one of the buttons. Tom saw an attentive, pleased look on his friend's face.

"Boy, what a way to study!" Chuck said. He handed the earphones to his companion. "Listen."

Tom pulled them on and listened to a soothing voice lecturing on history. They examined the book and found a tiny mechanism between each page that probably was the source of the material.

The two suddenly heard a jarring buzz that nearly startled them out of their wits.

"What in the world was that?" Chuck asked.

They rushed over to the door and looked out into the corridor. What they saw caused chills to race up their spines. Clicking down the hall were a dozen shiny mechanical men—*robots*. They were far from manlike, having only a knob for a head and stiff-looking arms and legs. In their claws were long-handled instruments.

Tom's breath squeezed tightly in his chest. "Those things are heading this way! Let's get out of here!"

They ran down the hall. Just as they were about to go into the auditorium they turned for a last look. The robots had dispersed and were disappearing into various rooms along the hall.

"They weren't after us!" Chuck said. "Let's go back and see what they do."

They looked into one of the rooms and saw a robot pushing his instrument swiftly, expertly along

the floor. Where the instrument had passed, the floor began to gleam brightly.

"They're floor cleaners!" Tom exclaimed. "They probably clean the whole building in nothing flat!"

"I wonder when they knew when to start," Chuck said.

"That buzz we heard might have actuated some mechanism in their bodies so that they started operating," Tom suggested.

"Could be," Chuck agreed.

"There's no telling what else is liable to go on here tonight," Tom said. "I think we'd better try to get the Traveler working. We're only got two per cent energy left, remember. If we miss our date next time, we're sunk."

"I'm for it," the little redhead said. "Let's go."

They started back down the corridor and passed a door that was differently colored from the others along the hall. This piqued the boys' curiosity, and they stopped. Tom thumped on the door with his fist.

"It's solid metal!" he said. "Wonder why?"

Chuck hit it experimentally. To their surprise, the heavy door fell open.

"If this is a special room, somebody forgot to lock it," Tom said.

They entered cautiously. The hall lighting revealed a giant showcase on the other side of the room. The youths approached the case.

"The windows are barred," Chuck said. "Whatever's in that case must be awfully valuable."

They ventured closer. There was a plate at the

bottom of the case, reading: "The Housman Cosmic-ray Battery. This model electronic instrument absorbs raw cosmic rays out of the upper atmosphere and stores their tremendous energies. When released instantaneously, these energies are the most potent force ever harnessed by man. When released slowly, the energies are capable of unparalleled industrial power."

"Jiminy!" exclaimed Chuck. "I should think this thing would be terribly valuable!"

He leaned closer to examine the instrument within the case when suddenly a clanging bell went off loudly in the building.

"We must have set off an electric-eye alarm or something!" Tom said. "Let's get out of here—fast!"

They dashed through the open doorway into the hall and headed for the door leading to the auditorium. To their dismay, the door was locked fast. "The alarm must have automatically locked all the doors in the building," Tom said.

"What'll we do, Tom?" Chuck asked desperately. "How will we get to the machine?"

"I don't know, Chuck!" Tom answered glumly. "But we'll sure have trouble explaining our position if we're caught! They'll think we're spies who came here to steal that cosmic-ray thing!"

The alarm continued to peal. It sounded loud enough to arouse everyone in the city. The boys ran down the hall toward another exit door, but it too was locked. They were absolutely trapped.

Suddenly the huge double doors of the build-



ing's entrance were flung open, and the boys got their first view of the people of the new century. There were about five men, probably college teachers or officials who lived near by. Their clothes were not cut so very differently from what Tom and Chuck were used to seeing; the main difference seemed to be in the type of material, which had a shiny cast to it and was brightly colored.

The men spied the boys and ran toward them. They appeared to be unarmed. "There they are!" one of them shouted.

The boys frantically tried all the doors around them, but none would yield to their tugs.

Tom spoke swiftly to Chuck, "When they get close, let's dive right through them and try to make it out the front door!"

When Tom gave the word, the two darted straight toward the elderly men. The suddenness of the motion caught them unprepared, and they fell away. The boys raced down the corridor and burst through the swinging doors in front of them. They ran down the steps of the building and ducked into some shrubbery near by.

"I'm glad they were *old* men," Chuck said, breathing hard.

"Don't forget," Tom told him dryly, "we'll be as old as they are in 2007—that is, if we get out of this jam."

"Say, that's right!" Chuck answered, with some dismay.

Just then a car, its siren dying, whirled up in front. The automobile was teardrop-shaped like the



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others the boys had seen, and it was painted white. On the side of it were the familiar words, "Police." Five policemen in gray uniforms jumped out of the car and ran up the steps.

"We'd better find some place else before the men tell them we've left the building!" Tom whispered. "This is the first place they'll look!"

"Why not hide in the car?" Chuck suggested. "That's the *last* place they'll look!"

Tom nodded. "If they get far enough away from the building, we may be able to make a dash for the auditorium."

They slipped quickly into the police car, closed the door, and knelt down in the roomy front flooring. A moment later the policemen came out of the building and began beating the bushes. By now, other people had come running from all directions. Lifting his head cautiously, Tom could see, through the glass of the building's front door, that the door into the auditorium from the hall was ajar.

"They won't suspect us of trying to get back into the building," Tom whispered. "I guess that's why the hall isn't guarded. Let's slip out of the other side of the car and mingle with the people watching until we can make a break up the steps."

This they did, and finally saw their chance. There were some men talking at the end of the corridor, but Tom felt they wouldn't be bothered by them before they gained the auditorium. The boys dashed up the steps. Just as they went through the doorway, they heard a cry from outside, "There they go!"

"They've seen us!" Tom cried as they ran for the auditorium door.

The men down the hall then spotted them and gave chase, calling loudly all the time to attract the police. The boys ran into the assembly room and made for the stage. As they climbed onto it, the police burst in. Tom and Chuck got inside the framework of the Time Traveler, and Tom desperately fiddled with the operating lever.

"Make sure you set it right this time!" Chuck warned. "This is the last trip we can make on our low power supply, that's certain!"

Despite the urgency of their plight, Tom concentrated carefully on what he was doing. Slowly, he moved the lever across the box until it stood straight up. This time it must be right. The last thing Tom saw was a mass of florid faces, topped by gray caps, bearing down on him and his friend. . . .

As Tom came to, his first impression was that of being in a prison. After observing worriedly that the reading on the lever box was zero, he looked around and found himself hemmed in on all sides. Then he breathed easier as he looked up and recognized the light bulbs of Southwest Institute's auditorium. They were back in their own time.

"I guess we made it this time," Chuck said. "We seem to be in the aluminum case."

They heard Dr. Haley's voice say, "Have you fellows got it repaired yet?"

"Got what repaired, sir?" Tom asked, puzzled.

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They heard the scientist chuckle. "Why, the switch that lifts the sides of the box, of course. You've been in there two minutes."

"*Two minutes!*" Tom said to Chuck. "Is that all the time we've been gone?"

Suddenly Chuck burst out laughing.

"What's funny?" Tom asked.

"They are," Chuck answered, grinning. "They haven't even *missed* us!"



## *The Strange Men*



I'LL REMEMBER that night as long as I live. There are still as many people doubting what happened as there are believers. I don't blame them. It isn't often that three Scouts run into men of *their* kind. But they were as real as you or I— or Piggie and Jim, who went through the experience with me. My name is Sam Lewis.

It started one June afternoon when the three of us were heading back home from a nature hike that we hoped would pay off in merit badges in botany and bird study. The sun looked like half an orange sinking beyond Sunnyslope Ridge. We'd wandered farther along the old woods trail than we had expected.

"It'll be dark before we get home," Piggie Woodson said, a little worriedly. He was short and had a double chin, although he wasn't yet sixteen. He was the youngest among us.

Jim Stanton said, "There'll be a full moon to-

night to light up the trail." Jim was the smart one. He was almost six feet tall and muscular and we sort of looked to him as the leader.

I'd like to have just a fraction of all the letters Jim's won in high school. I'm no athlete myself. I eat like a horse but it doesn't do me any good.

I was stumbling along behind Jim and Piggie with my pack. Jim was striding as tirelessly as an Indian, but Piggie was puffing like me. The three of us live in what's known as a rural neighborhood, and our houses are just under a mile apart. They form a cozy triangle, and I guess it's natural that we should have been buddies from early grade school.

"I've got half a mind to stop at the Lodge over-night," Piggie panted later.

This sounded like a good idea, except that our folks wouldn't know what happened to us. The place he'd mentioned was our Boy Scout Lodge which was better than a mile closer than our houses and was right in the middle of the trail.

I was thinking of a way to word my excuse to Mom for missing supper twice in one week when something suddenly happened that had us goggle-eyed. There was a splash of bright red in the sky between the trees. It lasted only a fraction of a second, moving from the sky groundward, where it died out.

"Make a wish, Jim," Piggie said in a quivery voice.

"That wasn't a shooting star," Jim answered. Piggie, like myself, knew it hadn't been a meteor either. Living in the country, we saw a lot of the



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sky. This was nothing like any meteor we had ever seen.

"It looks like whatever it was went down over the path ahead," Jim said, "maybe a quarter mile away."

Just then I had the creepiest feeling. Maybe it was the sudden chill that had carried off the sultry heat of the day, or maybe it was just the prospect of going through that ghostly woods as it got darker and darker.

"Let's get moving," Jim said. "It's getting late."

He started off, and Piggie and I tagged along behind. I could see the full moon beginning to show his bald top in the east. It wasn't long afterward, as Jim was shoving aside some dense bushes that had grown over the trail, when suddenly we saw it. My eyes felt like they were being pulled out of their sockets, and the skin on my back seemed to be trying to crawl from my backbone.

The thing was sitting in the middle of a big open glade we'd used often for campsites. It resembled a large wheel lying on the ground, and it was about the size of the merry-go-round Salber's Carnival brings into town once a year. It was shiny and caught some of the rays from the moon, reflecting them back into our eyes.

"Wh-what is it?" Piggie stammered.

"Maybe it's a new kind of aircraft they're experimenting with at the Army Air Base," Jim said.

"It's sitting almost on the path," I said, "and there's no other way to get home."

"What if it *isn't* from the Air Base?" Piggie asked in a scared voice.

I wished he hadn't said that because it got my back to crawling again.

"We'll be careful," Jim said. "We can creep low through the high grass as far from the thing as we can get without barging into those bramble bushes on the left."

We started out on our hands and knees after swinging our packs under our stomachs so that the color of the light khaki wouldn't stand out. Up to then we hadn't seen any sign of light in the wheel-like thing, but as we drew abreast of it, as we had to about fifty feet away, we saw little port-holes with strong lights behind them.

Then suddenly, before we knew it, we got the scare of our lives. Rising out of the high grass in front of us were the three strangest looking characters I had ever seen. We were so petrified we couldn't budge a muscle. My legs felt like they were cut off below the knees. The three characters rushed us and grabbed us without a struggle.

It seemed like somebody's nightmare we had blundered into. The whole thing was so impossible, and yet here we were! The three men were giants, every bit of seven feet plus. They were very muscular, perfect human specimens. Over their heads were large bullet-shaped hats or helmets to which were attached lots of wires and tubes and little boxes.

The helmets were kind of frosted over so that we couldn't see through them very clearly. But when

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the big fellow who was holding me looked down, I saw all I wanted to of his face. His eyes were extra large and reminded me of the black round eyeholes in a Halloween mask. His nose was bulbous, and his mouth had thick, puffy lips.

The strange men pulled us along toward their craft. Piggie stumbled, and the fellow who had caught him just picked him up and tucked him under his arm as though he didn't weigh anything. I thought they were going to carry us into the machine, but they stopped where the grass was short, about halfway between the big wheel and the fringe of the woods.

As we lay on the ground, they kept looking at each other the way we do when we talk, but if they said anything I couldn't hear it. One of them went over to the wheel, and a roller door opened in the rim. He went in and came out with a handful of straps.

They belted our feet and hands behind us and secured us to some exposed roots extending from a big sycamore not far off. Then they gagged us with some silklike cloths. As the man who was working on me stooped down, I got a look at the big glossy black boots on his legs. His foot must have measured eighteen inches long. Each of the men wore a skintight suit fitted with gadgets. I was sure by then that Jim and Piggie had come to the same opinion that I had—that, as crazy as it sounded, *we were prisoners of men from another world.*

The giants left us and went into their machine,

closing the door behind them. The three of us were tied about two feet apart. I looked at Piggie and Jim, and as the moonlight fell on their faces I could see that they were still pretty dazed. I'm sure I looked the same way to them.

After a little while the shock began to wear off, and I began to think about some way of getting loose. I remembered the Scout knife in my pocket. I didn't know whether it would cut those plasticlike straps or not, but it was worth trying. I motioned toward my pocket. Jim was next to me, and, by twisting himself, he was able to back up to me and get his fingers in my windbreaker pocket. He got the knife out, which we finally got opened on a small flat stone.

I motioned to Jim that I would hold the knife so that he could saw his hand straps against it. When Jim was free, I nodded for him to set Piggie loose next because I knew Piggie's bonds must be cutting him worse than mine because of his fat flesh.

Jim didn't get the idea, though, and started on me. He went for the leg straps first. Just as my legs were nearly free, we saw the door of the space ship slide up. Jim cut me loose with a sharp jerk of the knife, then began running for the bushes, signaling for me to follow. I didn't know what to do. How could we leave Piggie like this?

Then I reasoned that two of us free would be in better shape to rescue the third than all three of us still being prisoners, so I took off after Jim. We were nearly to cover before the men realized we had

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gotten away. They started running toward us in big long strides, and I wondered how we'd ever outrun them.

We set off through the woods like rabbits, stumbling over logs and vines, and I had a hard time keeping my feet with my hands still fastened. But of course we didn't have time to stop and cut them loose. We'd had to get rid of our packs because they slowed us down. We thought we had gained on our pursuers until Jim suddenly turned and yelled, "Look!"

I turned too and saw one of them about seventy-five feet away, pointing a riflelike object at us through the trees. It was light-colored, like aluminum, and caught the glint of the moon on it.

"Lie flat!" Jim whispered and spread himself out on the ground. I followed suit, and the next instant we heard a pinging sound. We looked in front of us and saw a birch sapling completely disintegrate in a puff of vapor that looked like smoking dry ice!

"That could have happened to us!" I thought.

"Come on!" Jim said, and jumping up, he dragged me on with him.

I don't remember how long we played tag in the woods. But we managed to stay just beyond sight of the three hunters thereafter. Finally we found a sheltered cave heavily grown over with honeysuckle that seemed safe enough to stop in and catch our breath.

Jim released my hands and took off my gag. For



the first time since capture we had an opportunity to talk.

"They sure hated for us to get away," Jim said. "I didn't like leaving Piggie behind, but there was nothing else we could do."

"We've got to figure out how to get him away from there," I said, "before they take off with him! With us escaping, they may be afraid to hang around any longer!"

"We're still over a mile from the closest house," Jim answered. "By the time we get there, telephone, and wait for the sheriff and his men to arrive—"

"Maybe we ought to try to rescue him by ourselves," I suggested.

Jim nodded. "That sounds like the best idea, but how'll we go about it? The Lodge is just up ahead, but there's nothing there we can use for weapons."

We sat there on the damp ground in silence for several minutes, trying to think of something.

"We could start a grass fire," I said, "if the grass weren't green and wet with dew."

The remark put Jim on the track of something, I guess, because he came up with the solution then. "The fireworks!" he said. "The fireworks we were going to celebrate the Fourth with!"

"Sure!" I said.

"Even if we don't scare them," Jim said, "we should startle them so that it would give us the chance to get to Piggie."

There were several big boxes of fireworks at the Lodge, and Jim thought we ought to bring all we



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could carry back to the glade where the space ship was. Then we'd get on opposite sides of the area and shoot off the things as fast as we could. The invaders *might* think they were being attacked by a company of soldiers, but if they didn't, it still should give one of us time to slip out and try to get our chubby friend away.

We cautiously came out of hiding, found the coast clear, and hurried down the trail toward the Lodge. We had to force the lock on the door, but we were sure the Scoutmaster wouldn't mind when he found out the reason for it! Also, we guessed our buddies would understand when they knew why we'd had to use up all the Fourth of July fun ahead of time. We found two burlap sacks and filled them with fireworks until they made an easy load. Then we hurried back up the path.

When we got to the glade, we pushed aside the bushes and looked out. Piggie wasn't in sight, although the ship was still there.

"He's gone!" I groaned.

"They've probably got him inside," Jim said. "Let's wait awhile and see what develops."

That Jim is a calm one. He kept almost perfectly still, keeping his eyes steadily on that shiny disk while I fidgeted around like an itchy porcupine worrying about Piggie.

Finally the door rolled up, and one of the strange men came out carrying Piggie like a baby in his arms.

"They've killed him, Jim!" I said. "I knew we shouldn't have left him!"

"Shut up, Sam!" Jim said sharply. "They'll hear you! Piggie's still trussed up. Naturally he can't walk."

I quieted down. The spaceman lay Piggie on the same spot where we all had been tied up, but he didn't bother to fasten him to one of the sycamore roots. I heard Piggie coughing like he had a bad cold, and I was relieved to know he was still alive.

"It's funny they let him live after wanting us dead so much," I said.

"It may be," Jim suggested, "that our escape upset so badly their plans for exploring the planet that they wanted to prevent his death at any cost."

Another door in the ship opened right beside the first, like the second of a set of double doors, making one wide opening. Through this larger doorway came the other two spacemen carrying a big metal instrument. The way it was carried, it looked heavy. They set it down beside the ship. The other man started tinkering with it as the two went back inside. Presently the strange machine began to give off a weird hum, and white lights came on all over it. There were sets of long tubes on all four sides of it that reminded me a lot of gun barrels.

"That's some kind of a weapon!" Jim whispered. "And after seeing what their rifles can do, there's no telling what that gadget's capable of!"

The men brought out two more of the machines, and these also were lighted up and set to humming.

"They're putting up a regular arsenal!" Jim said. "I think it's time for us to act!"

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We picked up our sacks of fireworks.

"Carry your load over to the other side of the glade, Sam," Jim said, "and I'll take this side. I'll toss some crackers between Piggie and the ship and slip in and cut him loose while the enemy is still confused—or so we hope."

"There's one thing wrong, Jim," I said. "Who nominated you for the dirty work?"

I got him to agree to draw straws to see which of us would do the job he had named for himself. As a result, we had to switch places. We decided to set off our stuff at about the same time and over as wide an area as possible. That way, we hoped the men would think they were surrounded. Quickly I spread out a long line of Roman candles, flares, and noisemakers so that I could go down the row and light them rapidly.

Jim's signal was a sparkler swung in wigwag fashion. When I saw it, I started touching glowing punk to the fireworks as fast as I could. In a matter of a few seconds, the whole forest was ringing with noise and shooting lights.

I ran out into the open about halfway to the spot where Piggie was lying, my arms, pockets, and mouth full of firecrackers. As the spacemen, who were beside the ship, looked in my direction, I quickly lighted a red flare and threw it past Piggie's head. Then I lighted others in quick succession until there was a red, smoking curtain between Piggie and myself and the men.

As I ran toward Piggie I lighted some noisemakers, including some of those small ones that come

on a string and go off in rapid succession, and I threw them directly at the ship. When I was out of ammunition, I went over to Piggie and began hacking at the strap around his ankles. My ears were ringing, and the area looked like an atomic factory blowing up. I finally got Piggie's feet undone and dragged him along with me toward the bushes across the way.

Any minute I expected to feel a hot blast in my back or see Piggie get it. But nothing happened, and we dived for cover headfirst.

We waited, panting hard for several minutes, and when we saw nobody coming, I finished getting Piggie loose. Then we went over to the fringe and looked out. The spacemen were still at the ship. They were aiming those strange guns of theirs at the fantastic machines. One after the other the machines disintegrated in a puff of white vapor, just like the birch sapling we had seen!

"Look at that!" Piggie burst out.

When the last of the machines was destroyed, the men entered the ship and closed the door. There was a blinding flash that made the glade as bright as noon. This was followed by a roar like a strong wind through Hunter's Cave beyond the Ridge. The brightness faded then, and we saw a streak of red rising in the sky and finally disappearing.

Piggie and I took deep breaths of relief and went out into the open to join Jim. When we were together, the three of us just stood for several silent minutes looking at the big burnt spot on the ground where the space ship had been.

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Jim broke the silence. "I guess they destroyed their machines so we'd never learn anything about them."

"We'll never know how they meant to use them," Piggie added in a voice of wonder.

The only thing I could think of to say was, "Let's go home."

That's the story. When we told it, there began a long series of interviews. We were roasted as liars, were psychoanalyzed, and were called in by scientists and the Army. They finally decided we had told the truth when Piggie described some of the things he had seen in the space ship. Piggie said that the men had started looking him over like a laboratory specimen in their ship, when he suddenly got sick on the funny air they were breathing and so was brought outside again.

Months have passed now, and they're beginning to let us alone. But the glade in the woods isn't the same any more. It's surrounded by a high wire fence, and there are scientists working there still trying to find out something about the mystery of those strangers from another world.





## *Project Ocean Floor*



LARRY GRAHAM was with the men in the big room below deck watching the sphere being drawn up from the sea. The room was specially constructed, with a hole in the floor so that the metal ball, thirty feet in diameter, could be raised and lowered through it.

Larry looked on, his heart pounding with suppressed excitement, as the steel cable on an overhead winch lifted the sphere into full view. Many hours before, the sphere had been sunk by a heavy electromagnet, but that had been dropped before the ascent. The underwater craft hung dramatically on its cable, dripping water, seaweed, and ooze from four-mile ocean depths. A rolling platform was shoved under the globe, and the electric-winch operator in the corner lowered the craft onto the platform.

"It's a success! It held up under the pressure,"

jubilantly exclaimed a small, wispy-haired man named Dr. Hagen.

Larry's gray eyes glowed with the enthusiasm felt by all the others around him. Everything that had happened on the expedition so far had thrilled the teen-age youth beyond measure. But the greatest thrill of all was yet to come. Like the others, he had been concerned when the unoccupied sphere was lowered to depths never before reached by men in a craft of this kind. Down there, where the sea pressure was four and two-thirds tons per square inch of surface, the sphere had passed its greatest test, thereby proving that it was safely ready to descend again, with a human cargo this time—Larry and Dr. Hagen.

"Look, there are scratches on the ball!" one of the engineers suddenly said, pointing to a cross-hatch of scorings on the outer skin.

Someone thought the ball might have scraped against rock on the floor of the Pacific. But from the irregularity of the marks, Dr. Hagen and most of the others could not go along with the theory.

One of the scientists, whose specialty was plankton study, remarked, "I think we've got some deep-sea creature to blame for this."

Larry's flesh crawled at the thought. He wasn't sure he wanted to go through with the proposition offered him. One of the members of the science exploration society was a relative of Larry's former boss at the construction company that had built the sphere back in the States. The society was looking

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for a young fellow who was small of size and not afraid of danger.

Dr. Hagen had interviewed Larry, laying the facts before him. The society, under the sponsorship of museums and universities all over the country, had built a diving bell they hoped would greatly exceed any previous ocean dive. Since most of the sphere's bulk went toward reinforcement against the terrific pressures it would undergo, that left only a small six-foot-diameter space in the core to accommodate two persons; hence the need for a small companion to assist Dr. Hagen in observation and operation of measuring instruments during the dive.

Larry had thought over the proposal. The money offer was unusually good, and, being an orphan, he had no family to worry about him. He had accepted, accompanying the expedition of oceanographers and scientists to a small group of islands south of Hawaii where the four-mile deep was located.

The party, in their specially adapted ship, had left San Diego two weeks before as inconspicuously as possible, and with a minimum of personnel. If a new world's depth record were reached by the expedition, then would be time for the newspapers and radio to know about it, Dr. Hagen, the leader, had said. Until then, the party wished to carry on undisturbed.

The scientists now discussed further the strange scratches on the sphere. The idea of a giant fish continued to be the most popular speculation.

"My guess is it's some kind of cephalopod," Dr.

Hagen suggested. "They have the horny parrot beaks that might cause such scratches. Possibly a giant squid."

"Shades of the ancient kraken!" Dr. Newman, an ichthyologist, exclaimed. "That's the old Scandinavian cuttlefish, remember, with a body as large as an island, which drew big vessels down to destruction with its tentacles. Maybe we've found the real thing!"

"Maybe we have!" Dr. Hagen said seriously.

Late the next morning, preparations for the second dive had been completed, and Larry was having butterflies in his stomach from anticipation. A check of the automatic gauges on the first descent revealed that the walls of the sphere had stood up perfectly under the immense water pressure. The cable as a support for the sphere would not be used except in an emergency. It would hang limply, and the sphere would be powered by compressed air from jets. Embedded in the cable was an insulated telephone line.

Larry crawled through the narrow twelve-foot-long entrance tube behind Dr. Hagen. When he was inside, the door was closed and held rigidly in place by a powerful electromagnet. There were three two-inch portholes, solid twelve-foot compound lenses of fused quartz. They refracted an image from outside the sphere onto ground-glass screens inside. Larger portholes could not have been practically built to withstand the pressure of the depths. Under each porthole was a small powerful

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searchlight constructed along similar lines. Cameras could be slid into place over the portholes.

Larry and Dr. Hagen sat on cushions on the floor. The lack of space and the multitude of apparatus made the core of the sphere a very crowded spot. The scientist tried the jets experimentally. There was one on the side and one each above and below. A fourth was on the side and curved so that the ball could be rotated. In this way the craft was completely maneuverable.

"Are you ready, Larry?" Dr. Hagen said, after the jets appeared to be in good working order.

"I think so," Larry answered. But there was a note of hesitation in his voice, and he was far from being the cool person his companion appeared to be. He was remembering the scratches on the outside of the sphere and wondering what might have caused them.

Dr. Hagen gave the word over the telephone to lower the sphere into the water. Larry saw the interior darken for a moment. The next thing he saw was an indefinably beautiful bright green shining on the ground-glass screens. Small fish swam by, and Larry realized that they were already under water.

He was fascinated by the many varieties of fish he saw. Some he recognized, but most of them had to be identified by the scientist. There were little transparent blobs that were jellyfish, thousands of tiny motelike things called plankton, and schools of larger bright-colored fish that looked more like those Larry was used to seeing.



Before long, Larry noticed a darkening of the water from green to blue. He continued to see more varieties of gill life than he had ever suspected existed. A pair of eels bloomed large on one of the screens, their beady eyes seeming to search the interior of the monster that had invaded their domain. They whisked away as though in fright, and then a huge, kitelike shape blotted out one of the screens for a moment.

"What in the world is that?" Larry asked.

"A manta ray," Dr. Hagen replied. "They grow pretty big."

The scientist was using the under jet as a brake to prevent their sinking too rapidly whenever something of particular interest attracted them. At other times, the top jet helped them along faster through comparatively barren waters. Dr. Hagen showed Larry how to tabulate meter readings on a small tablet. The figures had to do with salinity of the water, temperature, and spectrum lines, among other things.

Larry was attracted by a small host of white prawns gliding by in the clear water. Then he looked over to Dr. Hagen to see what he was doing. He saw the scientist keeping close watch on certain pressure gauges, and it occurred to him that he had not had time to learn just how the pressure chambers in the sphere operated. He asked Dr. Hagen about them.

"Surrounding us are a number of metal chambers of strong, lightweight alloy," Dr. Hagen explained. "Air pressure in each chamber increases from the



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innermost one outward, thereby providing a cushion against the tremendous pressures farther down and a minimum of strain on each individual chamber wall."

"The air pressures are built up gradually as we go deeper, aren't they?" Larry asked.

"If they weren't, the sphere would have burst already," was the reply. "I'm increasing the chamber pressures in proportion to the increase of water pressure. When we sent the sphere down yesterday we did this by remote control."

"Where does the artificial pressure come from?" Larry asked.

"It's generated in cylinders by a violent chemical reaction that I'm able to control," Dr. Hagen said. "When we rise later, outside valves on the craft will permit the pressures to escape."

As the water grew darker, the light from the screens was no longer sufficient to see by, and Dr. Hagen switched on a weak overhead light. Larry concentrated on his meter readings again, and for minutes on end the only sounds were the muffled hum of the occasional jets and the gentle hiss of oxygen escaping from the tank. Larry knew that a soda-lime cylinder was absorbing their expelled breath and that one of calcium chloride was soaking up the excess moisture.

When Dr. Hagen announced a depth of one-quarter mile, Larry found himself in a world of velvety blue-black. They were rapidly approaching total sea darkness, and the thought gave Larry an

uneasy feeling; it was as though he were entering a dark cave that had no other opening.

Larry saw a transparent jellyfish with a stomach full of luminous food swim across one of the screens. Then a school of small silvery hatchetfish darted by like a string of Christmas-tree tinsel. Creatures with lights of their own were seen now, some with lights along their bodies, others with frightening luminous fangs or glowing eyes. The view reminded Larry of a night sky full of darting meteors. Occasionally, Dr. Hagen would recognize a new species and would eagerly telephone its description to the ship. The scientist also kept those above informed on the appearance of the sea and the meter and gauge readings.

At two thousand feet it was totally dark outside and the searchlights were switched on. The turquoise cones of light sprayed into the heavy water, bringing into view sharp, strange outlines of deep-sea life. The creatures appeared undisturbed by the unfamiliar radiance. An ugly angler fish, its long slender lure extended to trap a meal, stared arrogantly into the screen. Unidentified sparks of light leaped and cavorted on the ground glass as freely as though they were birds in the air. Larry remembered that, despite its varying pressures, water was only slightly compressible, and was no hindrance to a moving body at any depth. He knew too that fish could live at all depths because there was equal pressure inside and outside of them.

With the disappearance of light, Larry lost all sense of orientation, for there could be no varying

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degrees of pitch-darkness. Dr. Hagen called off the depths at intervals, both for Larry's benefit and for the information of those above.

"We're at three thousand twenty-eight feet—William Beebe's record descent in 1934."

Then later: "Forty-five hundred feet. This was Otis Barton's record in 1949. We're turning on the heater now as it's freezing outside and getting cold in here."

A mile down, the screens were still crystal clear. An oil film covered the quartz lenses so that they would not fog over. Larry saw a shapeless yellow blob with dangling appendages pulse by. He had seen a number of them before. Dr. Hagen called it a siphonophore, a colony of little animals. A group of small ordinary-looking fish except for dots of brightness along their sides were identified as myctophids.

"There are two and a third tons of pressure on every square inch of the sphere now," the scientist told Larry, "and we've only begun our descent."

A startling explosion of red sparks on a screen brought a frightened gasp from Larry some time later.

"Only a shrimp," Dr. Hagen said. "That's their method of defense."

"Two miles down. Sea life has diminished," Larry thought. "Only an occasional splash of light. There goes a big black fellow with no light plant of his own. Ugh, what a monster! Three miles. There are more fish again. They seem to be getting larger."

A mountainous shape crossed one of the screens.

It resembled a silvery submarine; it had big, square, translucent scales. "What is that one?" Larry asked.

"Who knows?" Dr. Hagen clipped, working busily. He swung a camera over the porthole, then got on the telephone to report eagerly a new discovery for biology.

A strong current pushed against the craft at the three-and-a-half-mile depth. Dr. Hagen coolly turned the sphere on its rotating jet, then brought the ball back in its vertical plumb line with the ship with a series of spurts from the side jet.

They continued to descend. Larry felt shivery despite the fact that there was enough warmth from the heater. He noticed that his hands were clenched tightly and that his body was rigid with tension. This eerie adventure was beginning to get him. The thrill of setting a new record did not seem important now. He was mostly interested in seeing daylight again.

About a half hour later Larry felt a bump. He looked at Dr. Hagen questioningly.

"We're on the bottom," the scientist said, a note of eagerness in his voice. "We're better than thirty-six hundred fathoms under the Pacific. Four miles. The deepest man has ever traveled toward the center of the earth. There's a pressure of almost five tons on every square inch of us. Scared, Larry?"

"I—I don't know," Larry said hesitantly.

Dr. Hagen laughed easily, and Larry thought this little man must have nerves of steel.

"Larry, imagine a pea lying in a tank of water fifteen feet deep," the scientist said. "That'll give

you an idea of the proportion of our sphere to the surface of the Pacific." He examined the pressure gauges. "There's no strain in any of the chambers; the engineers at your plant knew what they were doing when they built this craft."

Larry studied the screens. There were the same flitting lights as there were higher up, moving in and out of the bright cones cast by the searchlights. Yet Larry felt a sort of hushed expectancy as he looked on in silence and Dr. Hagen talked quietly over the telephone instrument.

The first herald of trouble was a sudden flurry of movement among the tiny firefly life that carried them completely out of view, leaving three blank screens. An instant later one of the screens filled with turbulent, indistinguishable motion. The searchlight showed a brownish nebulous shape. It was impossible yet to determine what kind of creature it was.

"That must be it," the scientist whispered. He reported to the surface, saying he would hang on to describe what took place. He had Larry switch in one of the cameras. Then both of them, four miles under the Pacific Ocean in their lonely, airtight shell, watched intently to see what this king of Davy Jones's wonderland would do next.

A big sucking disk posed on the screen for a brief instant, long enough for Dr. Hagen to identify the giant fish. "We were right!" he spoke tensely over his mike. "It is a squid—a tremendous brute—your kraken, Dr. Newman! We can't see much of



him on the screens because he's so close, but I'd judge him to be around sixty feet across!"

Larry felt the sphere shudder, and the two uncovered screens were blotted out completely.

"He's encircling us," Dr. Hagen said. "The sphere must be like a marble under his huge bulk!"

Larry heard a question crackling over Dr. Hagen's receiver. "Do you think you're in any danger?"

"If he sits on us or squeezes too hard we may be in trouble," came the reply.

From his knowledge of the mollusks, Larry pictured in his mind what the giant squid must look like—cucumber-shaped body terminating in a big-eyed head that sprouted into ten snakelike arms.

Suddenly there came a series of muffled scraping sounds.

"He's chewing on the sphere!" Dr. Hagen said. "If that outer wall goes, we'll be smashed to a grease spot from the water pressure. Let's get out of here, Larry!"

Dr. Hagen pulled the lever of the lower jet. Larry heard the throb of the jet thrusting into the sea-bottom ooze. But the craft did not lift!

"His weight's holding us back," Dr. Hagen said worriedly. "I'll try the side jet. If he's covering it he should let go of us in a hurry!"

The ball leaped into swift motion, rocking the two occupants sideways, but the screens remained covered. "I'll rotate us quickly," Dr. Hagen said and applied the rotating jet.



Larry felt a sickening sensation as the sphere turned suddenly like a top. This maneuver, too, was unsuccessful. The animal still clung to the craft, and the sounds of his beak scraping the outer wall were still heard.

Dr. Hagen picked up the phone mike and said, "You'll have to give us some help up there. Take up the slack in the cable and start pulling. I'll put the bottom jet on full power."

A few minutes later Larry felt the tug of the tightened cable. Dr. Hagen pulled the lower jet lever as far to the side as it would go. Larry could feel the strain of the mechanical forces trying to shove the metal ball upward. It rose slightly, but then it was pulled back down again by the superior animal force outside. The effort was continued for several minutes, but still without success.

"The squid must weigh tons," Dr. Hagen said discouragingly. "We just can't compete with his strength and size. He's got to be dislodged somehow. There's no other way."

What happened next was so frighteningly sudden that Larry thought the end had come for them. He was slammed against the wall and then turned head over heels. The dimly lit interior of the sphere spun before his eyes like a kaleidoscope. The sphere seemed to be rolling like a ball.

Finally the nightmare was over. The gyroscope balancer in the floor righted the sphere, and Larry looked around him dazedly, trying to figure out what had happened. His eyes fell on Dr. Hagen, and

a clutch of fear seemed to stop his heartbeat for a moment.

The scientist was out cold, with a lump of his forehead from his having been thrown against the gauge panel. Larry saw a piece of shattered equipment lying on the floor. It was the telephone mike-receiver, and it was dead as it could be.

Larry's stomach knotted in fear; he was suddenly lonely, terribly lonely, as he thought of the three and a half miles of darkness that lay between him and the upper surface. He tried to shake off his despair, telling himself that he alone could bring them out of this alive, if it were possible.

The sphere continued to tremble under the attack of the squid that still had not been dislodged. As Larry quickly tried to familiarize himself with the operation of the jet levers, he pondered what must have happened. He decided that the squid must have wrapped a tentacle around the cable and jerked hard, thereby causing the craft to roll over several times.

Larry checked the all-important stress gauge of the outer wall. It was beginning to show strain, possibly from the weight and continued cuttings of the big mollusk's horned beak. The sphere had to rise in a hurry if it were ever going to.

Larry swung the camera away from the third screen so that he could see them all. Then he noticed a movement. The squid had shifted its position. Perhaps now the animal was covering one of the jets. Larry braced himself, then, steadying Dr. Hagen's unconscious figure, he jerked the side jet

lever as sharply as he could to get full benefit of sudden, shocking force.

The sphere hurtled sideways, and despite his being ready for the motion, Larry's head bumped against one of the dials. His ears rang and he saw a scattering of stars before his eyes, but he did not lose consciousness. His head aching, his eyes focused on the screens. All but one were clear, revealing empty velvet-blue water. What he saw in the third glass he never wanted to see again.

Obviously at some distance from the sphere, two dark cold eyes seemed to look straight into his own. Surrounding these was a tangle of huge writhing arms that were reaching out toward the sphere again.

Larry's hand closed around the under jet lever, and he wrenched it vigorously. The sphere stirred reluctantly out of the clinging ooze, then began driving upward. Larry kept his eyes on the screens, never relaxing his vigilance until minutes later when the searchlights revealed small fish swimming about fearlessly.

Larry checked on the outer weakened wall. With the sea-bottom pressure reduced, there was no longer a strain on it. Only now could Larry breathe freely with the belief that he was safe and would see the light of day again.

"You're a smart boy, Larry—a smart one!"

Larry had been so occupied, he had nearly forgotten Dr. Hagen. It was he who had spoken. The scientist sat up straight, smiled feebly, and rubbed his head. He seemed to be all right.


"We've set a new record, Larry," Dr. Hagen said. "Are you thrilled?"

"I'm thrilled to be alive," Larry answered.

"I'll bet they'll be surprised when they see us breaking the surface all in one piece later on," the scientist added with a relieved grin.

Larry grinned back. "After what we've been through, Dr. Hagen, I'll be pretty surprised myself!"

## *Lunar Trap*



YOUNG ROB ALLISON stared with fascination through the polarized windows of the moon ship, *Zeitlin I!*

Although it was streaking with unbelievable speed through the eternal night of outer space, it seemed to Rob that the ship was standing still. For the blinding sun, with its richly colored corona of red, leaping flames and the millions of stars dusted against the velvet-black background, seemed to be unmoving.

From the corner of the window, a giant, half-lighted sphere could be seen, hanging silent and awe-inspiring in the heavens. A globe, wrinkled and rugged—a tired, dead world where no sound had been heard for the countless ages of its mysterious existence. The moon.

An expectant thrill coursed through Rob's body. Soon he'd be walking that alien ground, a daring

visitor in a wonderland of volcanic craters two hundred and forty thousand miles from his home.

"Rob!"

A sharp, authoritative voice had cut into his thoughts. It was a voice that brought an involuntary tug of fear from the young spaceman, even though it was his own brother who had spoken.

"No one stays idle on this ship, Rob," Grant Allison rapped with the forcefulness of one in command. "There are any number of jobs you could be doing. Checking the air-pressure gauges, replacing some of these charts. . . ."

Rob looked at his elder brother, seated across the navigation room at a broad desk, and slumped over a stack of moon maps. He saw a tall, lean young man, whose face bore the stamp of intense purpose and love of his work and also the military bearing of one who insists on such qualities in those under him.

Grant examined his wrist watch. "It's 1605, Rob. You're five minutes late with the rations. I told you to watch that." He was frowning, and the muscles of his stubborn jaw were bunched.

"Sorry," Rob murmured, rising from the window seat. As he was starting aft to the mess storage compartment, a warning buzz sounded in the pilot's roost in the next room ahead.

Rob glanced with alarm at his brother. Grant jerked instinctively to his feet, his eyes narrowed in swift thought. He raced forward and flung open the door of the roost in the nose of the *Zeitlin I*.

The pilot and copilot were intent on the large



screen above and in front of them where a tangle of wiggling lines were chasing one another across the background.

"What's the reading?" Grant demanded crisply.

Over his shoulder Rob saw the two men spin in their seats, looks of apprehension on their faces. The corskrews on the screen were so many meaningless hieroglyphics to Rob, but he did know that the trouble at hand was an approaching meteor!

"Speed—thirty-two miles per second," Shreiber, the pilot, reported as he studied the lines on the screen closely. "Size—about that of an orange. Direction—coincident with our own. Afraid we'll have to use our side rockets, Skipper."

"Use them then," Grant snapped, "but be certain you don't bungle it! Remember what's at stake on this ship!"

Rob breathed thankfulness for the new instrument of science. Without the meteor detector, contact with the lightning-swift body, tiny though it was, might have meant disaster for the moon expedition. For, racing at such an incredible speed, the meteor could pierce the tough aluminum-beryllium shell of the *Zeitlin I* like a rifle bullet through balsa.

Shreiber kept his eyes glued to the screen, his hand poised with a slight tremor on one of the numerous knobbed levers at his left. When certain that two of the wriggling lines coincided, he yanked the lever. A muffled roar was heard somewhere along the right side of the ship, as all four of them felt it swerve a bit to one side.

The screen went blank, and with a sigh of relief Shreiber pulled another lever. A roar was heard again, this time on the other side of the moon ship. The former silence of the *Zeitlin's* smooth run again prevailed, for the craft was moving on "free ascent" now, its power rockets not in operation.

The pilot turned his perspiring, weakly grinning face to Grant Allison. "We've sideswiped it, Skipper."

The commander permitted the trace of a smile at the corners of his usually unsmiling features. "Good boy," he commended, slapping Shreiber on the shoulder and then slamming shut the door as he went out.

Rob felt that he could breathe regularly once more—for a while, at least. This was only one of the perils of their pioneer journey, he realized. Ever since boarding the space vessel, he'd been wondering if the first research expedition to Luna would be a success. Countless ships and men had already been lost before *Zeitlin* became the first man to set foot on lunar surface ten years ago. Would the Allison party be added to the list of space martyrs?

"I'll distribute the rations," Rob said, as Grant returned to his desk.

Rob left the room, wondering at his continual avoidance of his brother's first name, just as though he were a stranger. Yet, in a sense, he was. He and Grant never had been close. The difference in their ages was part of it, and also the two of them had not been brought up together. Home life was not what it used to be in this ultramodern, fast-paced

era of 1999. But the chief reason for Grant's coolness, Rob knew, was the manner by which he had gained passage on the *Zeitlin I*.

It seemed that Grant had been going off to school ever since Rob could remember. It was not wonder, therefore, that he should finish with nearly every degree given in college and be chosen to supervise the first chartered exploration of the space-travel age. There was no question of his worthiness of the coveted honor when he was graduated with highest merit in the first class of the new Academy of Space Navigation.

Yet Grant's first love was geology, and the interesting surface of the moon offered a geologist's paradise. True, there was the undeniable quality of leadership in his makeup, but he was first and foremost a scientist, just as his father had been. This rare combination of talents had thus assured him leadership of the *Zeitlin I*.

Rob moved down the narrow corridor with the ease of a city-street pedestrian, the only sound being the peculiar clicking noise of his light metallic shoe soles against the gun-metal blue of the flooring. The troublesome problem of lack of gravity in space had only recently been solved. A sort of magnetic device had been perfected that enabled the shoes of the space traveler to adhere to the floor as he moved about.

Unlocking the door of the ration compartment, Rob began removing the small, square boxes. Each held a complete meal, containing the necessary vitamins and bulk for proper nutrition.

He circulated about the craft, distributing the food to each member of the expedition. Most of the scientists were gathered in the lounge, talking and laughing together as though this were nothing more than a pleasure cruise. Their plans for work on Earth's satellite had patiently been plotted long before, and there was nothing more to be done until the landing. This hundred-hour journey, in fact, was the first real rest many of them had had in months or even years.

Dr. Phipps, one of the physicians, always smiled when the rations came around. He had a big paunch, evidence of his love of eating, and a jolly disposition to match.

"Ah, here's Rob again," he greeted the younger Allison. "You're my favorite, Rob. This stuff isn't like home-cooked food, but you have to admit they sure do pack a lot of goodness into these little packages."

Rob next visited the pilot and his assistant, and then Grant. He purposely held out two of the boxes for last. Heading back toward the lounge again, he turned into a small room adjoining it.

A husky young man with tousled sandy hair rubbed his hands together in anticipation and greeted Rob with a welcoming grin as he entered. Then he looked at his watch in mock seriousness and said. "My watch and stomach say you're ten minutes late, Rob."

Rob sighed without humor and handed him one of the boxes. "Not you, too, Jim."

Jim Hawley's face sobered, one of the rare times it ever did so. "Grant riding you again, Rob?"

Rob nodded, seating himself on a long bench with Jim and opening up his own compressed-food package. "Guess I'll be in for it the whole length of the trip," he said.

Shaking his head sympathetically, Jim selected a sandwich not much larger than a pillbox and began munching on it. "I think you did the wrong thing in going over Grant's head to get permission to come along, Rob. You should have worked on Grant himself."

"He wouldn't have let me come if he'd had anything to say about it," Rob objected. "Dr. Griffin was such a close friend of Dad's at the university, while he was alive, that I guess he felt he couldn't refuse getting me a berth on the *Zeitlin I*."

"I don't think that was the reason entirely, Rob. I believe Dr. Griffin simply realized you wanted to follow your dad's career as a scientist, that's all."

"Well, he's right there, Jim," Rob said earnestly. "I didn't ask to come along just for the thrills. I really thought I'd learn something—something that would be useful to me in selecting a career. But it seems as if Grant just can't see my side of it."

Jim chuckled him light on the chin. "Don't worry about your big brother Grant. His bark is worse than his bite, as they used to say. Grant's all right, really. You'll prove yourself to him."

They finished the meal in silence. Then, as Rob was depositing the remains in the wall waste re-



ceptacle, he noticed the giant model of the moon against the far wall.

"That's what I came to see you about, Jim," he said, walking over to it. "I want you to show me where we're going to land on this shriveled old globe."

Jim smiled and switched on a spotlight located on the opposite wall from the model. The light flooded the relief surface in a realistic manner.

"This light hits it like the sun does," Jim explained. He turned the globe on its axis until he had it in a certain position. "That's the way it looks to us in first quarter and will approximately be when we land."

With his finger he touched one of the large sea areas. "This lunar plain, shaped like a mushroom, is called the Sea of Serenity, and we sure hope it is serene when we land there. Of course, you know it isn't really a sea because there aren't any bodies of water on the moon. The building that the engineers spent so much time and trouble putting up for us—and incidentally the only building on Luna—is located here. It'll be our headquarters while we're there." He indicated a spot a little way off the center of the plain.

"Why did they choose a spot in direct sunlight?" Rob asked. "I understand it gets hotter than boiling water."

"Well, believe it or not, that's the sort of temperature we're going to have to put up with for the week we're there," Jim said with a grin. "But remember, it also gets cold there, Rob. As low



as two hundred seventy degrees below zero centigrade, at times. In fact, Luna's lowest temperature is far worse than its highest. For that reason our moon suits are built to resist heat but not intense cold. If we don't leave Luna before the sun sets, we're all goners!"

"That will give us an extra week leeway," Rob observed, "since the lunar day is two weeks long."

"That's right, followed by two weeks of night. Imagine being caught there after dark! It would make sleeping in the Antarctic in your bare skin seem like a hot summer evening by comparison. Brrr!"

"How far are we from Luna now?" Rob asked.

"Only Grant or the pilots can give you the exact figures, but I'd estimate we're more than three fourths of the way there. We're approaching the spot where the gravitational pull of Earth and Luna equalize one another. At that point, if it weren't for our special shoes, we'd float around in here like graceful birds—even Dr. Phipps. Haven't you noticed we've been slowing down all the time?"

"Slowing!" Rob gasped. "I should think we'd be speeding up."

Jim chuckled. "Judging by travel on Earth, we're certainly not snailing along, but we're still losing speed after our blast-off of seven miles a second, which is over twenty-five thousand miles an hour. Brother, that's traveling!"

"You don't have to tell me!" Rob complained. "I still think I left my stomach back on Earth when we took off!"

"Well, we had to go that fast in order to escape the Earth's pull of gravity," Jim went on. "It's the gravity pull that's slowing us down now, but before it stops us completely, we will have transferred into the moon's gravitational field, and we'll start 'free-falling' to it."

"Our rockets aren't used very much, are they?"

"Only about ten minutes or so out of the whole ninety-eight hours it takes to reach Luna. The rest is the work of 'spatial gravity' that doesn't cost us a penny. That's a fortunate break because this expedition is costly enough as it is."

Eight hours had elapsed. Each occupant of the *Zeitlin I* was strapped securely in his seat, quietly suffering the mental and physical pangs of deceleration. Only two hundred miles from the lunar surface now, they were plummeting moonward at the rate of five thousand miles an hour.

But only the pilot and his assistant were able to see the ragged world below slowly growing in size, the towering rocky peaks extending upward toward the moon ship like clutching fingers seeking to drag down the Earth craft into the scorching-hot, dead wilderness. Black-shadowed craters yawned like gaping monster mouths, while broad gray plains, in their calm flatness, seemed to offer the only pleasing relief on the sinister landscape.

The forward atomic rockets of the *Zeitlin I* were blasting away at full strength, pouring swathes of red and blue fire against the defiant rocky crust, fighting furiously to counteract the stubborn pull of its gravity. It was a battle of power: the giant

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moon seeking to smash the intruders from out of space against its unshakable shell, the fragile Earth craft struggling equally hard to repulse the grip of that gravitational field and land in safety.

The space ship dropped lower, now over the vast mushroom-shaped Sea of Serenity, still firing away with all its might.

The deceleration operation was entirely automatic. For the pilot and copilot were helpless, too, in the painful throes of swiftly diminishing speed. No roller coasters of their youth had been as breath-taking as this! Through bleary, dazed eyes they watched the altimeter and speedometer, praying fervently that they would cancel out together by the time the ship met the ground.

They knew only too well what would be the *Zeitlin's* fate if the instruments did not reach zero together. Crushing, flaming disaster. And the moon expedition would be only widely scattered atoms on the bleak face of Luna!

A thousand miles an hour—a hundred miles to go. Five hundred an hour—forty go to. A hundred an hour—twenty to go. . . .

Gradually the dazed passengers in the moon ship woke from their stupor as the craft began slowing to speeds they were more accustomed to. Finally they were able to throw off altogether the straps that bound them and struggle over on rubbery legs to the windows.

Rob crowded over with the others, his first experience in rocket deceleration leaving him giddily limp and a bit sick. But his curiosity, like that of

his spacemates, was over-powering, greater by far than the complaints of the flesh. As he looked out, he saw through swimming eyes a scorched, barren desert rushing up to meet them.

This was the greatest test of all—the final hang-his spacemates, was overpowering, greater by far. In the last few miles would the flaming forward rockets save the fragile space shell from being dashed to nothingness on this lonely outpost of space?

The answer was not long in coming. There was a coughing, sputtering sigh from the high-powered rocket motors, and they died out in silence, having completed their assigned task. A gentle bump followed, and then there was stillness for the first time in ninety-eight long hours. It was a stillness unfamiliar and strange after so long a period of incredible motion. But it meant that the *Zeitlin I* had landed safely on Luna.

Shortly, the grounded ship was bustling with activity as the occupants began struggling into their moon suits. So heavy and bulky were they, everyone required assistance from a companion. The artificial-gravity plant had been cut off, for the eight-hundred-pound suits could not even be lifted, otherwise.

Rob Allison was secretly amused at the perspiring struggles of the men, but Jim Hawley made no effort to conceal his merriment. He laughed uncontrollably as portly Dr. Phipps tried unsuccessfully to don his oversize armor, his face beet red from his exertions, his feet and body bouncing awkward-

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ly about in the light gravity of the moon. Jim's laughter was contagious, and presently the others entered into the spirit of the thing. Finally Dr. Phipps joined in, and Rob even caught his serious-minded brother Grant smiling.

"I hope we never have to get into these things in a hurry," the doctor remarked, when the terrific struggle for him was over, and only his helmet remained to be fastened on.

The party that trooped out through the air lock onto the soil of Luna looked as though it were made up of characters out of some fantastic nightmare. If there were any dwellers on the moon, they surely must have been frightened into harmlessness by the huge, strangely garbed creatures from the planet Earth. Lunar gravity being one sixth that of its big sister in space, the men's heavy clothing and weighted shoes were carried about on their bodies as lightly as an ordinary suit of clothes.

Jim Hawley had been assigned the job of operating the air compressor and electrical generator in the headquarters building, that somehow had acquired the unofficial name of "the Capitol." As soon as all were out of the craft, Grant Allison turned to Jim, his voice sounding queerly metallic through the radio receivers built into the helmets all the members of the party wore.

"While you're putting the engines into operation, Hawley, the rest of us will do some exploring in the neighborhood," he declared.



Rob asked to go along with Jim. Grant nodded and started off with the other men.

"Well, Rob, take a look around," Jim said, his voice rattling oddly over the helmet radio just as Grant's had done. "Ever see anything like this on Earth?"

Rob scanned his surroundings with fascination and decided he hadn't. In the direction opposite the sun, there rose a chain of mountains, formidable and lofty almost beyond imagination. Jim told him they were called the Haemus Mountains. In the opposite direction there stretched, seemingly endlessly, the rest of the vast flat plain on which they had landed—the Sea of Serenity. Here and there rose low, isolated ridges and intermittent craters. It was a weird, spectral sight, and Rob could not repulse the shivers of awe that raced up and down his backbone.

"We'll get our chance to explore later," Jim remarked. "We've got a job to do now."

"Is it above the boiling point of water around us now?" Rob asked.

"More than likely."

"You'd never know it from the comfort of these suits. It feels like nothing more than a warm day, doesn't it?"

"That's right. Rack up another triumph for science on that. They really did a masterful job when they invented these suits."

Jim led him toward the forlorn-looking two-story building that was to be their home during their stay. The Capitol. The only sanctuary for the



earthmen on the whole surface of the moon. Lonely and unprotected it may have looked, yet the solid-concrete outer shell gave indication of its ruggedness and determination to exist for a long time in this solemn, soundless world.

Rob found walking very soft underfoot. Looking down, he saw his heavy shoes half-buried in a gray, floury-like powder. Jim noticed his amazement. "It's pumice," he said, "from the moon's volcanoes. There's quite a bit of it here."

The sun shone directly into their faces, but their darkly tinted facepieces cut down its tremendous glare. It was curious to observe the fiery king of the solar system glowing so brilliantly against the black sky and at the same time see the heavens bejeweled with countless more stars than are ever visible to the naked eye on Earth. Rob knew that the lack of atmosphere on Luna was the reason for this phenomenon. He watched also with interest the oval, hazy glow that encircled the sun—the zodiacal light, caused by the big star's illumination of countless small particles of matter that revolved about it.

Reaching the Capitol, Jim threw his seven-foot-tall armored body against the heavy outer door, pressing the latch on it at the same time. "No lock on this door," Jim grunted with his effort. "There's nobody to break in here—we hope." The door swung open ponderously, and Rob saw that it was about a foot in thickness.

"Here we have a perfect air lock, just like the one on the *Zeitlin*," Jim declared, indicating an-

other heavy door in front of them. "We sure owe a lot to those plucky engineers who built this!"

He pressed a button on the wall, and the second door admitted them into the building proper. They were in a narrow corridor that extended away from them in both directions.

Jim kicked the white-painted wall with his heavy shoe. "As solid as they make them anywhere," his voice came over Rob's receiver. "There's a layer of cast iron and insulating material inside. It protects against most meteors—unless they're too big—and shuts out the intense cold and heat."

Rob frowned. "I didn't hear a sound when you struck the wall."

"Of course you didn't." Rob saw him smile through the facepiece. "Like outdoors, you won't hear any sounds in here until we get an atmosphere. The air compressor is in the basement. Let's go."

They moved down the narrow, bare corridor, and, descending a spiral staircase, they found themselves in the basement. Jim first switched on the big electrical generator. Rob found it odd watching those rotating wheels and gears, yet hearing no sound. Jim had to turn several switches to set the huge ventilating and air-compressor system in operation. As the machines worked, the two earth inhabitants stood across the room, studying them silently. Slowly, as the room began filling with fresh, breathable air, the sound of the motors began to be heard. Jim kept his eye on a big gauge.

"When that needle points to normal we can take off our suits," he said. "The air flows through

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those vents in the ceiling and circulates throughout the building. It's already cooled so that it'll be the correct temperature."

Rob noticed a complicated apparatus that seemed separate from both the generator and compressor. "What's this?" he asked.

"It's the artificial-gravity dynamo like we have on the *Zeitlin*. It'll keep us from jerking around crazylike in this light moon gravity. I promise not to turn it on until we're out of our suits, though," he added with a laugh.

Gradually the drone of the machines grew louder as the pressure gauge neared normal. Finally the needle pointed straight up, and they began the troublesome task of discarding their armor. They went to a closet to "undress," for the heavy suits could not be moved once they were taken off. Jim helped Rob remove his first, and then Rob turned about.

Rob began to feel foolish in the light gravity. He seemed weightless as a snowflake and banged against the machinery guards, not knowing his own strength.

"I'd better turn on the earth gravity before you kill yourself," Jim said, chuckling.

He seemed to float over to the machine, and Rob grinned at his odd movements. As soon as the switch was thrown, though, almost magically their actions were normal again.

"We'd better get upstairs," Jim said. "The others will be coming back."

"I'm anxious to see just what they've got in this

building," Rob remarked as they ascended the spiral staircase to the first floor.

"There's just about what you'd expect in an outpost like this," Jim replied. "Of course, you know what's in the basement. The main floor contains the sleeping quarters so that the people asleep won't be worrying all night about meteorites falling on them, which would be the case if they were on the top floor. You see, if one such giant meteorite should penetrate the roof during sleeping hours, the top floor would serve as a buffer to protect the second floor to some extent."

"I should think the sleepers would feel even more safe if they were in the basement," Rob suggested humorously. Then seriously he added, "Meteorites must really be a problem on Luna without an atmosphere to check their speed."

"You don't know how much of a problem!" Jim retorted gravely. "Millions of them strike Earth every day, as you know, but the majority of them are burned up before hitting the ground. But here—" He shrugged.

"What's on the top floor?" Rob asked.

"The large study room where most of the planning and study are done. Also the food storage compartment is up there. We're living on the same rations we had on the moon ship, remember. There was no call to bring a cook along just so that we could have the convenience of home!"

No sooner had the two of them reached the corridor than the heavy outer door swung open to admit Grant Allison at the head of the exploring

party. Like a grotesque giant, he loomed in the doorway of the air lock. Then, as he stepped over the threshold, he instantly collapsed in his tracks.

"What are you trying to do, Hawley!" Grant burst out from the floor where he lay completely flat. "Kill us all?"

Jim blushed scarlet. "I'm sorry, Skipper. I forgot about those heavy suits."

Jim dashed along the corridor and down the spiral staircase to the basement, followed by Rob, who definitely did not care to remain with his brother under these circumstances.

"It's all my fault," Rob said on the way. "I was distracting you with so many questions."

"Forget it," Jim replied pleasantly. "You know how easily riled your brother is."

Jim flew to the gravity machine and cut it off. Rob felt himself suddenly go almost weightless, and he caught his breath as though he had just stepped into a cold shower. Jim took a seat, the blush of his thoughtlessness still not having disappeared from his face.

"Grant will be on the both of us now," he remarked, looking sheepish. "If you ever want to make a man helpless, Rob, just pull that on him!"

Jim gave the party upstairs fifteen minutes to change. Then he said to Rob, "Wait here. I'll see if they're out of their suits yet." Cautiously he made his way up the steps in the precarious one-sixth gravity so that he wouldn't hurl himself against something and injure himself.

When Jim was gone about five minutes, Rob



rose impatiently to his feet, figuring that Jim must be helping one of the men with his suit. He floated, rather than walked, over to the complicated ventilating apparatus to examine it while he waited. Presently he spotted something of unusual interest on the other side of the machine, but in his enthusiasm he momentarily forgot his caution.

His foot dragged against a piece of rubber tubing, he heard a hissing noise, and with horror he looked down to see the tubing half-torn from its connection. The needle on the gauge wavered and began to slide back from normal!

Rob stood there helpless and benumbed for a moment, just as though he had lost his power to think. Then, somehow, he gathered his wits together and flung himself toward the stairs. In his haste he crashed against the walls, skinning his arm and bruising his leg.

He looked up and saw Jim coming down the steps in that weird, slow-motion manner of maneuvering in weak gravity. His face was gravely set, and there was unmistakable fear in his eyes.

"What's wrong?" Jim gasped, reaching the basement level and, without waiting for Rob to answer, running over to the air compressor.

"The tube—the one near the floor!" Rob called weakly. "I kicked it loose!"

Rob sank to the floor, suddenly smitten with an over-powering wave of giddiness. His head ached as though it were being crushed in a vise, and fantastic images were beginning to roll and sway before his gaze.



## *Lunar Trap*

Through his brain there raced fearful thoughts of the effect of rapid decompression on the human body. He had heard of divers with the "bends" and knew only too well that this would be the fate of everyone in the building if the air pressure wasn't restored in time.

Rob gasped for breath, and through dimming eyes saw Jim crouched on the floor beside the machine. What if Jim were stricken just like he was and couldn't get the tube repaired. Painfully, as though in a horrible nightmare, he dragged himself over to where Jim knelt to see if he could help. Yet he knew even then that he'd be of no help to him, for he wasn't sure any longer just where his imagination left off and reality began.

In his final consciousness there lingered a tortured feeling of anguish over his stupid, thoughtless blunder and what Grant would think of him. Finally, all images were erased from his mind as effectively as if a black curtain had been drawn down over everything.

And Rob Allison knew no more. . . .

Rob slowly swam into consciousness and saw the anxious face of Dr. Phipps just above him. Taking a sip of water, his mind began clearing.

"Feeling better?" the doctor asked.

Rob nodded.

"You were the last one to pull out of it," Dr. Phipps told him. "The rest of us are all right."

Glancing around, Rob saw that all the members of the expedition were gathered about him and on

the stairs, favoring him with looks of relief, now that he was conscious.

Only one of those looks was stern. Rob's eyes fastened on his brother's face, on the hard, bunched jaw muscles that always indicated displeasure.

"Don't worry about him," Dr. Phipps said encouragingly to Rob. "Your brother looked awfully worried until he found out you were going to be all right."

Because of their limited one-week stay, Grant Allison lost no time in getting right to work. In the study room he briefed the members of the expedition on the facts of their approaching journey.

"We'll be leaving for Pollidor," he announced, "just as soon as our limited equipment is assembled. I say limited because a grueling two-mile hike faces us, and we have room for only absolute necessities."

Rob had learned about Pollidor during the space ride on the *Zeitlin I*. Its exploration was the main objective of the expedition. For just as the crater Linné had fascinated moon observers many decades ago through its periodic changes, so had little Pollidor intrigued later scientists, who had better telescopes with which to study the smaller of the two craters.

Yet there was an important difference between the two. While Linné erupted regularly every two weeks in the middle of the lonely lunar night, Pollidor's geyser operated in the brilliance of noonday.

Rob would have given anything to accompany

## *Lunar Trap*

the scientists on their trek to the crater, but he had been assigned to radio duty at the Capitol with the radio engineer, Drayson. It was to be their job to keep in constant touch with the exploring party, seeing that everything was going all right with them. Rob had an idea his enforced stay at the Capitol was to be in the nature of a punishment, but he did not complain.

Shortly later, through the broad, thick quartz window of the radio room on the top floor of the Capitol, Rob watched the exploring party—some twenty-odd men—move out in a tight little bunch away from the building.

Drayson was Rob's only company now. As the two of them watched the scientists, Drayson was seized with a fit of coughing. The thin, blond fellow had acquired a respiratory disorder since leaving Earth, owing to the unnatural air combination he was forced to breathe. Yet he had insisted he felt all right.

Rob looked wistfully at the slowly diminishing figures on the lunar plain. "I sure would have liked to go along with them."

Drayson looked at the youth intently. "You're really interested in this business, aren't you, Rob?"

"Yes, I am," Rob answered earnestly. "I'll be a spaceman if it kills me."

"Or if the skipper kills you," Drayson retorted. "The way he rides you, I don't see how you've stood it this long."

As the explorers disappeared below a slope near the horizon, an oppressively lonely feeling welled up

in Rob. It seemed as though he and Drayson were the only human beings left on the whole bleak landscape of Luna. It was frightening.

Drayson seemed to feel the same way. He stirred and went over to the radio set. "I think we'd better tune them in and see if the reception's okay."

He sat down before the receiver and, with practiced hands, spun various Bakelite knobs. "Hello, can you hear me?" he spoke into the microphone.

There was no reply, and the radioman repeated the words. Still no reply. He repeated once more and got the same negative response. Turning to Rob with a worried frown, his hands nervously fingering the microphone, he murmured, "They don't answer, Rob. I don't know what's wrong."

Rob felt his flesh crawling. "Is there something wrong with their equipment, or ours?"

"It must be Jim Hawley's," Drayson said. "He's the one carrying the broadcast set."

The radio engineer went into another fit of coughing, and Rob took over the radio. He made more efforts to reach the exploring party but was unsuccessful. Rob felt the pressure of conflict moving in on him and realized he had responsibility for the first time since their arrival. What if Drayson got worse, or Grant and the others met with disaster after they had disappeared over the slope?

All at once Rob was shaken out of his reflections by an extraordinary sight that took place outside the window, together with a simultaneous clatter on the roof of the Capitol. The phenomena were ter-

rifying in their completely unheralded swiftness. The landscape was blotted out by a solid curtain of dust, and the roof continued to be pelted noisily, as though from hailstones.

Rob had jerked erect instinctively at the first sound overhead. He shot a look of amazed terror at Drayson, who had been shocked out of his coughing fit. "What is that?"

Drayson wet his lips. "Meteor shower, I'm afraid."

A thundering crash echoed and re-echoed throughout the building. For the instant it sounded, even the fury on the roof was drowned out.

"That came from the direction of the food storage room!" Rob said hoarsely.

Drayson fell to coughing again. Rob darted across the room toward the door and hurried down the hall toward the food supply room, his brain buzzing with the din of meteoric hail overhead, his mind already seeing dire consequences if what they feared should be true.

Reaching the door of the room, he unfastened the latch and flung the door open. The destruction he saw was even beyond what he had imagined. He did not know whether the sudden giddiness that swept over him was from the shock of his discovery or from the rapid decompression of the nearly completely destroyed food storage room.

Swiftly he slammed shut the airtight door and gasped for breath. When his breathing returned to normal, he went back to the radio room. The noise



had stopped. Evidently the meteor shower was over. He was thankful for that much.

"It's awful," Rob told Drayson. "It must have been an unusually large meteorite that struck the room. Just think what would have happened if it had hit the building right in the middle?"

He shuddered and sank down in the chair before the radio set to collect his rattled nerves.

"Did you see how much of the food stores were destroyed?" Drayson asked.

"Almost all of them, it looked to me," Rob said bitterly, shaking his head. "I can't say I like the prospect of starving to death on Luna."

"It'll sure interrupt Grant's plans," he went on. "We'll probably have to return to Earth without anything having been accomplished." He switched on the transmitter and receiver. "We've just got to reach the men now!"

The two of them saw that the landscape was becoming visible again as the cloud of pumice that had choked the airless sky slowly dissipated.

Rob was unprepared for the pleasant surprise that drifted over the speaker: "Hello, hello. Anybody home at the White House?"

It was Jim Hawley, and Rob could not remember when a human voice had sounded sweeter to his ears.

Jim explained the failure of their apparatus. "There's evidently some mineral in the area over which we just passed that interfered with our radio waves. It'll take research later to find out exactly what it is. How are things at the Capitol?"



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Rob told of the meteorite shower, and Jim was amazed. "It must have been localized, Rob, because we didn't get any of it. Occasionally in the distance we've seen little whirls of dust, probably from lone meteorites that have struck."

When Rob told of the catastrophe to the food supply room, Jim quickly abandoned the receiver to explain the serious matter to Grant. Then Jim was back again.

"That really floored the skipper, Rob. You never saw anybody so mad. I can't blame him. He's going ahead with his plans to view the eruption of Pollidor, though, in spite of it."

Drayson would not permit Rob to report on his condition for fear it would further complicate the already unlucky exploration.

Jim signed off, but Rob hung on expectantly, waiting tensely for more reports of progress from the party. A little later—much too long a time, it seemed to Rob—Jim spoke again with the news Rob was waiting to hear.

"We've reached Pollidor, Rob. It's a crater I estimate to be about a mile wide. The rim can't be more than twenty feet above the level of the plain—a little fellow. There's a narrow defile cutting through the rim which we've known about all along. We're going to reach the middle of the crater by going through this defile. We've got about half an hour before Old Faithful is due to spout."

Suddenly an instrument located at the right of the radio set glowed with a warning red light.

"Jim!" Rob said frightenedly. "The seismograph

is showing some disturbance, and it's in your direction."

Jim's chuckle dispelled Rob's fear. "Nothing to worry about, Rob. The engineers noticed the same thing when they were building the Capitol. Every time Pollidor's geyser is due to erupt, there seems to be a tremor. It hasn't proved to be of earthquake proportions so far, but you'd better let us know if it gets any worse."

Jim described their laborious passage up and over the rocky stile of Pollidor's rim. Their progress was necessarily slow, for the rugged moon crags over which they had to pick their way were treacherous, and a slip might have meant tragedy for one or all of the party. Once they had clambered down to the sunken floor of the crater, the group had an easier time of it, for their path here on in to the geyser would be on comparatively level ground.

Rob, had he been listening to all this, would have been deeply fascinated, but much of his attention had been concentrated on the forebodings of the seismograph. Apprehensively he watched the pen zigzag with greater irregularity than ever before, and he passed the unhappy news on to Jim, giving him the exact reading. Jim, in turn, promptly consulted Grant.

"Grant is plenty worried," Jim's voice came soberly over the receiver. "In fact, I'm afraid we all are. He says there's never been that much activity. It looks as if an earthquake—or rather, a moonquake—is in the offing!"

## *Lunar Trap*

Rob's blood chilled, and in his fear for the party, the next few words were completely lost to him.

"Grant is still persistent," Jim said, and there was an emotional catch in his voice. "He says we're going on—that nothing will keep us from seeing and studying the geyser. Talk about nerve, Rob, that brother of yours really has it!"

By the time the party had approached as near the core of the geyser as they dared, Jim reported that already they were feeling the ground vibrating beneath their feet. The geyser was due to burst forth in several more minutes, so all they could do now was wait.

Those minutes of taut waiting seemed to drag into ages, as Rob listened. Even the quiet hush of the radio room was in mood with the tenseness of its two occupants.

Then finally it came. The eruption of Pollidor on its scheduled moment!

Jim's voice, charged with dramatic emotion, described the awesome spectacle: "A fountain of spray has just burst out of the ground like a shot out of a cannon! You should have seen it! It was so sudden, everybody instinctively ducked for cover! But we're safe enough here. The geyser must be about two hundred feet high. Grant says it'll continue to spout like this for about another minute yet."

Suddenly, quite unexpectedly, Jim's voice rose to a despairing pitch and rattled over the receiver, "Good heavens, Rob, it looks like the soil around us is breaking up!"

Fear tore like a lance through Rob's body. The dreaded quake! Desperate in his helplessness, he gripped the microphone in a clutch of steel, until his knuckles whitened. Drayson hung over his shoulder, his own lips blue and his face chalky white.

"Jim!" Rob shouted. But only long, agonizing moments of silence followed. Rob tried Jim again and again.

Wild, disconnected shouts and phrases then began pouring through the receiver—involuntary cries of fear that were issuing from the space helmets of the trapped men. Rob, stunned, could picture the awful rending and grinding of upthrust lunar soil and the scientists clawing their way frenziedly toward escape and survival in a nightmare of soundless horror!

"What's happening to them?" Rob cried.

Finally the cries of the men were no longer heard. In their place there were meaningless scraping sounds as of metal and space suit plasti-leather across rock. The silence of the disaster was devastating to the helpless listeners in the Capitol.

"If we could only hear what's going on!" Drayson muttered fiercely. "This silent, disgusting world!"

"They can't hear it, either," Rob reminded grimly. "They can only see and feel."

All at once, a murmuring voice drifted through the dense fog of confusion. It was unintelligible at first, for it was low-pitched and speaking rapidly.

Then, in full agonizing clarity, it suddenly burst over the receiver with such tragic significance and

terror that it left Rob and Drayson momentarily shocked into speechlessness:

“. . . trapped! . . . the defile . . . sealed shut! . . . We'll never leave Pollidor ALIVE!"

Trapped within Pollidor!

Seconds after the dreadful pronouncement that had blared over the receiver, in thunderstruck silence Rob and Drayson watched the speaker over which only a dismal hum could be heard now.

"There's only one thing to do," Rob whispered, when his brain was able to function once more.

The radio engineer looked at him questioningly.

"Go to the crater and see what can be done for them," Rob finished as he sought to keep the hopelessness he felt out of his voice.

Drayson shrugged defeatedly. "What could we possibly hope to—?"

"Not you," Rob broke in. "Someone has to stay here to try to establish contact again. You won't be able to use a moon suit because of that cough of yours, so it looks as if I'm the one elected to go."

Drayson studied his serious gray eyes and the stubborn, resourceful jaw that was just like that of his brother. "I know I should try to talk you out of such an insane idea, Rob, but I know it won't do any good."

By the time Rob was dressed to go, having been assisted by Drayson, there still was no word from the lost explorers. Rob had hunted up some sticks of dynamite and a pick for digging. Thus armed, he bade his friend a grim farewell and moved out through the air lock of the Capitol.



Under different circumstances Rob would have marveled at the experience he was going through. All during the voyage on the *Zeitlin I* he had visualized walking these ashy, airless deserts, and he had thought it would be the greatest adventure of his lifetime. But now the region was to him a treacherous wilderness that must be combatted and overcome.

He approached the giant space ship that rested in its launching cradle, a wave of homesickness coming over him as he scanned her towering prominences from bow to stern. He wished that all of the party might be at this moment safely aboard and ready for the blast-off that would start them back to their beloved homeland on Earth.

Then suddenly he spotted something that caused his heart to take a fresh plunge into despair. A meteorite, probably one during the shower, had ripped through the exhaust-rocket assembly, leaving a gaping hole. Rob examined it despondently, doubting seriously if there were available tools to repair the damage.

He turned from the ship with sickening dread and headed toward Pollidor again, more convinced now than ever before that the name of the Allison expedition would be added to the bronze tablet of space martyrs. Man, in his puny efforts, once more appeared destined to fail.

Sometime later, the Capitol had sunk from sight beneath the brow of a hill, and the crater, Pollidor, rose to view up ahead. Rob felt a slight tug of

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optimism as he saw it. The crater seemed generally intact, indicating that the moonquake had not been quite so extensive as he had feared.

Rob plodded closer, his mind holding desperately to hope, his body beginning to tire from the long march under unfamiliar conditions of travel. He wished he might radio to Drayson to see if he had gotten any word from the missing party, but there had been no other long-distance broadcast unit that Rob could bring along. He'd be able to communicate with the members of the expedition—providing they were still alive—if he got within close enough range to use his helmet radio.

The pick, together with the canvas bag that held the dynamite, were mighty heavy objects by the time Rob reached the crater's rim. He gratefully dropped them into the soft dust at his feet and pondered a course of action as his eyes swept the towering rock-bound ridge in front of him.

The deeply cut defile, that had been the pathway taken by the explorers, was sealed at the rim's summit, even as the last frantic message heard from the party had reported. It was just as though this were a punishment meted out to the earthmen for having attempted to seek out the long-hidden mysteries of this desolate world, Rob thought.

The defile was partially blocked by big boulders turned up by the quake, and Rob had no easy time of it struggling up through them in his eight-hundred-pound suit of clothes. He was hampered additionally by the extra bulkiness of his burdens. At

times he rested for breath and renewal of strength, and at such periods he spoke hopefully into the helmet radio, trying to get some response from the men on the other side.

He finally reached the blocked-up end of the defile, and as he sat down, there came to his ears a faint, clicking sound like metal against stone. His heart jumped in anticipation, and he hopefully, spoke into the helmet radio again:

"Hello—hello—can you hear me? Anyone . . ."

Suddenly his spine tingled and he could have cried for joy. An answer had come: "Rob—Rob—"

It was Jim Hawley. The two of them began talking like long-lost brothers. Jim quickly gave him the picture.

Although the quake had sealed them within the crater, none of the party had been injured. The broadcast set, however, had been broken in their struggles to reach a spot of safety, and that was why they had been unable to get word to the Capitol. The men were all gathered on the outer side of the rock wall trying to dig their way through, using the tools they had brought along for the exploration. But it was like working with a spoon as far as making any progress was concerned.

"I think I have the answer, Jim," Rob said. "I brought along dynamite."

It was decided that the sticks would be used one at a time, that as soon as enough of the barrier had been successfully blasted away, the party and

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Rob would open a way of escape with their picks—or so they hoped.

The first stick of dynamite was placed. Rob scrambled to the bottom of the ravine to safety, and a few moments later saw a cloud of rock and rubble flung soundlessly into the "air." Then the second was placed and fired. And the third. All fourteen sticks had to be used. The results were not quite what they had hoped for, but all agreed that after considerable pick work, a way of escape would eventually be opened.

As the digging progressed, Jim had time to explain the developments he hadn't been able to tell before.

"The quake was really a blessing in disguise in a way, Rob," he said. "The skipper says that the expedition would have been pretty much of a flop if we hadn't found what we did."

"What was it?" Rob asked anxiously.

"On the other hand, the geyser turned out to be just what it was expected to be—nothing more than a big gusher of steam."

"But what was it you found?" Rob urged impatiently.

"Hold your hat when you hear this, Rob. *Luna was once inhabited.*"

Rob felt his scalp prickle in awe.

"We have proof," Jim went on. "The moon-quake turned up a piece of stone carving. Dr. Foster's theory is that possibly an ancient city lies under the floor of this crater and that it was buried under tons and tons of lava flow countless years

ago. It'll be the greatest discovery of the age. Just about every archaeologist will be coming to Luna."

"If we ever get back to tell them," Rob said grimly. He then told Jim of the damage to the ship.

While the men were digesting this latest bit of misfortune, Rob sat down to rest his aching muscles. His eyes scanned the sky for relief from the dull grayness of rock he had been looking at for the past hour and a half. As he stared, he believed he would never get over the stark clearness and beauty of those immovable star-points against the jet-black sky. But all at once, one of those star-points was no longer unmoving! Or so it seemed.

He reported it to Jim. "It couldn't be a meteor," Rob argued, "because they don't light up on the moon like they do on earth."

"Don't be getting ideas, Rob," Jim warned, "like thinking it could be a space ship."

Rob decided he was probably right and went back to work. But he continued to look upward at intervals. Finally he saw it again, and as far as he was concerned, he was certain this time.

"It is a space ship, Jim! I know it! The jets are unmistakable."

"It couldn't possibly be, Rob!" Jim retorted. "You know we're the only expedition due to come here for the next three years." His voice had a squawking quality over Rob's helmet receiver.

"Just the same, I'm sure," Rob said persistently.

Grant spoke to Rob directly for the first time since his arrival. "Forget this idea of yours, Rob,"



he said in his clipped, authoritative accents. "You're letting your imagination carry you away. It's utterly impossible that a space craft is up there."

Rob had long believed that there's a time in everyone's life when he must stand up for his convictions in spite of all who oppose him. If it were only his own interests he was thinking of, it would be a different matter. But too many lives were involved.

"I'm sorry, Grant," Rob declared stubbornly. "I know what I saw, and what's more I'm going back to the ship and send up flares to attract its attention before it's too late. There's nothing to lose by doing it, and there's a chance—"

"We appreciate your heroism in coming to our aid," Grant said, "but I'm still leader of this expedition, Rob, and I won't have any rebellion and wild-goose chasing against orders. I admit the situation looks bad for us, but we'll get through somehow. Is that clear?"

Grant waited for an answer but got none. "Rob!" he cried fiercely.

But Rob had left.

A half hour had elapsed, and Rob could barely drag himself along. His tremendous exertions of the past few hours were telling on him. But he forced his tired legs on. He had to go on. There was too much at stake. Torturedly, he reviewed the grave facts that confronted the expedition: the damaged food supply could not last for long, the space ship was apparently wrecked beyond repair, and the

members were still trapped within the core of Polidor. Furthermore, if the sun should set while they were on Luna, the most frigid death that ever faced mankind would be theirs.

It seemed as though Rob had been trudging for countless miles. Miles of endless gray dust, hulking gray peaks, flat gray terrain.

At one time he thought he was going blind, for everything had lost its grayness and was becoming bathed in a brilliant white glow. He did not know he had merely turned directly into the sun, that hung like a scorching white ball in the ever-dark heavens. Its rays seemed to penetrate the very atoms of his body—his brain—his senses. His heart was a dead lump inside of him. He was sure he had lost his way. Everything was lost now. And everyone.

But then a welcome shape took form before his stinging eyes, and his body was jogged with hope. It was the space ship. The beloved *Zeitlin*!

His quickened energies brought him to the outer air lock. For agonizing minutes he fumbled with the latch with tense, awkward fingers. But at last he had the ponderous door open. He stumbled in, and, panting breathlessly, tried to think where the flares were kept.

He jerked down the corridor toward the pilot roost, his brain reeling as though he were in a stupor, his feet slipping and sliding from the tilted angle of the ship. Strange, darting flashes of light crossed his vision in a nightmare of spectral shapes.

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He knew he was in a delirium and that unconsciousness was pushing hard to overwhelm him.

He located the flares and shakily set them in their special firing chambers in the nose of the vessel. He looked up into the black vault of sky but saw no sign now of the phantom space craft.

It seemed as if he were firing off millions of flares. There were always more—as though someone were replacing them as fast as he could shoot them. Finally his hand fumbled about in the bottom of the box and came up with the last one.

But then, before he could shove it into the chamber, something that felt like a sledge hammer struck him solidly. He felt himself diving into a black pit that had no bottom. He knew that he was at the end of his endurance, that he had done all that he could for the others. . . .

The next thing he knew he was rising from that dark, bottomless hole. He was at the top of it now. And there were people all around assisting him out of it.

The picture became clearer. Instead of being in a pit, he was in a bed in a space ship infirmary. A strange space ship. But the faces above him were not strange. At least some of them weren't.

"Hello, hero."

Rob was greeted by one of the strangers. A stranger he had wanted to meet for a long, long time—a new Grant Allison. He was smiling sympathetically, and there were traces of tears in the corners of his eyes.

"Hello, Grant. I see you got out of Pollidor all right."

"Thanks to you."

"What happened?"

"That really was a space ship you saw. This one. It belongs to Commander Ransom." He indicated a big red-bearded man in blue and braid across the room, who smiled pleasantly and waved a hand. "It seems we left earth without part of our fuel supply. Chalk up another error to the inefficiency of Commander Allison." He smiled ruefully. "The home base knew we'd be needing it on the return trip, so they sent Ransom along with it."

Jim Hawley, who had been hovering bright-faced in the background, couldn't hold back any longer. "You really saved our hash, Rob boy," he said, coming over to the bed. "Commander Ransom couldn't find the Capitol and was leaving the area to search other parts of Luna when he spotted the flares. By the time he'd have found us—well, it would have been too late, that's all. The commander's men dug us out of Pollidor in no time after they found out from Drayson where we were."

Grant edged Jim back and slipped his big palm into Rob's own. "There's only one way I can make up to you, Rob," he said softly, and suddenly the room had grown as quiet as Luna's bleak landscape. His gray eyes held friendliness and understanding where once they had fostered only blind regimentation and coldness. Even the stubborn lines of his jaw were relaxed.

"There's going to be another Allison at the Aca-

demy of Space Navigation next term, and it won't surprise me a bit if he turns out to be the best cadet they ever had. What do you say to that—little brother?"





## *Red Sands*



FRIDAY, *September 9, 2001. Third day of globe-circling flight. Present position—South Temperate Zone, near Hellespontus. Height—30,000 feet. Bronze cube commemorating earth's first contact with Mars dropped over evergreen forest.*

—*Log of the Percival Lowell*

Three hours after the log was signed by W. W. Jostar, spacemaster, the *Percival Lowell*, a four-hundred-foot beryllium alloy astronaut, was down on Mars.

It was a grim situation for she had never meant to land on the red planet. Her lower landing gear was buried in the level sandy bed of one of the smaller canals where she had been eased down expertly by her pilots soon after the rocket tube blowout.

Rob Allison, apprentice spaceman just out of the Academy of Space Navigation, stood before the

huge quartz port of the observation chamber alongside his friend, Jim Hawley. His lean, lithe body was bent forward, elbows on the broad sill as he looked out on the frigid bleak landscape where the temperature was twenty degrees below zero Fahrenheit; where oxygen was so thin you couldn't even keep a match lit; and where ultraviolet radiation could kill you in a second if it came in direct contact with your skin.

"A party is going out in space suits to look over the damage," Jim said. "Want to go along?"

"Think Mr. Jostar would mind?" Rob asked, and there was a bitter ring in his tone.

Tow-haired Jim Hawley, a few years Rob's senior and a couple of steps closer to being a rated spaceman, smiled one of his infectious grins as he observed the serious expression on Rob's face.

But to Rob the matter was strictly without humor. The spacemaster had been riding him ever since the blast-off from earth eight months ago. Rob knew that Jostar, an able spaceman but one who had come up the hard way, had resented his being selected for the crew because of his rank inexperience. It was Rob's rescue of the first lunar research expedition under the command of his brother, two years before and in his pre-cadet days, that had made him something of a public hero. As a result he had been included with the present Martian expedition only for the purpose of world-wide publicity. The choice seemed to have been a successful one, for the World Science Union had had little trouble rounding up the necessary funds for

the trip after attaching the somewhat magical name of Rob Allison to the roster of the *Percival Lowell*.

"The skipper hasn't given me a single assignment since the blast-off," Rob complained. "He probably thinks a 'sputter' just out of cadet school would wreck the expedition."

"I admit you've had a rough time," Jim sympathized. "But now that we've had to crash-land, he'll probably have to press everyone into service. This landing is no joke, Rob."

Rob didn't fail to realize the gravity of the ship's plight. The entire crew of thirty-seven men might very well perish on the red planet. The craft's assignment had been to encircle the globe and take motion pictures of the surface features until Mars and Earth swung into proper position for the return.

As matters now stood, the *Percival Lowell* might exhaust her compressed-air and food supply before the repair could be made—if indeed the damage were repairable. An SOS might have been put through to the mother planet but for the fact that the ship's radio also had been damaged in the blow-out.

Rob reported to the spacemaster and put forth his request to accompany the exploring party.

The skipper, a small, solidly built veteran of the spaceways in pastel green and braid, looked up at the cadet through small, dark eyes.

"Why not?" Jostar snapped in his customary abrupt tone. "You might learn a few things about

a spaceman's life. It's not all aboard ship, you know."

He made a gesture of dismissal. "Now go. I've got to suit up and join the party."

Rob choked down his bitterness. That was that and he'd just have to make the best of it.

He and Jim went to the "garb" room at the rear of the ship to don space suits. As they stepped inside, Rob felt himself go suddenly light. He had been prepared for the change, but it gave him the queer feeling that one gets when an elevator descends quickly.

The artificial-gravity machine that kept everyone at his natural earth weight had been cut off in this particular room so that the bulky five-hundred-pound Mars suit could be donned more easily. When he was dressed, save for his helmet, Rob discovered that he was able to carry the heavy suit about on his body as easily as a light coat. This was due to the planet's smaller mass than Earth's and consequent gravity pull of only two fifths.

"You look like a man from Mars," Jim quipped, grinning.

Rob donned his helmet and surveyed himself in a full-length mirror. He saw a nearly seven-foot giant with transparent plasti-glass headgear, to which were attached movable binoculars, a small searchlight, and inner gauges that could be read by a flick of the eye.

The plasticoid suit had the flexible movement of fine Renaissance armor. At the waist was another searchlight, a larger one that glared like a cyclopean



eye. On his hip swung a bulky electron pistol, one of the most destructive side arms ever invented.

"I don't know what use we'll have for these," Rob said, indicating the weapon.

"Maybe we'll run across Martians or animals and will have to defend ourselves," Jim suggested. His voice had a scratchy quality as it came over Rob's helmet amplifier.

"I doubt it," Rob answered. "But I guess we'll have to take them since they're standard equipment."

The movies already taken of the planet's surface had failed to show any signs of either present or past life on Mars, and after viewing acres of bleak wastes for three days now, none of the scientists seriously believed that animal life existed here.

Jim handed Rob a jar of salve. "Don't forget to smear this over your facepiece or you won't be able to see through the coating of ice that'll form."

A few minutes later they approached the air lock that led directly out onto the soil of the planet.

As his feet sank into the alien sands, Rob felt overwhelming excitement. This group composed the first earthmen ever to tread the surface of Mars! No matter what came later, this privilege could never be taken from them.

The ship was down approximately one third of the way from a sloping canal rim that extended some twenty feet upward. Rob judged the opposite rim to be as far from the first as the length of the *Percival Lowell*. The ground beneath his feet

was red meteoric dust that seemed to cover much of the planet's surface.

It was nearing midafternoon and halfway down the sky hung the diminutive sun. In another direction, Phobos, Mars's closer moon, was beginning his swift ascent across the white-frosted heavens.

"Impressed?" Jim asked.

"Plenty," Rob returned.

Rob looked in the direction that one of the scientists was pointing and saw, farther up the canal, a huge, yellow cloud of the type frequently seen close to the surface.

"Looks like we might be in for a dust storm," Rob commented to Jim.

His friend nodded. "From what we've seen of them, it looks like they might be rough!"

The two of them joined Mr. Chadwick, the chief engineer, who was pointing out the ship's damage. "There's our trouble up in that top rocket bundle. It's a big hole where she blew out, and it remains to be seen whether we can seal it over or not."

Another space-suited figure held up his hand for attention. It was Dr. Ransell, the chief geologist. "On top of that we've got to reckon with the Martian elements. For one, that dust cloud up the canal seems to be heading this way. Now train your binoculars on that distant peak in the direction the canal runs."

Everyone flipped down over his eyes his helmet binoculars.

"That's the South Polar Cap," Dr. Ransell said. "As you know, we're into summer here and the cap

has been melting for several weeks. From what observations I've made of the rim and canal bed, I'm pretty confident in saying that it has been uplifted recently by an underground flow—probably within the space of two Earth years, which of course is the length of the Martian year."

"You think a subterranean stream from the ice-cap causes the uplift?" asked the spacemaster.

"It seems to me the likely explanation," answered the geologist.

"Then I think the danger is obvious," Jostar continued. "This place must turn into a muddy sea that could clog our rocket tubes and ruin us. The problem boils down pretty simply. Get the craft repaired and out of here as soon as possible."

"I'd like to check on one of the forward repulsion jets before we get to work," spoke the chief engineer. "One of my men said it was sputtering just before the landing. If we're going to get this crate into the ether we'll need every proton of power."

"I'm afraid that dust storm is going to catch you, Chad," said Ransell.

"A little dust won't hurt us," Chadwick returned.

"Mind that basin at the end of the ship," Ransell cautioned. "We nearly slid into it on the landing."

Chadwick motioned to Rob and Jim, the two who were nearest him. "Will you two come along to give me a boost?"

The three of them headed toward the front of the towering space ship.

Reaching the bow, Chadwick warned his companions about the long troughlike depression some ten feet beyond the end of the ship. "You'll really slide if you get near that," he said. "That powdery sand is slippery as greased quartz."

Rob and Jim boosted him up to the rocket bundle he sought. About fifteen feet off the ground, he climbed into a massive rocket cavity, disappearing from view. By the time he had reappeared, the cloud was just about upon them. And by the time Rob and Jim had helped him to the ground, the storm had arrived.

With a howl it smote its fury on them, blotting out all surrounding features. Rob thrust forward toward his companions to prevent the three of them being separated. But it was bucking against power greater than his own, and presently he could no longer see them. He wandered about aimlessly in directions forced by the wind rather than by his own will. Just too late, he remembered the treacherous basin edge.

He felt his right foot move out, then skid out from under him. The wind assisted his loss of balance, and he began sliding down the sandy slope.

His heart hammered in fear lest his suit be snagged. In that event it would be all over quickly—sudden decompression, loss of oxygen, terrific subzero temperature, and deadly ultraviolet radiation. Each element was fatal in itself, and they would all hit him at once.

At last he stopped downgrading. His body spun around several times, then was still. Shakily he rose

to his feet. He looked around him but all he saw was the impenetrable yellow cloud. His left eye found the directional finder within the helmet, a needle that was sensitive to a magnetic block within the space ship and showed in which position the craft lay.

He didn't attempt to climb the slope until the wind had died considerably. It was a hard, blundering effort, but he finally reached the general level of the canal bed again. Still the yellow cloud hung thickly over the surroundings.

Using his directional finder as his only guide, he struck out blindly, his hands raised before him. Any moment he expected to feel the smooth prominences of the *Percival Lowell* under his plasticoid gloves.

But he never did. It was disconcerting, but he finally came to the conclusion that he must be traveling alongside the vessel. The directional finder was not always accurate, he knew.

Some time later it seemed to Rob as if he had walked miles, and for a time he had fancied he was traveling uphill.

Finally the dust did clear somewhat, and up ahead a huge nebulous shape appeared. Rob gave a cry of joy and sprinted toward it.

Then he drew up short and his breath wheezed out of him in a cry of anguish. Facing him was not the space ship but a gigantic face of red oxidized rock!

He realized what must have thrown his directional finder off. The rock evidently contained a



magnetic ore whose attraction was greater than that of the ship's magnet.

At last the yellow cloud had lifted enough to permit a fairly extensive view of his surroundings. He saw that the canal had narrowed considerably, and at this point could be no wider than a hundred feet. And the rim had shortened to no more than ten or twelve feet high.

The deceptive face of rock extended all the way across, and Rob figured that this must be the beginning of the canal. His illusion of going uphill, then, had been no illusion at all.

All at once Rob felt the ground quiver under his feet. He looked down and saw the entire canal bed beginning to wave. The uplift that Dr. Ransell had spoken of was on!

Frantically Rob searched for a way of escape. He made his way toward the nearer rim and saw that a rugged out-crop of boulders offered a possible way up. His climb had begun none too soon. The canal floor was cracking into numerous small sections like the pieces of a jigsaw puzzle.

He examined the immediate vicinity and found that the rim at this point was little more than a narrow embankment. Toward the broad face of rock dropped a downgrade of stratified salty stone. It, too, was red in tone and seemed to be a part of that tremendous volume of material that had oxidized and was inevitably suffocating the planet—slowly draining the atmosphere of its oxygen content.

Rob followed the steps downward. Through a

maze of wind-ribbed rocks that was thick with clumps of tall, swaying reeds, he made his way. As he turned a bend beyond a huge boulder that served as a buffer against windstorms, a vast dark cavity appeared in front of him.

There came to his ears the sound of trickling water. He stepped into the large opening, snapped on his larger searchlight. Immediately there burst into view the rugged form of a limestone cavern that nearly took his breath away in its exotic beauty!

But most startling of all, below Rob's feet there coursed a sluggish emerald-green stream—a stream that continued to flow at subzero temperatures! This phenomenon Rob attributed to some special mineral it must contain. Most of it was already frozen into chunks of crystal, and as the temperature continued to dive even more, it appeared likely that it would solidify completely.

The waterway must have stretched seventy-five feet across and there was no telling how deep it was. It was not surprising to Rob that such a flow should produce enough water to raise the entire bed of the canal during the Martian summer.

Rob left the cavern and looked toward the horizon where the setting sun had painted a broad streak of fiery red across the sky. He decided against trying to find the ship before morning. The terrain had been difficult enough in daylight and during blackest night must be considerably more so, especially since the uplift. In addition, he was completely exhausted.

As the deepness of night settled in, he sat down just outside the cavern with his back against a rock. The uplift had frozen solid long ago. Intermittently he heard the crack of the ice as it contracted in the fully hardened stream.

His face turned toward the stars, and the sharp loneliness he'd felt for some time was eased, for, dusted against the black deeps of space, were literally millions of visible lights, not all separable but rather appearing like a whitish mist. He picked out the greenish orb of Earth and a wave of homesickness came over him as he remembered summer nights back there.

All at once his blood seemed to run cold. His ears had picked up an unfamiliar sound. He climbed to his feet and listened carefully. He heard it repeated—a sustained moaning! Could the planet really be inhabited?

Almost fearing what it might reveal, Rob switched on his larger light. He brushed off another gathering film of hoarfrost on his facepiece. His other hand fastened over the butt of his electron pistol. He was exceedingly glad now that he had decided to bring along the small bundle of highly concentrated power.

The thin blanket of ice crystals that covered the ground shone like a tinselled veil under his light. And there shone also clusters of reeds than undulated as the wind struck them and resembled phantom dancers mocking him in his loneliness and fear.

His light toured the cavern. Shadows of lime-

stone pillars darted about like scurrying living things, but Rob was able to distinguish them for the harmless shapes they were.

Satisfied that no alien creature seemed to be lurking about, Rob quit the search and took up his position again on the ground. But he held his electron gun in his lap and his senses remained alert.

As his anxiety lessened, the urge to sleep began to take hold. It hung over him like a drug that he fought as long as he could. Then at last the stars swam dizzily before his eyes. . . .

Rob woke with the rays of the weak sun in his eyes. The disk was high in the sky, and he realized he had slept away much of the morning. The gnaw of hunger was like a pain.

In his ears was the rushing of water. He looked around and saw that the stream was melting rapidly and soon would be a roaring emerald river. He went out into the open. As he passed a clump of reeds he again heard the moaning that had bothered him last night. The wind was shaking the plants now as it had then. It was the wind, then, he'd been seeking last night, not an alien creature!

He made his way up the rocky shelf to the canal rim. The air was completely clear of the dust cloud, and his heart thumped happily as the sleek form of the *Percival Lowell*, about a quarter of a mile away, came into focus on his binoculars.

The ship appeared undamaged by the uplift of the previous day, but the ground was still frozen jaggedly, and before long the warming sun would again bring on the activity.

Rob sighed regretfully. He didn't know how many more uplifts the *Percival Lowell* could stand. Perhaps the one today would ruin her. If the stream could only be dammed the peril would be erased.

A dam—of course!

His pulses pounded excitedly. Why hadn't he thought of it before? He made his way spiritedly down the slope to the cavern. Then he jerked his electron gun out of its holster, wondering if it had the power to blast the overhanging rock formation out of place. He'd seen marvelous destruction done by the weapon in demonstration at cadet school.

Backing up outside the cavern entrance, he switched on the firing mechanism after leveling the pistol at the mass of rock. He heard a low hum, then felt the ground-jarring tremor of the explosion as tons of rock ripped loose from overhead and thundred into the stream.

Rob leaped back as flying chips filled the air and spurts of water gushed in haphazard sprays around broken boulders. He fired a couple more blasts into the caverns to make the destruction complete. Then followed the tremor of more falling rock, and finally silence.

When a cloud of steam had evaporated, Rob saw that the entrance of the cavern had been sealed over. Had the operation been successful? If so, the stream must have backed up somewhere to a high-pressure point. Rob climbed up to safer heights, realizing the break might come from any direction.



## *Red Sands*

Quickly the answer came. Out of a broad sand dune in the direction of the icecap there burst an emerald cataract. It rushed down over the desert, inundating bone-dry lands that must not have felt water in eons of time.

Rob prepared for the trek back. The canal bed would remain muddy for a time until its moisture evaporated, but a binocular examination of the canal rim showed Rob that he could make his return that way.

A searching party met him on the rim not far from the ship. Somehow they had managed to climb out of the canal bed themselves. In the fore were Mr. Chadwick and Jim Hawley. Jim broke into a run the instant he recognized his friend, and a moment later they were backslapping like long-parted brothers.

For Rob it was great to be back . . . to be alive . . . to know that there was a good chance that he and his companions would see another earthly dawn. . . .

*Tuesday, September 13, 2001. Radio repaired. Ship damage nearly so. Mr. Chadwick promises craft will soon be off ground. Apprentice Spaceman Allison's thorough job on canal uplift has eliminated that greatest hazard. Mr. Jostar says Allison a very underrated spaceman. Has assigned him as alternate jetman for return trip. (Things are definitely looking up again.)*

—*Log of the Percival Lowell*



## *The Iron Moon*



"THERE IT IS, Rob! There's the 'Iron Moon!' " The space ship's curved trajectory path from Earth had just brought the man-made space station before the big quartz side port. Young Rob Allison peered interestedly with his friend, Jim Hawley, who had spoken, at the giant bubble of titanium alloy that was poised luminously against the inky curtain of interplanetary space. Its huge solar mirror, projecting like a big saucer out from the surface, shone upon the approaching rocket like a glaring eye, blindingly brilliant from the reflected light of the sun.

"It seems incredible!" breathed Rob. "Think of men building a thing like this four thousand miles out from Earth!"

"It wasn't as hard a job as you might think," Jim Hawley said. "The parts were merely shot out into space and assembled in this weightless vacuum

out here." He broke into one of his infectious grins. "Simple as turning cartwheels on Luna!"

"Sure—nothing to it!" Rob retorted, with humor, his angular, handsome features twisting in a smile. His face was a close carbon copy of his illustrious brother's. In this twenty-first century—A.D. 2003—Grant Allison was no unfamiliar name upon the lips of educated men. Space commander, scientist, world leader—Grant was all of these. Rob wondered if he would ever reach such accomplishments himself. As a start toward these goals, he had already completed apprentice training that left him at present a "sputter"—unrated spaceman—that often uncomfortable state of being a little more learned in space lore than the average citizen but not yet qualified to speak authoritatively in the company of seasoned spacemen.

"I think you'll like working on the 'Iron Moon,' " Jim went on.

"I'm sure I will," Rob answered, watching two of the "Iron Moon's" fleet of military "watchdog" rockets swim into view around the side of the space station like great whales in an ocean. "I wish you were going with me, though, Jim."

"Any cadet would give his three-strip cuff marks to go to the 'Iron Moon.' " Jim went on. "You're lucky, boy."

"I know that," Rob agreed, but a tiny frown furrowed his temple as he considered the responsibilities that would be his. "I hope I make the grade, Jim," he added soberly. "I'd hate to botch up the job and dim Grant's prestige."

Jim laughed, his sandy crop of rumped hair bobbing. "Look who's worried—hero of the first lunar research expedition and Mars landing!"

Suddenly a light seemed to flick on in Jim's brain. "Say, you're not worried about that perpetual cadet there, Ken Lockman, are you?"

"Well, I *have* heard of his unfriendly reputation with other cadets who've tried to make the grade there," Rob admitted.

"He's no more than a 'sputter' himself, Rob, even if he has been one a long time."

"That's one thing I can't understand," Rob said. "He's been there for over a year. You'd think he would have been promoted by now."

"He must be a poor technician or something. Maybe it's his chip-on-the-shoulder attitude."

"At any rate you can't blame me for giving him some thought," Rob declared. "I've heard it's always he who breaks in the new cadets."

Jim beckoned to Rob, "This is what you'll be looking at day after day, Rob."

Below them hung the majestic globe of Earth, bathed in its filmy cloak of atmosphere. Inside the greenish haze, Rob recognized the outlines of the Western Hemisphere. He peered at the spot where the state of Arizona was located, the spot where they had blasted off only a few minutes ago.

A gentle shudder shook the space craft. The rocket was braking for the approach.

As the craft swallowed up the remaining miles between it and the space harbor, huge curved doors within the "Moon" swung open in welcome. Out



through these hangar doors floated tiny figures, weightless in the airless void, carrying the ends of great cables that would moor the ship's nose to the big sphere. The rocket would wait here for radioed instructions from the "Iron Moon" before proceeding on to Luna with supplies.

Being the only passenger to alight, Rob donned a space suit that was necessary for spanning the gulf between ship and satellite. On his back he fastened a shoulder jet unit that would propel him across. Rob bade Jim and the other crewmen farewell and plunged out through the air lock.

Once aboard the space terminal, Rob was directed to a room just off the hangar, where he clambered out of his bulky space suit. As he changed, he mentally reviewed the setup of the "Iron Moon" as he had studied it from photos and diagrams at Space Service Headquarters.

He'd learned that people lived *within it*, not on the outside of it as in the case of Earth habitation. He knew that the satellite was built in three sections—like a ball within a ball within a ball. The outer section, facing into space, was used for labs and observation posts, while the inner sections were used for living quarters and power plants. At the core was a giant machine unit for converting the sun's energy, absorbed by the great sodium solar mirror, into electricity. The interior of the globe was oxygen-pressurized to simulate Earth conditions. No driving force was required to carry the sphere in its orbit around Earth. Only an initial shove by a fleet of rockets had been required to

set it in perpetual motion, and it would continue to glide through the frictionless vacuum of space until it was stopped by another force.

Once out of his space suit, Rob viewed himself in a mirror, preparatory to meeting his new associates. He gave his gold-braided blue jacket a final tug and rubbed a quick shine onto the toes of his black boots with his handkerchief. Going out into the corridor, he saw a tall, lean young fellow of about his own age who stood there awaiting him. His insignia was that of a "sputter," and Rob had an idea this was Ken Lockman.

The young fellow gave Rob a quick appraisal from head to foot. His face was without expression, and Rob wondered what was going on in his mind. Finally the youth offered his hand. "I'm Ken Lockman."

"Rob Allison," Rob answered, returning the handshake that he felt lacked warmth on the part of young Lockman.

"Commander Allison's kid brother, aren't you?" Ken asked.

Rob nodded.

He felt Ken's dark, expressive eyes studying him closely as he went on. "You'll find just as much excitement in the 'Iron Moon' as you will anywhere else in the system. There's plenty of responsibility, but if a man's got it in him, he'll make the grade."

"What'll I be doing?" Rob wanted to know.

Ken shrugged. "That's up to the director. Whatever it is, I've been assigned to getting you started. I'm familiar with just about every job on the 'Iron

Moon.' " He started to go. "Follow me and we'll meet the director now."

They clicked along the narrow aisle in their suction-soled boots. Upon reaching a closed door along the corridor, Ken paused and knocked. A voice from within told him to enter. Ken nodded for Rob to go in first, then followed. The director of the "Iron Moon" returned the youths' salutes and placed them at their ease.

"Glad to have you with us, Allison," said the director, whom Rob knew to be Spacemaster Ronald Strong. "Have a seat."

The director went on to explain the setup of the man-made satellite and what was expected of her maintenance crew. "One thing we cannot tolerate here is frequent mistakes," Strong said. "Errors cost the World Union a lot of money, besides endangering the lives of the men here and the 'Iron Moon' itself. I'm assigning you to the observation chamber, Rob. It's not complicated work—that's why we trust cadets with the job. However, you do have to keep your mind clear. Lockman here will acquaint you with the work."

Just as the youths were going, the director appeared to think of something else. "Just a minute, Rob."

As Rob turned, Spacemaster Strong went on, "It's only fair to tell you that the *Palomar*, the big ship that's organizing for a voyage to Venus, is looking for a cadet on her crew. It may surprise you to hear about a promotion the first day you arrive, but your record on the lunar research ex-

pedition, as well as the one on Mars, qualifies you for the competition along with the rest of the cadets here on the 'Iron Moon.' "

Rob felt a surge of elation. What cadet wouldn't give everything he owned for a chance to go to Venus? And now he had this chance himself!

"I might add, too," the spacemaster went on, "that because of your own record, Rob, and Ken's long service here on the satellite, I'm giving you two special consideration on the deal."

"Thank you, Sir," Rob answered.

As he and Ken were leaving, Rob cast a furtive glance at the cadet. Was it an expression of disappointment he saw on Ken's face, or did he only imagine it?

The observation chamber was a large, well-integrated seeing and communications network. The room's walls were nearly all quartz ports, before which a number of observers sat in their individual niches. In front of them and pointing earthward were small refracting telescopes.

"They each have special things to look for," Ken explained to Rob. "As the 'Iron Moon' swings in its orbit around Earth they keep their eyes peeled every minute of the day. The work is tiresome and some of the men must be relieved every few hours."

"What do they look for?" Rob wanted to know.

"The fellow in front of us keeps tabs on important weather changes. The one next to him watches for military maneuvers to see that no country is getting the jump on the international police force. Beside him in the next compartment is the fellow

who keeps track of transworld traffic—seeing that the ships at sea and the stratocruisers in the sky make safe crossings. Next to him is the space observer.”

“I suppose they have to work with one another quite a bit,” Rob said.

“That’s the secret of their efficiency,” Ken returned. “They work with one another and with a central communicator as well. That’s where you come in. Follow me.”

Rob accompanied the cadet along the aisle that bordered the individual compartments. The two of them halted before a broad desk and giant switchboard, that Rob believed was more complicated than the dial banks of a space ship.

A cadet was seated at the desk, and he looked up gratefully when Ken said he’d take over.

“The boss thinks you can handle this kind of work,” Ken said to Rob in that somewhat derogatory tone of his again. “This is going to be all yours, so you’d better listen closely.”

Rob listened as attentively as he knew how, trying not to let Ken Lockman’s obvious lack of friendliness take his mind off his work.

“This communications center connects with each of the observers,” Ken was explaining. “It also ties up with many of the other departments on the ‘Iron Moon’ and with a lot of organizations on Earth. If you know what’s good for you, Allison, you’ll never get your lines crossed, because it can be plenty rough on someone if they don’t get their information in time. Another thing’s very impor-



tant, too. Whenever one of the observers reports something to you, make sure you radio first the organization that would be most affected by the news."

"How will I know that?" Rob asked.

"Most operators memorize the setup and the changes that continually crop up. That saves referring to confusing charts that are apt to throw you off. Remember this. If you're ever in doubt, always call Mr. Strong."

Rob wondered how anyone could possibly keep straight such facts as Ken Lockman began giving him. Then he learned that there was a key to the whole setup that made everything much easier to remember.

The next day Rob was given a shift at the communications center himself, and Ken went off to take care of other duties. He was surprised at the swift frequency with which the messages were fired to him by the observers. Once a photograph was brought in, and he had to wirephoto it to Earth. It concerned the forced landing on an Atlantic island of a Winnipeg-to-Rome stratocruiser.

Shortly after this, Rob saw a blinking amber light on the switchboard and tuned in to the space observer who reported that something of a celestial crisis was in the making. A rocket en route to Luna—the *Luna Queen*—7,000 miles out from Earth, was approaching the neighborhood of a speeding meteor swarm. Rob knew that a single tiny meteor was capable of ripping through the skin of

a rocket like a bullet, and the seriousness of the observer's report was not lost on him.

Rob's pulses throbbed with the urgency of the responsibility now his. But whom should he call? Young Lockman had not named a specific station that he should notify in this particular circumstance. Then Rob remembered the cadet's admonition to call the director in case of doubt.

He plugged in the line to the spacemaster's office. The autoreceiver and recorder winked back the ready signal. Mr. Strong was not in his office just now, but the recorder would take the message on a tape and buzz continuously in the office until answered. As he completed the report, Rob cut the connection with a trace of doubt in his mind. What if the director was quite a while answering?

Rob looked about helplessly for someone to query. But the observers in their compartments hung over their instruments busily, and Rob felt he should not disturb them. Then he thought of Ken Lockman. He put through a swift call to the cadet's room, realizing that here was the only place he knew where to reach him. But Ken did not answer either, as he had rather expected.

The seriousness of the impending disaster out in the deeps of space began to get Rob down. He fought to remain calm as the switchboard grew busy again.

There was no lull in the activity for about five minutes since the warning from the space observer. By that time Rob had made up his mind that he would have to abandon the center for a moment

and speak directly to the space observer about what to do. But as he rose from his seat, the space observer himself came hurrying out of his compartment.

"What's happened to them?" the observer cried. "Surely Space Communication has warned them by now! But the *Luna Queen* hasn't altered her course one bit!"

"Was it Space Communication that should have been called?" Rob asked.

The blood seemed to drain from the observer's taut features. "Of course! You radioed them, didn't you?"

Rob's heart felt suddenly dead within him. "No," he said feebly. "Lockman didn't—"

Before he could finish his lame excuse, the observer had shoved Rob aside and was putting through the delayed warning himself. When he was through, the spaceman gave a deep sigh, that was edged with regret, and looked up at Rob.

"I don't know whether we're in time or not," he said gloomily. "At any rate, there's nothing else we can do now except sit tight and wait!"

Rob paled, and he felt limp all over. What if the *Luna Queen* were destroyed? How would he ever live down such a thing? Grant Allison's brother responsible for the destruction of a rocket and its crew!

True, young Lockman was technically to blame for not having given him the proper information. But he still could have approached the observer immediately upon receiving the warning.

Rob was glad, however, that the observer had paid no attention to his mention of Ken's name. No use getting them both involved in the mess. Besides, Ken had been around longer than himself and stood to receive the sharper reprimand, perhaps even dismissal from the Service, if he were involved.

Before returning to his post, the observer gave Rob a look that the youth could not fail to understand. It seemed to say, "The fate of that crew will be largely on your head, Allison, even if you are new on the job!"

Rob braced himself for the dressing down he was sure would come. He hadn't long to wait, for as soon as the director heard of the incident, he summoned Rob to his office. The spacemaster's face was clouded over and he looked restless, as though he weren't sure how to talk to Rob.

"You haven't acquitted yourself very well on your first assignment, Allison, you realize that?" he spoke sharply, pacing the floor behind his desk.

"Yes, Sir."

"We don't know yet what may be the consequences of this delayed warning to the *Luna Queen*. But whatever the outcome, it's the blunder at the observers' communication center that concerns us here. Of course I realize you're new on the job and that is something in your favor. But—"

Before he could continue, a buzzer on his desk interrupted him. The spacemaster flicked on his receiver and Rob heard the message that came over: *The warning was received by the Luna Queen. The ship has skirted the metor swarm but was side-*

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*swiped by two 'rocks' along her No. 27 propulsion jets. The damage seems to be light, however, and she'll reach Luna all right.*

The intercom was switched off, and for an intolerable few seconds for Rob, silence prevailed in the office of the director.

Finally, after some thought, the spacemaster spoke again, "They were lucky—plenty lucky." He took his seat behind the desk, obviously more relaxed now. "You realize this hurts your chances for promotion to the Venus expedition crew?"

Rob nodded.

"However, I'm still going to keep you on, Allison. Your past record still stands, and I believe you'll make us a good worker. Perhaps I'm to blame, myself, for giving you so much responsibility at first."

Rob was dismissed, and he retired to his small living quarters on the second inner section of the "Iron Moon." He resolved not to let his failure keep him down and tried his best to put the whole unfortunate incident out of his mind. This he was able to do after a while, and he took to studying a printed pamphlet he'd been given on the communications center.

All at once he was shaken violently out of his study when the door of the compartment was flung open without warning to admit a very red-faced Ken Lockman.

"So you blamed that blunder of yours on me, Allison!" he stormed.

The untruth of the accusation quickly stirred



Rob's own temper. "I didn't bring you into it at all!" he shot back.

But Ken had come to his own conclusions and was not to be dissuaded easily from them. "You've been trying to take over my place here ever since you arrived, Allison! Don't think I haven't noticed it!"

"Cool your heels, Ken!" Rob retorted. "That's a strong accusation!"

"It's true and you know it!" Ken raged. "The director just had me on the carpet. He said I should have made sure you knew those tie-ups better."

"You didn't even explain what tie-up I should have used in the case of the *Luna Queen*," Rob defended. "That's why it got botched up."

"That's probably what you told the director!" Ken accused. "I guess you know this thing just about knocks me out of the running for the Venus trip!"

Rob jumped to his feet. "If you weren't so twisted up I'd explain a few things to you. As it is I'm not even going to try. I'm just going to invite you out of here!"

Ken Lockman bit his lip, his face still a flushed mask of red. For a moment he looked undecided as to what he was going to do next. Then abruptly he whirled and without another word stormed out of the compartment, leaving the aluminum door swinging.

Rob saw little of Ken Lockman after the incident, either for reason of Ken's purposeful avoidance of him or owing to the fact that the other's

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duties kept him elsewhere. However, after a few days Ken seemed to have modified his opinion of Rob's motives to some extent, for he nodded to Rob, even if coolly, whenever they passed each other. Words exchanged between the two, though, were definitely few.

Rob continued his work at the observers' communication center and rapidly gained in efficiency. It gave him a glow of pride when the director called him into his office about ten days after the *Luna Queen* episode and complimented him on his fine progress. The spacemaster took his time to inform him that the *Palomar*, the ship that was to make the voyage to Venus, was due to moor at the "Iron Moon" later that night for the purpose of securing navigation charts for the great flight. Before she headed for Earth again, the most promising cadet on the station would have been placed on her crew roster.

As he left the office, Rob met Ken in the corridor waiting to see the director and suspected that the spacemaster had the same information for Ken. Rob felt that it was about time to bury the hatchet. For if Ken were the one chosen for the Venus trip, he would much rather that they part, if not as friends, then at least on speaking terms.

"Good luck," Rob told him, summoning a smile.

Rob thought Ken had deliberately ignored him after having walked past him without receiving a reply. But then Rob heard him call back a belated, "Thanks—same to you." It made Rob feel good to

know that they were able to approach each other halfway again.

At 2312 the glistening prow of the magnificent *Palomar* was spotted against the star-cast black of space. As many of the "Iron Moon" attendants as could get relief from their jobs came down into the quartz-enclosed passageway that adjoined the hangar.

Rob had volunteered early to act as an assistant to help moor the space ship's hull to the hangar. The *Palomar* was so huge a vessel, she was unable to enter the hangar that had been built mainly for the smaller "watchdog" rockets of the "Iron Moon" fleet.

In the dressing room, Rob, with a score of other spacemen, began donning his space suit. After checking his oxygen-supply cartridge, Rob strapped to his back his shoulder jet unit. The jet supply, like the oxygen ration, would be of short duration so as to keep the weights of the space suits down to a minimum and allow for greater maneuverability.

Just as he was slipping his Plexiglas helmet over his head, Rob chanced to see Ken Lockman down the line. Ken was not noticing him at the moment, and Rob observed the eager expression on the cadet's face. His eyes were very luminous, as though they were fired with anticipation—the expectation of being selected to accompany the expedition to Venus. It appeared that Ken no longer felt that the *Luna Queen* episode was a stigma against his own chances.

When everyone was ready, the room was depres-

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surized and the airlock leading into the hangar swung open. The mooring crew jetted outward to the hangar opening and there hung motionless in the airlessness of space, like puppets, awaiting the arrival of the *Palomar*.

Slowly the vessel grew in size. To Rob, it was awesome seeing the great astronaut grown so huge before his eyes, leaving him with the slight worry as to whether it would cut its terrific velocity in time or plunge into the "Iron Moon" and bring about the greatest catastrophe of space travel.

Somewhere far out there the *Palomar* had cut her forward thrust and was blasting away with her repulsion rockets. Threads of jet flame poured into the space night, braking the giant ship, cutting her headlong plunge toward the "Iron Moon." After what seemed almost a light year the ship drifted in close, gleaming, monstrous, the greatest astronaut ever built.

Ken moved close to Rob in order to get a clearer view.

"She's a beauty, isn't she?" remarked the cadet, with feeling, and Rob could see through the face-piece the anticipation that glowed in his eyes.

"She sure is," Rob answered.

Several of the "Iron Moon" crew seized the ends of mooring cables that were buckled to the hangar. With them in hand the spacemen jetted out toward the craft. They swarmed over the burnished nose, seeking out the mooring buckles.

But only one of them was snapped into place.

For suddenly a blast of deafening, frantic shouts



over the crewmen's helmet radios froze all activity. Rob, who with Ken Lockman and some of the others, was near the hangar to check the secureness of the mooring buckles to the satellite, looked quickly toward the great craft. Rob saw the space-suited figures of the attendants jetting away from the ship for all they were worth. Then the single coiled cable that had been fastened to the vessel began writhing like a giant snake. The ship was drifting backward!

Rob saw that one of the repulsion jets on the *Palomar* was spewing sparks. A jet leak! Once the slack was taken out of the cable, the force of the backing ship, together with the unyielding strength of the cable, was capable of jerking the "Iron Moon" clean out of its orbit! It might even lose its gravitational equality with Earth and go plunging toward the planet.

Since such an occurrence was new to the experience of the mooring crew, they seemed to realize only the personal danger and began scattering into space. Ken was nearer the hangar than Rob and also must have recognized the peril.

But instead of blasting away from the danger spot like the others, Ken jetted swiftly toward the cable end where it was buckled to the hanger. Rob felt a wave of admiration for Ken sweep through him at his quick-thinking, unselfish action. But his heart was also heavy with dread, for at any moment the ship might jerk the "Moon" in a fierce forward motion that would crush the youth's body. He'd never know what hit him.



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Slowly the cable was straightening out in a line. Rob could only watch helplessly for there was only room for one of them to work at the buckle. Just in time Ken freed the cable end. But in doing so the big metal connection whipped about and flung the cadet against the surface of the satellite like the slap of a giant hand.

Rob saw Ken's head loll in unconsciousness, and he jetted swiftly toward him. Before he could reach the victim, however, a blinding flash went off in front of Rob's eyes and Ken's body hurtled off into outer space!

Horrified, Rob realized that his shoulder jets must have exploded on the impact, at the same time giving out with a final burst of energy. With such momentum set in motion, Ken's body would speed unchecked through the deeps of space until it came within the gravitational field of some celestial body. But he would have been long dead by then!

Rob believed he could catch up with Ken, but what about the return trip? Would he have enough jet power left to bring them both back? They couldn't hope to remain out there and wait for rescue by rocket. For by the time one of the "watchdogs" had maneuvered into position to take them aboard, their brief oxygen supply would have been exhausted.

But Rob had never stood by idly where danger threatened anyone. He'd often told himself that he'd rather perish in a rescue attempt than play it

safe and be forced to live with the idea always that he could have saved someone's life but didn't.

Pressing the accelerator button on his chest plate, Rob jetted at top speed after the shrinking figure of Ken Lockman. Presently Rob knew he was matching Ken's speed and shortly later realized he was exceeding it. Then he felt a seizure of anxiety when the jets began sputtering, indicating their near exhaustion of fuel. If he was to get them both back safely now it was going to take clear thinking and carefully deliberated action.

By the time Rob came up alongside Ken his plan had already formed in his mind. He'd approached Ken on a wide arc and as he reached him, he grasped his limp form in a firm grip about the waist. Then, taking advantage of his momentum, Rob was able to continue moving in that same broad arc that would head them back in the general direction of the "Iron Moon." Just as they made the turn that brought them facing the space station, Rob's jet supply gave out. But they'd make it now. So long as they were moving at all they'd reach the "Iron Moon."

Rob's only worry now was lest his oxygen supply should run out before he reached the station. It nearly did. For by the time he had floated up to an air lock near the hangar with his unconscious burden, Rob was already beginning to gasp for breath and his eyes were bulging. But eager hands grasped him and Ken, dragging them swiftly and efficiently up to safety.

It was the following morning after the near-tragic

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incident. Rob hadn't suffered enough oxygen starvation to affect him seriously, and after a good night's sleep he felt as good as ever. Soon after the rescue, the *Palomar* had been checked in her retrograde movement and already her leaking jet, that had caused all the trouble, had been repaired. The Venus-bound ship would still be able to make her voyage on schedule.

After preliminary greetings the spacemaster declared, "*The Palomar* is leaving today, fellows, and the roster of her crew has already been drawn up."

The director frowned, but humor lurked at the corners of his mouth. "You know, you two certainly haven't made it easy on me deciding which of you should go."

The youths looked at him silently, their eyes fearful, yet with anticipation. Spacemaster Strong rose from his seat and began pacing for what seemed to Rob to be an interminably long time. Then he spoke again. "The ship's commander and I finally decided that you'll both have to go. There's no other way around it. Both of you did terrific jobs yesterday. Besides, the *Palomar's* commander says he's sure there's enough work to keep you both busy."

Rob watched a broad grin of relief form on Ken Lockman's face and wondered if his own joy at the decision was as apparent to the other two.

The director seemed to notice the reluctance of the two youths to make the first move toward each other. "Well, what are you waiting for? You're

spacemates now. You may as well get used to each other."

Rob grinned and offered his hand to Ken. The latter smiled back and returned the handshake. When the director dismissed them, Ken said to Rob in the corridor, "Care to hear a confession from a stinker?"

"They used to say it was good for the soul," Rob said.

"What I did last night was something I'd never been able to do before."

"What was that?" Rob asked.

"Remain cool under fire. I'd failed a number of times and for that reason Mr. Strong would never promote me to a rocket crew. That's why I was sore at every cadet that came here. I'd see them come and go but I'd always remain behind. I guess it sort of warped my mind or something."

"Well, you licked it, so that's all that matters now," Rob said.

"If it hadn't been for you I wouldn't be around now to make the Venus trip," Ken said.

Rob grinned. "If it hadn't been for you I wouldn't have had anyone to save and I couldn't have made it either. I guess that proves that from now on we'll need each other."

## Venusway



THE SPACE SHIP *Palomar*, a giant needle of beryllium alloy, plunged groundward through the unfamiliar ocean of atmosphere. Her withering fire streams were probing fingers feeling out the alien lands of Earth's twin sister in space.

Yet while they probed, the jets pushed against the planet as though reluctant to meet her face to face. The *Palomar* had just made her gyroscope twist, and now her rockets astern were braking the ship, thrusting against the dogged gravitational pull of Venus that was only a little less than that on the home planet.

Inside the craft Rob Allison was experiencing the agonies of rapid deceleration. The leather straps that hugged his form to the foam-rubber cushion were like iron hands crushing his breastbone.

Trying to forget himself, Rob wondered how his companion, Ken Lockman, on the next couch in their joint living compartment, was doing. Al-



though Rob had already voyaged to Luna and Mars, he believed he'd never get used to the discomforts of blast-offs and landings.

At last the plunging speed had slowed to the extent that Rob was able to focus his eyes on the prism overhead that reflected the view from the compartment's side port. A mass of water met his gaze.

"Water!" Ken cried. "What if Venus is totally under water?"

There was an unmistakable note of terror in the cadet's voice. Rob wondered if Ken—or himself either—would be able to take what this new world was capable of dealing out to them. Shrouded in a solid mantle of fog, no one could be sure just what it was like on the surface of Venus. Only a few years ago had spectroscopy been able to establish Venus's rotation period of six Earth days.

"It can't be under water!" Rob was thinking not alone of his own safety but of the hopes of those on earth who had poured their fortunes into the First Expedition Venus project. The ship, with its picked crew of twenty-eight seasoned crewmen-scientists, simply could not go down in destruction after traveling twenty-six million miles through space without mishap!

While he lay submerged in doubts, Rob felt a jar as the *Palomar* sat down on her stern. The recoil drove the craft deeply into the shock absorbers of her massive tail fins.

"Dry land," Rob breathed prayerfully, "—and safety."

Their fumbling fingers worked busily on the confining straps. When they were free, the cadets moved on rubbery legs to the quartzite port and feasted their eyes on earthman's first sight of the unmasked face of Venus.

"There's your water," Rob said.

They had landed on an upgrade that overlooked the shore of a broad, calm lake that gleamed like a saucer of milk under a cloud-laden white sky. Into the lake stretched the arm of a brush-covered peninsula from the opposite shore.

"It's a jungle," Ken murmured.

Rob agreed that the mountain-skirted region was just that—a hot tropical forest such as one might see overlooking the Congo River in Africa. But the setting had a signature of its own: strange growths and shapes, streaming with oppressive heat, that had no counterpart on faraway Earth. And there were wisps of low-lying swirls and vapors that reminded Rob of a foggy English moor. There was a sense of lurking danger in all that stillness. To Rob it was like a scene from the prehistoric days of Earth's own dawn.

The summons bell shook the cadets back to their present surroundings.

"The skipper," Rob said. "He must be ready for orientation. Let's go."

Before leaving, the two checked the thermometers and gauges in the greenhouse, that was located just beyond their living compartment. Theirs was the job of operating the hydroponic garden,

whose broad-leaved plant culture supplied oxygen to the ship.

As they went out into the corridor, Ken commented, "It's sure good to be able to walk again without magnetic shoes! I feel rested too."

Rob grinned. "You ought to be. You're about fifteen pounds lighter here than on Earth."

The cadets joined the other crewmen in the lecture compartment. Spacemaster Miles Hobson, a short, solidly built man in the immaculate flannel of the Space Command, was addressing his company. "You men are lucky you're alive. Being a pioneer ship and knowing nothing of this terrain, we faced that risk of course. We will spend three and a half Earth days here. We have forty-eight hours of light before dark sets in, which leaves us another thirty-six hours of night to study Venus under those conditions before we head home again. We'll begin around-the-clock research after we've had a curiosity tour of the neighborhood."

One of the chemists entered the compartment, and the space chief nodded to him to speak.

"The air analyzer shows the atmosphere is not so very different from Earth's, Sir. The oxygen content is lower, though, and there is considerably more carbon dioxide. There are no deadly rays present."

"Is it possible to go without space suits?" Hobson asked.

The chemist frowned. "I wouldn't advise it. We would all go around gaping like fish. In time earth-

men could probably adapt themselves to it, however."

"That speaks well for colonization," the skipper said. "What's the temperature?"

"One hundred and twenty-seven degrees Fahrenheit," the chemist answered. "You would expect it to be hotter than that since Venus takes twice the radiation from the sun that Earth does. The moderation is probably due to the restraining screen of deep atmosphere and the fact that the planet reflects back into space sixty per cent of its radiation."

The spacemaster assigned the members to staggered shifts. In this era of interplanetary boundaries space ship crewmen had to be truly educated men. The economy of human weight in astro-cruisers demanded it. Not only were they commissioned graduates of the Academy of Space Navigation, but they were specialists in the fields of astronomy, sociology, medicine, and other sciences.

Rigged in space suits and radio-equipped helmets, ten of the crewmen stepped through the air lock at midship and onto the elevator cage. The cage swung outward from the craft on a crane, and the cable lowered it to the ground. The cage was drawn up again for the next ten. This was repeated until all thirty had left the ship.

The first ones to set foot on the planet had observed that the ground was warped and covered with ash. This was reported with concern to the spacemaster who was in the last group to descend.

The men searched the horizon. Rob was the first

to see, rising between two mountain chains, a smoldering peak. "There, sir," Rob said.

"A volcano!" Hobson expressed his concern. "We certainly picked a fine place to land!"

"It can't be more than a couple of miles away," spoke one of the crewmen-geologists. "My guess is that thing spewed its insides over this very ground not long ago and probably will again."

The skipper shook his helmeted head. "I'd rather blast out of here to a safer place, but we don't have the fuel to spare. When we leave for Earth, we've got to obtain a thrust of more than a hundred miles a second to overtake the Earth in three days' time. All we can do is get as much done as possible and be ready to blast off if the mountain starts blowing."

The first forty-eight hours passed without trouble from the fuming Etna. But its smoke was billowing with increasing fury, and already tremors were shaking the soil. During this time the earthmen's knowledge of Venus had increased a hundredfold. Photos had been exposed in quantity, and the scientists had penetrated deeply into eon-old mysteries gathering data that would amaze the home planet.

Rob and Ken were helping the photographer, Martin Savitt, take photoflash pictures as the long Venusian night began to creep in.

"No sunset colors!" Ken complained. "It's just like nightfall on a cloudy day at home."

A movement down on the lake caused Rob's eyes



to narrow in curiosity. "There's something out on the lake!"

From behind the peninsula a huge shape moved out into the approaching twilight. At first its tremendous size made Rob suspect a ship of some kind. But then he identified the form as an animal.

"It looks like a dinosaur. One of those big, long-necked ones!"

"Look, there's another one coming into view!" Ken said.

At last three were visible. In slow motion they ambled about between the peninsula and the inner shore line, about one third submerged, occasionally dipping their heads below the surface and coming up with mouthfuls of seaweed.

As the news of the animals got around, the spacemaster called a hurried confab beneath the *Palomar's* burnished shell. "We'll stick close to the ship until we find out what those overgrown dragons are going to do. We'll arm to the teeth with electron pistols and rifles and set up an atomic grenade catapult."

One of the crewmen-archaeologists who had been working farther inland spoke up. "Sir, a big trail, about three hundred yars from here and about the width of a highway, leads through the forest toward some high cliffs back in the jungle. I examined the cliffs and they seem to be the dens of these animals. Sooner or later the brutes are going to be headed homeward."

The armed guard took up a position between the *Palomar* and the lake. And waited.

Rob and Ken, who were on duty at the outer defense perimeter, watched the slow twilight melt into darkness. When the night had fallen solidly, a strange phenomenon took place in the sky. A phosphorescent glow suffused the heavens, and it lightened the darkness to about the brightness of a full moon.

Presently a guard stationed near the water reported that one of the beasts had left the lake and was coming over the forest trail.

The spacemaster's voice squawked over Rob's and Ken's radios a few moments later. "I want you two to station yourselves beside the trail and report if and when the dinosaur comes through."

Following the path taken by the archaeologist, the cadets reached their assigned spot at a bend beside the dinosaur trail.

After endless minutes Rob felt the ground vibrating under his soles. The curtain of the black forest parted at the bend in the path. The luminous night shone coldly on dripping hide—a mountain of it, it seemed to Rob. Like a living skyscraper the beast moved quickly up to them with giant strides. From the crunching jaws dripped leaves and portions of a purple fruit that Rob had seen growing in the higher trees.

Ken's breath in Rob's receiver was a succession of fever-rapid wheezes. Rob forced himself to keep his wits about him but noticed the beginning of frenzy in Ken's actions. Before Rob could even put through the warning to the ship, Ken's rifle whipped to his shoulder.

Rob barely had time to push the gun aside. "Not that! It would be like a popgun against him!"

Ken thrust him off, his eyes mirroring panic behind the Plexiglas facepiece. "I'm not going to stand here and let him kill us!"

Ken ran out upon the flattened vegetation of the trail and raised the electron rifle to his shoulder again. Like a quick snake, the dinosaur's head swept down in curiosity toward the earthman who would block his way.

The motion seemed to unnerve Ken completely. The gun slithered from his hands. He turned and began scrambling inland along the trail of trampled brush. Rob called to him, but Ken did not slow down. A bellow rolled from the animal's throat as it straightened up to its full height. It began ambling after the fleeing cadet.

"Leave the trail!" Rob cried as he followed along.

The animal abruptly turned to view its second enemy. This gave Ken time to gain some distance. Rob hung back, watching the globelike eyes stare him down. Finally the beast turned its attention toward Ken again and began plodding after him. Rob couldn't remember how long he tagged behind but guessed it must have been about ten minutes before Ken's voice cut in unexpectedly.

"Rob! Can you hear me?"

"Where are you?" Rob asked.

"In the forest on the other side of the trail. I must be inland about a hundred yards. I thought that dinosaur was still behind me!"

"Are you all right?" Rob asked again.

"I guess so. I don't know what came over me. I must've been crazy!"

"I'll double back and meet you at the trail. Do you remember any identification marker where you ducked into the jungle?" Rob asked.

Ken was silent for a moment. "Yeah, I remember. A fallen tree lies facing into an opening in a long patch of brush. I entered there."

"I'll look for it," Rob said and cut off.

Just as he began retracing his steps, there echoed through the region a roar like that of exploding atomic engines. The intensity of the noise finally subsided, but a sustained rumble was still able to penetrate the thin walls of his helmet. The volcano, Rob thought dully.

Up to now he had not had an opportunity to call the *Palomar*. Quickly he tuned it in.

"We've been trying to get you for fifteen minutes," came the voice of Spacemaster Hobson, "but there's some interference in the air that interrupts the radio every once in a while."

Rob told him what had happened and asked if it was the volcano he had heard.

"It was the volcano," his superior told him, and then a note of urgency came into his voice. "The lava is heading this way. If you two want to leave Venus with us, Allison, you'll have to get back here pretty quick! The way things look now we're going to have to blast off way ahead of schedule—within an hour's time, perhaps!"

Rob's heartbeats quickened to a rapid tempo as



he felt the bite of desperation. If Ken could not find his way out of the forest, what then?

He increased his speed over the flattened foliage-strewn dinosaur trail, his spotlight scanning the brush alongside it, alert for the sign that Ken had mentioned. Just as he had begun to think that he had passed the place, his booted foot collided with a fallen tree pointing inland, just as Ken had said. Rob checked for the opening and found it too.

As Ken had not appeared, Rob tried to contact him. But all he got was dead air. He remembered the skipper's remark about interference and hoped that was the answer. After ten minutes' time, however, during which Ken neither appeared nor radioed, Rob began to worry.

Hobson broke in on his gloomy reflections and Rob told him about Ken.

"I can only say I hope Lockman finds his way out in time," said the master of the *Palomar*. "If that sounds inhuman, Allison, I can't help it. We've got to consider the security of the majority above that of any single man. If we hold up on him—or on you either—and the lava gets the *Palomar*, First Expedition Venus is finished!"

The words of explanation moved swiftly along, but Rob had stopped hearing them. He plunged into the opening in the brush, knowing he might very well be sealing off his own last chance of leaving the planet.

He pushed on through thorny shrub and thick screens of curling, glossy foliage. There was a faint trail that suggested Ken might have come this way,



and this was what Rob pinned his hopes on. He was careful to avoid the rocky gulches.

Presently, from a thicket of tall yellow grass Rob heard a crashing of brush. The stalks parted and there in the harsh glare of his light stood Ken. His helmet was missing and his heat-reddened face was covered with perspiration. Words formed on Ken's lips that Rob could not hear because of his helmet.

Rob caught Ken as he staggered forward, his eyes still on the space cadet's bruised features and mouth that hung open gasping for oxygen. Rob unscrewed his facepiece and felt the Venusian atmosphere in his lungs for the first time. The air was oven-hot.

"What happened to you?" Rob asked.

"I—I fell down a stony gulch," Ken spoke laboriously, generously sucking air. "My—helmet—cracked."

Starving for oxygen himself, Rob knew how Ken must feel. Briefly he summarized the necessity for hurry, then got Ken to remove his useless space suit. As Rob replaced his own facepiece, he hoped he remembered which way the dinosaur trail lay. Taking Ken's arm over his shoulder, he began the slow trek.

The cadets still had not gained the trail when the ship's radio finally came on some time later. Spacemaster Hobson's voice came grimly, "The lava flow has increased, we estimate only fifteen minutes' time before that flaming river gets to us. I don't need to tell you, Allison, that we have to blast off before then."

Rob related what had happened since their last contact.

"I don't see how both of you can make it," the skipper told him with grave frankness. "Better one of you should get through than neither!"

Rob's whole nature rebelled. "I couldn't leave Ken!"

Hobson spoke again, this time in the tone of official command. "I'm ordering you to come alone, Allison."

Rob was aware of the little voice of self-preservation that was pleading with him to leave Ken—to obey orders like one new in the Space Command should—and save himself. It was telling him that Ken would not really die if left behind. But Rob knew in his heart that Ken could not survive alone.

"We're both going to try to make it, sir." Rob said and cut off.

Rob's hopes rose when the two of them at last had gained the dinosaur trail. The going was much easier now. He checked his watch. *Thirteen minutes to go.* They might make it yet.

But then the vigor of his exertions began to tell on him. It felt as if his legs were off below the knees, and he expected his overtaxed shoulder to collapse any moment. Ken was nearly unconscious. Rob was carrying almost his entire weight now.

*Seven minutes later.* They were at the bend where they had first sighted the great beast.

In the face of hope, the crowning disaster came with sickening suddenness. A violent explosion

seemed to rock the planet to its very inner crust. For interminable seconds it raged. Then when the horror of it had departed and stillness had settled once more over the jungle, Rob groaned in his final despair.

*The Palomar had blasted off ahead of time.*

Rob's whole body rebelled, now all was uselessness. He felt himself go limp and he saw a sight like whirling galaxies before his eyes. He slipped to his knees. . . .

Slowly Rob roused himself. As his fuzzy vision cleared, his eyes blinked in the glaring brilliance of thorax spotlights. The spacemaster and some of the crew were hovering over him. Martin Savitt was reviving Ken.

"No, you're not dreaming," Hobson said softly. "We're still around. It looks as though the *Palomar* is going to leave Venus on schedule too."

Rob listened as new life flowed into him.

"That shocker was another eruption from the volcano. The boil seems finally to have come to a head. The mountain's beginning to quiet down. One whole side of the cone blew out—away from us, fortunately. Look back where you came from."

Rob faced up the jungle path. In the darkness, across the way Ken and he had walked, a lurid stream was creeping slowly over the dinosaur trail. How glad he was now that he had kept going!

Rob observed the trace of a smile on the spacemaster's features. "For once in my life, Allison, I'm going to decorate a man for disobeying orders!"

## *By Jupiter*



THE SPACE SHIP *Procyon* was forty-eight days into deep space from Earth, its beryllium skin reflecting dully the anemic rays of the sun which was steadily growing smaller and smaller as the craft drove toward the king of planets.

Inside the *Procyon*, Rob Allison took a breather from his tedious job of inspecting the multieyed camera he would operate on Io, Jupiter's large inner satellite. His magnetic-soled shoes clicked on the polished metal flooring as he walked over to the broad quartz port and stared out at the breathtaking panorama. Most startling of all, of course, was the star-dusted mantle of black which stretched endlessly in all directions. Earth, three hundred and seventy millions of miles away, was nothing more than a spotlight now, while up ahead, at the end of their imaginary curved trajectory, hung the big globe of Jupiter, still a week away. Like a slowly

inflated balloon, the rainbow-banded planet, twelve times Earth's diameter, was growing rapidly in size.

Rob turned as the oval door of the compartment swung open. He faced a lean, tow-headed, young rated spaceman, a few years his senior, who was wearing his perpetual friendly grin.

"Hi, Jim," Rob greeted. "Taking a break, too?"

"That's a polite name for loafing," Jim Hawley returned. He examined the big camera outfit with interest. "Boy, isn't this a beauty?"

"Haven't you seen the arguscope before?" Rob asked, joining him.

"No, I never see anything any more, cooped up in my fourth rear rocket tube hole," Jim replied, with a wry smile.

"You should worry," said Rob, settling his wiry blue-and-braid form in the plasticoid chair beside the instrument. "You've got gold jets on your shoulder. That's pretty good going for a fellow as young as you are."

"It's you who should be wearing these jets instead of me," Jim said. "You've figured in saving expeditions on Luna and Mars. What have I done? Seniority, they call it."

"I'll let you in on a secret, Jim. The Allison family may be in line for a promotion if this expedition goes through successfully."

"You and your brother both!" exclaimed Jim. "That's great! At last they appreciate the top astro-gators in the business!"

"It's a pretty reliable rumor that Grant is up for



presidency of Interplanet Exploration, since Dr. Kinsman just died," said Rob.

"What an opportunity!" murmured Jim enthusiastically. "That's only the most glamorous and high-ranking unit in space flight! But what's this about your promotion?"

"Grant, being on the inside with the Space Command," Rob answered, "told me that he found out I was up for rated spaceman if I proved myself on the Jupiter project. He said that this job would give me the minimum qualifying experience."

Jim held up two crossed fingers. "Here's hoping for both of you."

He directed his attention to the multilensed camera again. The complex instrument was approximately ten feet square and was a maze of delicate controls. "Tell me something about this gadget," he asked.

"The arguscope was named for Argus, the many-eyed creature of Greek mythology," Rob said. "The set is a combination camera and spectroscope and is a more complicated copy of the *Procyon's* built-in spectrocamera."

"My training didn't include spectroscopes," Jim said wryly. "Just what are they?"

"They analyze substances by breaking them down into certain combinations of colored lines that tell what the component elements are," Rob explained. "We'll set the arguscope up on Io and photograph Jupiter, a quarter of a million miles away, as he rotates. The spectroscope system will break down his elements for us, and the remaining lenses will

photograph the planet in infrared, ultraviolet, and under other kinds of special lighting. As a result, we'll have the most complete picture ever made of Jupiter."

A week later Rob was called into the navigation room by Grant. As he entered, Rob saw the tall, spare form of his brother standing beside the port. Grant looked up, and Rob studied the keen-eyed man, still young, who already wore the diamond shoulder cluster of a spacemaster. Grant's working jaw muscles showed his underlying intense drive and spirit.

Rob was reminded of the first trip he and his brother had made to Luna. Not even a cadet then, Rob had gone over Grant's head to get permission to make his first space flight. He had almost wished he hadn't when he ran headlong into the severe, perfectionist pattern of his brother. Grant had nearly broken his spirit trying to make him toe the mark. But Rob had stuck it out, and now he was glad that Grant had been rough on him. For the ways of space were rough too, and if a man did not continually keep his senses sharpened, he could bring disaster upon his companions and himself.

"Come in, Rob," said Grant and nodded out the port.

Rob approached the big window and stared through the clear quartz at the staggering majesty of the king planet which now dominated the scene. The disk, flattened noticeably at the poles, was a kaleidoscope of rapidly changing hues. It was a

symphony of motion, a rhythmic unit of driving ammonia cloud masses and drifting sea of raw methane, the deadly firedamp of coal mines. Jupiter was the fastest-spinning top in the solar system, completing one rotation in the incredible time of ten hours.

"There lies our job," Grant said. "The World Science Union wants a full portrait of the big fellow, and that's what it'll get, come what may."

Rob noticed the scattered globes of some of Jupiter's other moons. Ganymede, the largest, greater in size even than the planet Mercury, was a glistening ball at first quarter. Jupiter V, the closest moon, only a hundred miles in diameter, was a black dot against a green band in the parent planet's north temperate zone. Europa was just peeping around the east limb of Jupiter, while the other Galilean satellites, Callisto and Io, were not visible. The outer moons of the family of twelve were little more than large meteors and were too remote to be picked out from the stars.

"We'll intercept the orbit of Io at 1408, a few hours from now," said Grant. "Although we can't see her now, she moves rapidly and will be swinging around the east limb before long."

At 1406 the *Procyon* was plunging groundward, as per schedule. Strapped to his acceleration couch, Rob Allison felt the grueling pressure of reduced velocity as the space ship's firestreams prayed against the rocky surface of the Jovian moon in its braking thrusts. Rob knew that the gravitational

tug of Io was little worse than that of Luna, Io being somewhat larger. But his senses were reminding him that this landing was as rough as any he had ever made.

At last the nightmare was over, and Rob felt the tranquility of firm ground beneath his feet once more as the *Procyon* sank deeply into her cushioning shock absorbers.

Rob staggered on rubbery legs over to the port. He looked out and saw a twilight world the like of which he had never seen before. Distant uneroded mountains and the speckled black of the heavens reminded him of Luna. But there the similarity ended. It was dawn, and he watched the feeble rays of the distant sun rise over a far shimmering plateau of crystal! Here and there were hills of the same substance. Elsewhere the ground was covered with a solid sheet of ice.

Rob joined his spacemates in suiting up. Then, fully dressed in oxygen-pressurized suits and helmets equipped with talking radios, the fifteen crew members passed out of the air lock of the *Procyon* onto the alien soil. Rob and his companions were so impressed by the Ionian fairyland that it was some time before they noticed the huge sphere of Jupiter hanging poised over their heads. Rob gasped in instinctive fear when he first looked up and saw the giant planet dominating fully one fourth of the sky from horizon to horizon.

"It's just like standing under a precarious chandelier," Jim jested. "You expect it to fall on you any moment."

"The only difference is that you can't get out of the way of this one!" Rob answered uneasily.

"This sheet ice looks solid enough," Grant said, stooping down. "It should be, though, at a hundred and thirty degrees below zero. The murky color of it seems to indicate the presence of ammonia." He rose to his feet. "Let's set up the arguscope."

The camera was carefully brought out of the ship by four of the crewmen and set up in its transparent protective case, its lenses facing the overhead planet. "It's all yours now, Rob," Grant said. "While you're operating it, the rest of us will do a little exploring in the neighborhood."

Jim Hawley remained with Rob as the others left. Rob carefully adjusted the dials on the arguscope and turned on the power. The rest was up to the machine itself. All Rob needed to do was see that it operated smoothly and that nothing damaged it. Presently, the youths saw the exploring party in the distance cross a fissure in the ice and disappear behind a shimmering white bluff.

"Wonder how thick this ice is?" mused Jim, kicking into the ground with the heel of his weighted shoe.

"Who can say?" answered Rob. "Several feet—miles. Jupiter has a belt of ice thousand of miles thick next to its rocky core, you know."

The crystal plateau was showing scintillating colors as the tiny disk of the sun pushed into the black sky. Grant had identified the crystal formations as blocks of frozen ammonia and ice. Rob was amazed with what rapidity the day moved along, then re-



called that it took Io only some 42 hours for a complete revolution around the big planet. Jupiter itself never appeared to move because the *Procyon* had landed on the zenith point of Io, the spot that always faced Jupiter. Like the satellite of Earth, Io always kept the same side facing the parent planet.

As the sun climbed higher, the youths were alarmed to find the ice bed beginning to crack, either from internal stresses set up by the sudden warmth or from an earthquake effect.

"What'll we do?" Jim asked anxiously.

"We can't move this heavy set ourselves," Rob replied. "We'll just hang on until the others return. I don't believe we'll be in danger for an hour or so yet."

"You're the boss," Jim said reluctantly, and Rob wondered if he was doing the right thing in not immediately putting through a call to Grant for help.

"We'll sure waste a lot of valuable film and time if we have to stop the sequences before Jupiter makes its complete rotation," Rob reasoned.

They let it go at that and relaxed, looking skyward again. They picked out the tiny disk of satellite V and were amazed at the swiftness with which it was moving across the dark cloak of space. They spotted the larger disks of Ganymede, Europa, and the more distant Callisto. But the grandest sight in the heavens was the giant planet. They watched the swirling vapors change continually into new patterns and colors. Some of the strange, form-

less shapes passed one another, proving that all the belts did not rotate with equal velocity. There was a terrible grandeur about the chameleon world. Beneath that frigid atmosphere what explosive fury and sound existed the youths could only guess.

Rob froze in fear as his eyes caught disaster in the making not far off. The absence of air on Io prevented the violent activity being heard. The sheet of ice cracked open, and an enormous split was enlarging as it neared the spot on which Rob and Jim stood!

Rob's breath choked in his throat, and his legs grew weak under him. The breach widened, and the ground shook underfoot. The sides of the growing chasm folded back, and seemingly bottomless depths opened up. Like a crawling serpent the crack meandered across the ice, jutting off at angles at times, only to cut back relentlessly onto course again and, like a calculating monster bent on destruction, heading once more in the direction of the *Procyon* and the arguscope.

"There come your brother and the others!" Jim cried. Rob watched, through heavy-lidded eyes, the tiny running figures of the crewmen approaching from the distance. But they would be too late to help.

As the breach neared them, Rob and Jim finally turned and ran toward the ship, a couple of hundred feet away. A chasm opened up underneath the arguscope and spread outward like a voracious mouth opening for food. The valuable instrument slid into the black throat, which swallowed it.

Rob and Jim fell exhaustedly in their tracks beside the *Procyon* and watched the destroyer move out across the ice field as though intent on cutting the Jovian moon in two.

Fifteen minutes later Grant Allison was facing his crew in the briefing room of the *Procyon*. "We have failed," he told them simply.

What a strange word to be coming from his brother, Rob thought glumly. Grant should have said, "You failed," indicating him—Rob. Jim had warned him about the danger of the situation, and he had not played safe. Rob had already explained his own blame in the matter, but Grant had not heeded, placing the responsibility on himself instead for not having anticipated such a possible catastrophe before he went exploring.

It made Rob ill to think of the destruction of the valuable arguscope, worth thousands of dollars. Added to this price was the enormous expense of the expedition itself, as well as the expectations of the scientists back home who had gone to great trouble preparing their laboratories for analysis of photos and consequent research when the *Procyon* was to have returned.

They simply could not go back empty-handed, Rob told himself fiercely. But what could they do now with their best equipment destroyed? Then Rob caught a glimpse of Jupiter through the side port of the compartment, and a daring plan formed in his mind.

Rob climbed to his feet. "Grant—er—Sir, I have a suggestion."

Grant turned his gray eyes on his younger brother. They were tired eyes now, mirroring bitter defeat. "What is it?" he asked tonelessly.

"Is it possible for us to use the ship's spectro-camera and approach to within several thousand miles of the planet itself?" Rob questioned hesitantly.

They didn't laugh at him, as he half expected. Instead, the eyes focused on him seemed to glow with a sudden interest.

Grant spoke after a moment of thought. "It's dangerous, but on the other hand we're in pretty desperate straits. Big Jove has not only a poisonous and explosive atmosphere, but his gravity pull is terrific—more than two and a half times that of Earth—and could crush us to atoms if he ever got hold of us. However, I'll compute the speed necessary to keep us in a safe orbit above the atmosphere and see if we're able to attain it."

It was figured that tiny Jupiter V, the closest moon, required a speed of about sixteen miles a second to stay beyond the clutches of the big planet at a distance of 112,000 miles. At a height of fifty miles above the topmost atmospheric layer, it was decided that the atomic engines of the *Procyon* could barely support the terrific velocity needed. Grant reluctantly gave his approval of Rob's idea.

Jupiter was in the process of eclipsing the diminutive sun as the *Procyon* blasted off from Io.

Rob prepared the spectrocamera for operation when they would level out over the planet. Jim Hawley was to be a very busy fellow too, since the rockets would all be in full performance.

Apprehensively, Rob watched the turbulent surface of Jupiter growing fearsomely before his eyes. Every luminous detail seemed to be magnified a thousand times. Great masses of crystalized ammonia were recognizable, as well as reddish storm centers, some of them of a size comparable to Earth's continents. Large bands of lurid color, composed in part of explosive methane gas, rolled past below them. The clouds boiled outward from the ocean of atmosphere like clutching fingers seeking to drag the space ship down into the stormy interior.

Rob felt the shudder of the craft as it reached top speed. If the craft needed an extra burst of energy she would never get it, he thought grimly. He tried to keep his mind on his own job. The set was operating all right, but unlike the finer one that had been lost, this one had to be guided and checked constantly.

Disaster struck swiftly, with scarcely any warning. Rob recognized it when the ship jerked and he heard a whining banshee wail roll along the corridors. A jet tube had blown! Like an outmanned opponent that has finally given in to its stronger adversary, the *Procyon* was diving toward Jupiter!

Things happened too swiftly for Rob to be scared. He saw the port engulfed in steamy, colored swirls and knew the ship was already inside the



atmosphere of the king planet. He heard the brisk order over his intercom speaker going from Grant to the rocket section: "Cut all power!"

Although it sounded fantastic to be cutting braking energy, Rob realized this was sound advice, and he marveled that his brother had acted with such capable swiftness in the crisis. They were rubbing shoulders with methane now, and the torch of their spurting jets could write a hurried finish to the expedition. But even so, Rob felt that their case was nearly hopeless. He could think of nothing that would prevent their being dashed to bits against the icy core of the planet, even were they to escape collision with one of those giant ammoniabergs. However, if the latter were not too numerous, the automatic radar pilot would enable them to stay clear of them.

Rob checked the atmosphere analyzer that was connected to the spectrocamera. The *Procyon* had sunk into a layer that was now principally hydrogen, one of the most explosive of elements. He expected their speed to ignite them into a flaming meteor. He waited minutes, but no explosion came.

But still they were falling. He wondered what it would be like when they hit. Probably it would be so quick they wouldn't even know it, he thought hopefully. He wondered what Grant and the others were doing in their helplessness.

Idly he examined the analyzer again. One of the vials was changing its distinctive color of hydrogen to a deeper hue, indicating the presence of nonexplosive nitrogen. Rob had a sudden, wild hope.

Would the heavier nitrogen become stronger as the ship fell deeper, thereby supplanting the dangerous hydrogen? The methane had already disappeared.

Slowly the color deepened. He switched on a finer element of the analyzer that broke down the color into its components. Only finely diluted hydrogen remained of the once strong content. The rest were inert gasses—noninflammable. Quickly he announced his discovery to Grant over the two-way intercom.

"If you can cut in the rocket power before crashing I think we can lift her out of here!" Rob said excitedly. "All traces of an explosive atmosphere are gone from this area, but at my next signal you'll have to cut off again as we rise to the hydrogen layer."

"Good boy!" cried Grant, and Rob detected a profound note of relief in his brother's strained voice.

Rob quickly strapped himself down on his acceleration couch and an instant later felt the harsh pressure of sudden power. The compartment whirled crazily before his eyes, and he knew the craft was dragging her nose around in the stormy currents and upward into the heights. Fortunately his dizziness subsided in time for him to study the analyzer again, this from his prone position. As the color of hydrogen seeped into the vial, he called to Grant to cut power again. The ship shuddered and the noise of her rockets was stilled. But she continued to rise under the booster thrust.

The jubilant voice of Grant came presently over the speaker: "Our momentum will carry us above the atmosphere, then we can cut in thrust again safely and be on our way back to Earth. Good boy, Rob!"

Sometime later Rob watched the churning atmosphere drop away below the space ship as it drove into the eternal night of space. He checked the spectrocamera and found that there was a remarkable record of Jupiter's composition locked up in it. The close-up of their subject was even more satisfactory than the distant one they would have had from Io, and the unexpected success would make up for the loss of the arguscope.

Rob was studying the distant shining emerald that was home when Grant's voice again came to him over the speaker. "I guess you deserve a rated spaceman's gold all right, Rob."

Rob felt the joy of the moment. "The way you pulled us out of that cyclone, I should say that goes for you too, skipper—I mean, your presidency!"



## *Sol's Little Brother*



"HAVE THE LAST STEAK," Jim Hawley said to Rob Allison, offering the plate containing a compressed-meat cube.

The lean, dark-haired young spaceman, recently promoted from "sputter," accepted and absently plopped the cube into his mouth. His eyes held a brooding look, almost troubled.

"What're you thinking?" Jim asked, lifting his black-booted feet onto the lounge compartment's hassock of foam rubber.

"I'm thinking about that jinx we're supposed to have taken on," Rob answered.

Jim snorted. "You don't really believe that space-men's superstition about two meteors crossing paths in the sky bringing bad luck!"

Rob grinned wryly. "Not believing exactly, just thinking. You'd be surprised how often, though, a ship does have four misfortunes in a row before the so-called jinx leaves it."



Rob's gaze took in the black, star-dusted heavens through the expansive side port of the *Apollo V*, which was bound for Sol's most intimate celestial companion, tiny Mercury. Tomorrow they'd be landing on the airless planet, world of extreme contrasts in heat and cold, which always kept its same face sunward. The main objective of the expedition was the mining of athermite, a substance which had been found to be an astoundingly effective heat insulator. Sidelights of the voyage were to be mineral research by Dr. Anton Galbreath and photography by Rob, including some spectroheliograms of the sun.

"This athermite we're after is pretty useful stuff in hot places, isn't it?" Jim asked.

Rob nodded. "If our space suits weren't covered with it, we'd be plenty uncomfortable. Sol's little brother gets over six hundred degrees on the hot side, remember."

"I heard that when enough of the stuff is mined to cover a space ship we'll be able to jet right though the corona of old Sol himself," Jim said.

"That's right," Rob agreed. "After this expedition of ours that kind of space ship will be a reality."

When the *Apollo V* landed on Mercury the next day, the crew left the ship attired in their brilliant thermal suits. It was a weird land of harsh lights and shadows, not unlike Luna. Just ahead lay the indistinct line that divided the eternally lighted hemisphere from the perpetual darkness.

"We landed on the right spot," spoke Spacemas-

ter Sedgman, young skipper of the expedition, over his helmet radio. "There are the jet burns of ships that have been here before."

Through his heavily tinted helmet facepiece, Rob stared at the scorched landscape of plunging gorges encircling islands of land. It reminded him of a massive mud flat which had cracked into separate pieces as it dried. Some of the islands had sunk below the average level for an unknown reason. The space ship was on such an isolated section, entirely surrounded by a deep gulf, except on the left where a strip led downhill to an adjoining island.

"That must be the athermite cave out there," said little Dr. Galbreath, the mineralogist, who wore old-fashioned spectacles inside his helmet.

Rob and the others looked where he pointed. Several hundred yards away was a cave with tracks leading over rugged ground to the *Apollo V*. At one point the path ran perilously close to the chasm on the left, skirting a blockade of rocks.

"Let's start mining," the skipper said. "Jim, you can forget rocket tubes for awhile and help Rob with his photography."

As the men turned to their various jobs, they resembled luminous specters in their glittering space suits, coated with heat-repelling athermite. There was an air space between the athermite layer and the inner part of the suit through which heat that penetrated the athermite was circulated into a chemical cooling plant carried on the back of the suit.

As Rob and Jim were descending the ship's ladder with their optical equipment (also athermite-covered), Rob noted the upper curve of the giant sun on the horizon. It was spewing mountains of red fire into the black sky which was dusted with the misty light of countless nebulae and stars. The *Apollo V* was in the equivalent of the north polar region, and Rob knew they would never see the whole of Sol during their stay here.

As the crew set off for the cave, one of the men pointed to a coursing stream of viscous luminescence at the bottom of the chasm to their left. Dr. Galbreath identified the stream as composed of molten lead, forever in a liquid state from the intense heat. This was the spot where the trail ran very close to the brink, skirting a dense rock formation.

"One misstep," Jim said, "could give someone a very hot bath!"

Rob nodded gravely, with a shudder. On the other side of the gorge he judged the bank to be about a hundred feet below where they stood now. Rob and Jim surveyed the cave with the others and found an ore cart and other equipment left by the previous expedition. The fire drill, an intensely hot torch, was connected to a generator, and presently Rob was watching the heated point bite into the athermite wall like a knife through cake. The athermite was hewn out in chunks which were loaded on the hand-cart. Due to the lightness of the substance, it required only a couple of men to push a huge load.

Rob and Jim set up their equipment outside the cave and began taking movies of the rugged landscape. Spacemaster Sedgman went exploring about the island with some of his officers.

Less than thirty minutes later, Rob and Jim heard a cry burst over their radios. They darted into the cave and found one of the miners stretched out on the ground.

"What happened?" Rob asked one of the men.

"The fire drill slipped out of Dave's hand and burned a hole in his suit!" came the reply.

Rob went after Dr. Kornig, the medic, who was exploring with the officers, and was back with him quickly. The physician had the injured Dave Evans carried back to the space ship. Then with all the crew in attendance, Dr. Kornig made his examination and gave a report: "It'll be many hours, possibly a day or two, before I know if he'll pull through. He's got a bad case of heat stroke and burns from the puncture in his suit."

The *Apollo V*'s crew went back to work, but it was with considerably less enthusiasm. And very soon the word *jinx* was beginning to be heard regularly.

"Dave is the first," Sam Exton, the injured man's closest friend, said to Rob outside the cave. "Remember the saying—four accidents before the jinx leaves your ship!"

Later in the day Rob and Jim were taking pictures near the cave when there came a shout from up the trail. The men working inside the cave

heard it, too, and went running with Rob and Jim up the path.

They reached the spot where the trail approached close to the precipice of the lead river and saw the men who had been pushing the cart pointing over the bank. The charred, smoking cart was riding downstream on the crest of the molten current!

"The cart overturned on a rock," said one of the men. "It's lucky one of us didn't go over with it!"

Sam Exton broke the somber silence that followed. "That's Number Two—there're still two more to go."

When the skipper heard of the accident he said, "That ends our mining activities. Our bins are two thirds full, though. That's not bad. Perhaps we'd better end this little junket here and now and head back earthward before anything else happens."

Dr. Galbreath asked for one more day to complete his mineral research and the spacemaster acquiesced. The men offered no objection. They seemed to feel that when a jinx was on a ship, it would run its course whether on land or in space.

Rather than have the crew idle and restless, the skipper continued with the mining to a limited extent, having the men carry the lightweight blocks of athermite to the *Apollo V* by hand. Dr. Kornig remained in attendance with Dave Evans who was still in critical condition. Rob and Jim returned to the front of the cave and prepared to make a spectroheliogram of Sol.

But they had no sooner had the special camera



set up than Rob felt the ground shudder beneath his feet. He looked alarmedly at Jim. What happened next was so shockingly swift that Rob was certain his short space career was ended. Like a runaway elevator the very ground he stood on began dropping beneath him! It was the same quick nauseating sensation of a rough rocket landing. Moments later, Rob felt a jarring bump on the weighted soles of his boots, and the crazy ground was motionless again.

He looked back in the direction of the ship and saw a towering precipice where once the land had been a solid stretch. Quickly he realized the extent of the cataclysm. The island had split in two, the cave half having sunk about a hundred feet!

Rob looked over at the huddle that was Jim Hawley. Rob climbed shakily to his feet and found himself in something of a shocked state, but unhurt. He helped Jim up. "You all right, Jim?" he asked.

"I—I think so," the older youth murmured.

Rob pointed to the newly formed precipice. "Somewhere up on top is the *Apollo* and most of the crew. How we'll get back to them is anybody's guess."

They looked around them. Some of the ground had crumpled in the landslide, but most of it had fallen as a solid giant slab, including the cave and much of the territory around it. Presently Dr. Galbreath and two other men came dazedly out of the cave, seemingly in no worse shape than Rob and Jim. The five of them discussed their plight for a

moment, then Rob led them to the chasm on the left where the the river of lead flowed.

He pointed to the far bank which was about fifty feet away. "That's our only means of getting back to the others," he said. "The ground slopes upward and joins the other end of the island, remember." He indicated the precipice that had been formed in the land fall. "It's too steep there, so that's out."

"I don't see any bridge across this big ditch!" one of the men retorted.

"They'll have to throw us a rope line," Rob explained. "We can tie our end on that pillar of rock crystal on the hill behind us."

"You don't mean cross the ditch hanging by our hands, do you?" asked the crewman incredulously. "I don't care to be lead-plated!"

"It won't be very dangerous," Rob told him. "For safety's sake we can loop a rope section over the main line and fasten it to our helmets. Then in case we slip, the short rope will catch us."

"Rob's right," Spoke Dr. Galbreath. "It's the only way." The mineralogist flexed his arm as though it bothered him.

The five of them were joined unexpectedly by Sam Exton. He said the land drop had caught him on the trail while he was carrying athermite. "You know what this catastrophe is, don't you?" he said. "It's bad luck Number Three!"

By now the other members of the crew were at the precipice overhanging the fallen strip. When they saw their trapped comrades standing on the

brink of the lead stream bed, they circled around and came down the slope on the other side of the embankment across from the trapped men.

Rob outlined his plan to Spacemaster Sedgman, who agreed that the idea was their only method of reaching the other side. The skipper sent a man back to the ship. The man returned shortly with a coil of fireproof plastic rope and a piece of flexible cable from a rocket motor. One end of the rope was tied on a stone and thrown across the chasm. When Jim had tied the end to the pillar of rock crystal, it was discovered that the rope was barely long enough to be held by several men on the other side.

Rob's party drew lots to see in which order they would cross over on the rope. The three miners would be first, then Jim, Rob, and Dr. Galbreath. The loop of cable wire was tossed over the rift and caught. It was then swung over the rope and fastened to both sides of the first crewman's helmet. The man stepped out over the chasm, hanging only by his gloved hands. On the other side four men held the other end of the rope.

As he carefully inched his way across, Sam Exton muttered grimly, "One of us is going to be Number Four."

The crewman reached the other side without a slip and was hauled onto the bank. Sam went next and lost his grip halfway over. But the cable support caught him, and he regained his handhold. The remaining miner made it over without a hitch. As the wire was tossed back for the next trip, it

fell close to the edge of the embankment. Jim, standing nearest to it, made a desperate dive for it, but it eluded his grasp and skittered into the depths.

The commander told Rob and his two companions that no more wire or cable was available.

"Are you scared?" Jim asked Rob.

"Plenty," Rob answered. "There's nothing else we can do, though, but cross anyway and hope that we don't slip."

Rob glanced at Dr. Galbreath, realizing gravely that he was much older than himself and Jim and would probably have difficulty crossing. On top of that, the mineralogist seemed to have hurt his arm in the land break.

"Here's hoping we meet safely on the other side," was Jim's nervous banter as he stepped out over the gorge and swung by his hands.

Rob's throat was tight as he looked on. He was thinking of the jinx that had one more misfortune to go and of the fact that Jim Hawley had been almost like a brother to him. Rob was vastly relieved when Jim's feet finally touched the far bank and he was pulled to safety.

"It's not bad," Jim's voice came over Rob's radio. "Just take it easy and don't look down."

Rob hesitated before swinging out into space. He was still worried about Dr. Galbreath who was to follow and the injury he was probably concealing. Suddenly he had an idea.

"Will you swap with me, Dr. Galbreath, and go

first?" he asked. "It'll give me more confidence if I see that you make it all right."

Rob saw the scientist's bright thermal suit rise and fall in the shrug. "I don't suppose it matters which of us goes first."

Dr. Galbreath reached up for the rope, but as he took the weight off his feet, he winced and released his right handhold. He dropped to the ground again. "I'm afraid I twisted my shoulder in the slide," he confessed.

He'll never make it alone, Rob told himself. Both of them would have to go together—there was no other way.

The mineralogist refused to endanger Rob's life, but when Rob declared that he would never cross the chasm without him, the scientist finally agreed to ride on Rob's back. Taking advantage of Mercury's low gravitation, Rob used one of Dr. Galbreath's research knives and cut the added-gravity weights off their boots. When the operation was over, Rob felt the hot ground burning into his soles.

The scientist locked his hands firmly around Rob's neck, and the younger man swung out over the abyss. Rob kept his eyes upward as he went hand over hand. That slender thread he hung by, silhouetted against the dark starry sky, was the only thing between two lives and disaster. Whirling round and round in his head like a broken record was the torturing memory of the *Apollo's* jinx. One to go—one accident to go before it was broken!

For a terrifying instant Rob was nearly overcome by his dread. His left hand slipped, and the



two of them hung only by the five fingers of his right hand. He recovered quickly but his eyes dropped instinctively downward. The leaden stream was a glistening ribbon of molten fury. Rob saw gleaming crests spear upward like grasping hands trying to pull them down to fiery death. Rob felt the sweat pop out, and he turned his face up again. Dr. Galbreath was silent, but Rob could hear his labored breath pulsing over the helmet radio.

"You all right, Doctor?" Rob asked.

"Sure, Rob, sure," was the calm reply.

"You're better than halfway," came the reassuring voice of the spacemaster. "Take it easy. You'll make it."

Near the bank, Rob's fingers became cramped, and the added weight of the mineralogist on his back seemed to be dragging him down. The perspiration trickled into Rob's eyes, blinding him. He fought to remain steady, although he could no longer see where he was going. His trained hands picked the way for him. All he knew was that he was moving consistently forward. Presently he felt firm hands on his arms.

"Hold on just a second longer, Rob, and we'll have you up," someone spoke.

Then they were pulling him and his burden onto the bank—safe. Rob was too weary in mind and body to take interest in the congratulations showered on him. He was anxious to get back to the ship.

As the party trooped up the hill, Sam Exton said

to Rob, "I'm sure glad you and the Doc got over safely, but it still leaves our jinx with one to go."

"Dave!" cried one of the men as he heard.

All were thinking the same thing: would his death be Number Four—the final misfortune of their trouble-ridden expedition?

When the party was nearing the ship, the figure of Dr. Kornig was seen descending the ladder. The men broke into a run toward the ship. The physician and party met at the foot of the ladder. Tensely, the crewmen awaited the news.

The medic said simply, "He's out of danger."

Rob felt a blast of cheers on his radio. The men pushed ahead of him, eager to mount the ladder. Rob's feet burned like fire from the hot ground, but he and Jim hung back to let the others go ahead.

Jim was the last to go up. Rob, near the top, heard a muffled *plunk* behind him and turned to see Jim sprawled on the ground. Jim scrambled to his feet, limping badly. Then to Rob's amazement, he burst out laughing!

"What's funny?" Rob asked, smiling himself.

"Don't you see?" Jim answered. "The jinx—it's off—I'm Number Four! This is the first time I've ever *enjoyed* getting hurt!"



## *The Day the Flag Fell*



AS DON SAMUELS stepped from the air lift on the fourth floor of the observatory arsenal, he felt a sudden shaking of the floor under his feet. He moved over to a window and watched funnels of sand making a miniature battleground of the asteroid earth. Quickly as the meteor shower had begun, it was over. The dust clouds evaporated swiftly in Philos' airless, light gravity, revealing the spotted canopy of deep-black space beyond.

Don noticed for the first time that he had company in the corridor. Striding from the director-general's office, where Don had been summoned himself, was friendly Big Jack Lacy, a radioman.

"That was a rocker, wasn't it, Jack?" Don said. "Wonder if we got hit anywhere?"

To Don's complete surprise, Sergeant Lacy ignored him intentionally and went past him into the air lift.

The unexpected behavior nearly floored Don,

for they had been the closest of friends. Soon after Don's arrival on the asteroid, eight weeks ago, a warm fraternity had grown up between them. None of the older, married workers had much interest in the space yarns spun with almost monotonous regularity by the bachelor of the outfit, but in Don, Big Jack had always found an eager listener.

As he walked along the corridor, Don stared broodingly out a broad window down on the meteor-scarred surface of the miniature planet. Philos had been captured by the Earth's gravity fifteen years ago, back in 2016, and now the asteroid pursued a permanent orbit around the parent body some 94,000 miles away. Closer than Luna, Philos was quickly put to good use, having been given the honor of housing the supreme defensive weapon of the United Nations.

Its telescope scanned virtually every mile of Earth's surface and was thus able to discover quickly if armies of aggression were marching. If needed, the observatory's huge arsenal of atomic-guided missiles, synchronized to the mirror bomb-sight, could punish the breaker of world peace. So far there had been no need for such action, but spies from an insurgent power on Earth were known to be inhabiting some of the hidden valleys of Philos. Their intentions were no secret to anyone: overthrow of the U.N. and establishment of a world totalitarian state.

Don knocked on the director's door and was bidden to enter. The director, a tall thin man in a neat buff uniform, was seated at his desk listening



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to a report of the meteor shower over his intercom. Don heard the squawks coming over the speaker: "The meteor shield diverted most of the stones, Sir, but one got the transmitter and put it out of commission. We're working on it now. The receiver is all right."

General Fisher switched off and turned his attention to Don, picking up a green electrogram he held. "Don," he asked, "your stepfather was Elbert Cantrell, wasn't he?"

It was the second shock of the past few minutes for Don. He felt sudden cold despair settle into every fiber of his lean, hard-sinewed body. Elbert Cantrell had been arrested two years before as a spy for the government that was attempting to overthrow the United Nations. Now the disgrace was catching up with him again, just as he had dared believe that the bitter event was finally behind him.

"Ever since you came here with your astonishing scholarship record in science, Don, I've been predicting to my staff big things for you," the director went on. "Reading this report was quite a shock to me."

"Am I suspected of being a spy, too?" Don asked incredulously, placing his broad palms on the director's desk.

"Undercover agents think they have good grounds for suspicion," General Fisher told him. "Don't forget you're with the most important outpost of defense the United Nations has."

"I guess I can't blame them," Don said dully, running his fingers through his dark hair.

"I've been ordered to turn you over to the Space Guard in the morning, and they will conduct you back to Earth for questioning," the director told him.

Don turned away mumbly and stared out the office window into the frosty sky, his deep-blue eyes lifeless. A few score feet away bulked the giant fortress of the atomic arsenal. In the remote distance beyond he knew there lay the shiny beryllium spires of the Space Guard, who would be coming to take him away.

Don asked, "Could this be why Big Jack refused to speak to me, Sir, when I was coming to your office?"

The other nodded. "Very possibly. Lacy was in here when the electrogram was wired in. When your best friends turn against you, Don, think how others who do not even know you will react."

Having friends turn against them was nothing new to Don and his mother. Ever since Elbert Cantrell's treasonable activities had been uncovered, they had lived lives of shame among their former friends. To prove his own loyalty, Don had pushed himself extra hard in his studies after moving to another part of the United States. He had changed his last name and had finally earned the rare apprenticeship in astrophotography on Philos.

"Perhaps Big Jack wouldn't be so bitter if his brother in the Space Guard hadn't been killed

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recently by a spy in that attempted arrest," the director added.

The intercom buzzer sounded, and General Fisher switched in the booming voice of Big Jack: "We're still working on the transmitter, Sir. But what I'm reporting mainly is that someone has discovered the flag is down on top of the observatory flagpole which was snapped in two by a meteorite."

"Never mind that," the general said. "I'm more interested in repairing that transmitter right now!" He cut off.

Don began pacing a corner of the room restlessly. Sometimes flags are more important than transmitters—or observatories either—he felt like telling General Fisher, especially when a person no longer has a flag he can call his own.

The director took a long time working up Don's arrest order. Then suddenly the door was opened and Colonel Jacobson, second in command, entered in a hurry. His face was gray with fear.

"General, the observatory is going to be destroyed!" he exclaimed.

The director stared at him in disbelief. "What are you saying?"

Colonel Jacobson went on, in a shaking, tragic voice. "The enemy has spotted the damaged outdoor antenna and wiring of the transmitter and has permitted General Cooley at the Space Guard casually to overhear a report that they have taken over the observatory here and pulled down the flag! They know we're unable to deny it with our transmitter dead!"

"They won't dare attack us!" General Fisher said loudly. "They know the Guard was established on Philos to protect us!"

"It's the Guard that's going to destroy the observatory and arsenal!" the colonel said grimly. "General Cooley has been absolutely taken in by the trick, and we've overheard him say he's going to send out a rocket plane to bomb this place so that it can't be used by the enemy to support a ground attack on Earth!"

"What a diabolically clever scheme!" General Fisher shouted. "We certainly can't sit idly by, though, and wait for ourselves to be blown up! There must be something that can be done!"

In the heavy silence that followed, Don's mind began to work on an idea. He came over to the director's desk. "Sir, if you'll permit me a suggestion, I think I know a possible way to save the observatory."

"Then by all means let's have it!" the director spoke.

"If we put the flag back up," Don said, "I believe the bombing pilot will hesitate to drop his load, since the enemy reported they had pulled down the flag. Perhaps that would give you time to signal the pilot from the ground."

General Fisher thought a moment, then said, "Ordinarily he'd be over too fast for us to signal him, but if he hesitates, as you say. . . . I believe it's worth a try."

He switched in Sergeant Lacy. "Is there any

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hope of getting the transmitter working in a few minutes?" he asked.

"None at all, sir," was the reply. "It'll take hours."

The director then outlined Don's plan to Big Jack, not mentioning Don by name. The radioman thought it might work. When the director said they would need a volunteer, Big Jack had something to say on that.

"Let me try it, sir," Big Jack's voice came over the intercom. "I'm the only man here without a family. Besides, I've got a personal score to settle with these rebels!"

"Then the job is yours," the director said. "Get on it immediately. I'll serve notice for all personnel to abandon the observatory and arsenal and take some of the most valuable portable equipment—that's in case you're not lucky!"

General Fisher looked at Don pensively and the youth felt he knew just what his superior must be thinking: *Shall I let him go with the others or should I keep him under guard until this crisis is met? Perhaps his suggestion on raising the flag was only a ruse to try to prove his loyalty. In that case he would probably wait around and prevent the flag's being raised.*

Finally the director's face broke into a sympathetic half-smile and he said, "Get your space gear and be ready to leave with the others, Don. You're on your own."

"Thanks for trusting me, sir," Don murmured and left the office.



Moments later Don was in the dressing room prepared to vacate the building with the others. He slipped into his space suit, then pulled on weighted shoes so that he wouldn't float around in Philos' weak gravity pull. In the observatory, artificial gravity took care of this problem.

Across the room, Don saw Big Jack in the final stage of donning his space dress. Watching him, Don had an idea. Despite Big Jack's animosity toward him, he felt that some vestige of their friendship must remain. Why couldn't the two of them replace the flag together, thereby proving his allegiance to the United Nations?

Big Jack left before Don could see him. Don hurriedly pulled on his oxygen-pressurized helmet and, unnoticed by the others, followed the path taken by Big Jack down the corridor.

In the telescope room Don watched Big Jack skirt the yoke of the giant reflector and run up the catwalk to the dome. The sergeant disappeared through the dome air lock on the top of the building, and Don followed.

As Don stepped out on the walking ledge of the huge bullet-shaped dome, he saw Big Jack lassoing the broken stump of the flagstaff on the peak with a rope he had brought. The flag was lying on the ledge where it had luckily come to rest without toppling to the ground.

Don spoke over his helmet radio, "I came up to help you, Big Jack."

The radioman dropped the loose end of the rope and whirled. Don saw angry eyes staring at him

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levelly through the other's helmet facepiece. Don was remembering the laughing eyes of the storyteller he had come to like so much. But what he saw now were the flint-hard eyes of a man he did not know.

"I should have suspected this!" Big Jack bit out. "You sneaked up here so that you could keep me from putting up the flag! Where's your blaster you're going to shoot me down with, Don?"

"I don't have a blaster!" Don retorted.

"Your traitor pals who caused my brother's death were smart, weren't they, working you into the biggest defense spot of all? Yeah, and your step-father too! I've always wondered how a young fellow like you came to get so far in such a short time!"

"I'm no spy!" Don protested.

The larger man advanced on his somewhat smaller adversary.

Don cried in alarm, "What are you going to—?"

"I hate what I've got to do, Don, but it's for the flag and my brother who died for it!"

Big Jack lunged at Don to knock him off the ledge. Instinctively, Don's lithe figure ducked, and the radioman did a somersault over his back. Don spun and saw the sergeant's helmet slam hard against metal. The man rolled down onto the ledge. His body would have slipped off had Don not pulled it back in time onto the ledge.

A hurried examination showed the helmet still intact, but Big Jack was out cold from having struck his head against the inside of the helmet.

Don stood up. The time was getting short, and the flag hadn't been replaced. He had the whole job to do alone, now. If he should fail, the mute evidence of his shattered body and the unhoisted flag would inscribe the permanent title of traitor on his gravestone.

Moving carefully along the narrow ledge, he reached the reclining staff. From his position he could lean over and look down through the opened dome slot into the gleaming telescope mirror—the vigilant eye of freedom that would be blinded if his efforts should not succeed.

In the light gravity of Philos, with little difficulty Don raised the ordinarily heavy wooden flagstaff to his shoulder. As he balanced it there, he saw the men fleeing from the observatory toward the protection of a rock formation not far away. He felt a sudden concern. What if one of them should detect that it was he instead of Big Jack who was on the dome? Would they shoot him down and send another man up to try to replace the flag?

Grasping the rope in his free hand and wrapping it securely around his palm, Don began the ascent up the side of the dome, anchoring his rubber suction boots firmly at each step. For a moment he wondered if the job might not have been easier had he left off the weighted boots and lead padding in his suit. But on second thought, he knew this would have made his body so light and his actions so erratic in the light gravity that he could not have controlled them.

As he rose higher, he continued to wrap the

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rope around his palm to take up the slack. At last he was near the top, but his breath was drawing heavily on the oxygen within his suit, and the weight of the flagstaff and space gear were beginning to tell on him. The peak of the dome started to blur before his eyes.

Then he remembered the deadly rocket plane that would be streaking overhead any moment with its destructive missiles. The momentary dread gave him that extra burst of energy he needed to reach the dome. On top, he dropped the rope and had no trouble straddling the stump and keeping his feet on the gently sloping surface.

He began to lower the splintered end of the flagstaff toward the jagged shards of the stump. Then suddenly the post toppled. Grabbing for it, Don nearly lost his balance and the pole too. He felt the perspiration popping out all over his body. Another slip like that could end it all—for himself and possibly the whole world was well!

As he straightened the pole again, he searched the star-pulsing sky beyond the launching racks of the arsenal for the bullet-shaped rocket plane that would mean the end. But the lonely solitude of Philos' airless acres still prevailed. He still had time.

Lifting the staff vertically over the stump again, he jammed it vigorously downward. This time it stuck firm, held in place by the interlocking joints of the break. Extended by its framework of ribs in the windless ether, the blue flag of the world organization now stood proudly in its rightful place. Then suddenly the post toppled. Grabbing for it,

tom seeming to hurtle down from the misty veil of the Milky Way. Don stood frightenedly by the pole, hardly able to draw a breath. Would his efforts pay off or was his life to be sacrificed for nothing?

The rocket plane, spewing vapor, darted overhead, soundless in the vacuum, almost too swift to follow with the eye. Don waited tensely for the blast that would blow himself and the observatory arsenal to bits. It did not come. Heart overflowing in relief, the youth watched the Space Guard plane soar on beyond. More planes came—four, five, seven of them. The Guard had taken no chances on a single bomb carrier being shot down. But like the first, the others jetted on without having dropped their terrible loads.

Don saw the men on the ground signaling frantically to the planes. Presently the leader banked and turned back toward the observatory. Then he dropped in altitude, preparatory to landing.

Don remembered Big Jack then. He knelt beside him and saw that his eyes were open. Don recognized through the helmet the smiling, friendly face of the Big Jack Lacy of old.

"Forgive your buddy, Don?" Big Jack asked with an embarrassed grin. "You're a hero now."

"Sure I do," Don answered, clapping him on the shoulder.

"Sometimes a man loves his flag so much it's easy for him to imagine that somebody's trying to take it away from him," Big Jack confessed.

Don stuck out his hand and said proudly, "Shake



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hands with another patriot. I'm a guy who loves his flag too!"

Don looked overhead at the blue banner, thinking what a great feeling it was to be able to call it his own again.



## *Hands Across the Deep*



WITHOUT KNOCKING, the spaceman broke into Harl Gurman's private compartment. His faded gray, sleepless eyes flicked with animosity over the seated figure of the young rocket master, who filled his uniform well. Spacemaster Gurman looked up, his gaze level in spite of the apparent crisis he faced.

"You're going to turn back, sir, and I'm the one who's going to make you!" The man's lips quivered. He advanced on the young commander, swinging a titanium brace from a jet chamber.

Harl lithely ducked the halfhearted blow and thrust his shoulder hard into the man's stomach. The full weight of two hundred pounds lifted the spaceman off the floor, depositing him, groggy, in the corner of the compartment.

Harl pressed a buzzer on his desk, then stood looking sympathetically down on the jet-tube mechanic. His eyes, the velvet black of the deeps of space they were hurtling through with the speed of

light, continued to hold their unwavering gaze. "You held out longer than some of the others, Beeton," Harl spoke. "You'll be all right."

They came for Beeton and took him off, unprotesting. A day in the psycho refresher and he'd be as good as new—or almost so. None of them would quite get over this greatest of all voyages, Harl told himself. He was only twenty-one, but he felt like an old man in this year 2252. The new quickly became old in this fast-paced century. Atomic power, once thought to be the ultimate answer in space travel, had grudgingly given way to the even greater energies of harnessed cosmic rays.

Suddenly through the open door bounded a furry, monkeylike creature which leaped into Harl's arms. Moist violet eyes looked up into the youth's own. "Ziggie! I've missed you all day!" Harl stroked the soft white hair.

The crewmen had fondled the little Venusian pet nearly to death since the voyage to Proxima Centauri had begun. It was one of the few diversions left to forty men thrown together on an astronaut, a quarter of a mile long, that had now spent more than four Earth years in flight.

An officer, Milo Frank, two years older than Harl and second in command, came into the compartment. He removed his space cap and ran his fingers tiredly through his short-cropped hair. "Beeton's in the psycho," he said. "As soon as the quieting voice was turned on, he calmed down right away. I don't think he'll need to stay in there all night."

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Milo Frank switched on the space scanner. The screen lighted quickly and revealed the same monotonous scene they had been looking at for the past weeks and months. Like a tiny baleful eye, Proxima in the constellation Centaurus, dominated the picture, pulsing redly.

"There's *got* to be a planet around that sun," Harl whispered desperately. "Those cosmic ray chambers have got to be purified. The ship needs work on it. And the men can't stand another forty months-plus in space without first feeling solid ground under their feet!"

Milo did not reply. He heaved a tired shrug and walked out of the compartment. Ziggye kissed Harl and Harl shoved him off irritably. The animal's eyes filled with tears, and Harl soothed him with a few pats. The job was getting him, too. How much longer could he go on? He wondered if it were worth sacrificing more than eight years of his youth so that earthmen's science could make its longest reach into space and clasp hands with the solar system's closest star neighbor.

Harl asked himself if it might not have been better to have grown up the slow way they had in the old days. They wouldn't have believed then that a man could complete a full education at fifteen and gain a space-navigation degree in another two and be ready to lead men into the unknown frontiers of light-year distances.

Harl idly switched the forward telescope into the scanner, using the strongest power. The dwarf sun, about the size of Neptune, leaped into sudden



grainy magnification. Proxima was a dying sun, an atomic furnace whose once fierce flame had cooled to only glowing embers.

Then Harl saw it. He dropped Ziggie carelessly to the floor in his enthusiasm. Yes, there it was—a tiny spark close to the parent body. Yet it might be a distant star. It would have to be observed closely for awhile to see if it had an orbit around the red sun. . . .

It took only a short time to determine that the small light was indeed a satellite of Proxima. The ship's trajectory was set to intercept the orbit of the planet and the braking jets were cut in. The *Andromeda* still had millions of miles to go, but every bit of this distance would be needed to bring the enormous velocity of 186,000 miles a second down to a safe landing speed.

Some hours later, Harl and Milo faced the scanner in the spacemaster's compartment. On the screen they saw a reddish globe misted over with impenetrable atmosphere.

"We don't know what's under that blanket, but we're going to land because we have to," Harl said. "What sort of surface conditions do the thermocouple and other instruments show?"

Milo looked at a paper he held. "Here are the main things. The atmosphere is sixty per cent oxygen, with dilution gases forty. It would burn up our lungs, of course. The planet is much smaller than Earth and has a forty-hour day; the year is a hundred and fifty-two days long."

"Do we dare hope to meet other human beings

## *Hands Across the Deep*

twenty-five trillion miles from home?" Harl murmured.

"We'll see," Milo answered.

Thirty hours brought the star ship within free fall of the planet. Harl checked with the crew as the rocket dropped through swirling clouds. Most of the men did not care whether they were close to setting their feet on solid ground or not; the sickening lag of the consistent braking jets over the last few days had taken nearly everything out of them. The transition from the speed of light to zero velocity is a difficult one.

The *Andromeda* landed on the planet in the midst of a rainstorm. Red-gray clouds closed in about the quartz ports of the ship, so that visibility was almost nil. Harl had all the men, who were not quartered with space sickness, assembled in the briefing room.

"We'll wait awhile to see if this rain lets up," he told them, "and then a small exploring party will go out, the rest of you working the ship over and setting up a defense in case we need one."

Boots were heavily weighted to bring the planet's low gravity pull more in line with the stronger gravity of the ship and Earth the men were used to. Finally the rain stopped, but the ruddy clouds still hung threateningly overhead. Harl assembled the exploring party that was to go with him, including Milo.

Ziggie clung to Harl tightly, as though he realized his master might be gone for some time. Then tearfully the little Venusian pet gave in and

sadly watched the eleven men depart from the ship. They carried atomic blasters for protection, slogging through bluish mud and a garish mist, not sure where they were headed.

The old-fashioned bulky space suit had given way to a transparent plastofabric that fitted almost like a second skin. The lightweight helmet had been perfected so that the wearer could speak and listen as naturally as if he were wearing none.

The men came to a grove of queer lumpy-boled trees and examined the leathery leaves with interest. They were out of muddy soil by now and treading a carpet of grass. Presently the crewman Beeton made a very interesting discovery.

"A footprint!" he exclaimed.

"It's an odd one!" Harl murmured, kneeling beside it. "Small and very narrow, but it conforms to the general outline of our own feet. It looks like we might find a trace of dwarfs here."

They met one earlier than they expected. He was standing fearlessly in their path, an incredibly skinny creature under five feet tall. His head was completely bald and somewhat large for his body. His eyes were large and luminous, and his skin had the bronze tone of an Indian.

Harl stepped forward and the men covered him protectingly with their blasters. Cautiously, Harl extended his hand and the man unhesitatingly took it in a friendly grip.

"Hello," Harl spoke. The man said something back. Harl grinned as he realized their speech difference.

## *Hands Across the Deep*

The man smiled with thin lips and invited the men to accompany him.

"Let's go with him," Harl said. "But we'll be on our guard."

They all started out through the trees. The blanket of clouds had risen somewhat, and a landscape of fresh-washed fields and flowing streams was beginning to be seen dimly beyond as though through red-tinted lenses. Animals with small bodies on stilted legs grazed blissfully in the fields.

Presently the party was out of the trees and approaching a small village, lined on both sides of a broad grassy street with plain houses built from bluish mud. Slowly, in orderly fashion, the townfolk came out of their houses to see the strange visitors. The people were humanoid and just as amazingly thin and bald as he who led the party from the *Andromeda*. They stared in mild curiosity as the visitors passed, but Harl was certain there was no fear or great amount of excitement in their glowing eyes.

"I don't get this at all," Harl said to Milo. "Our arrival should have scared them to death. Yet they seem to accept us as though they were used to seeing us!"

"They look to be a retarded race," Milo answered. "A friendly, stupid people without the sense to know when they're being threatened."

Their leader pointed to a pushcart coming by. He smiled proudly as though it were a marvelous piece of engineering. Yet it was badly assembled and had wobbly wooden wheels on it. The host led

his visitors into a one-room house that was badly ventilated and oil-lighted.

"Look at that bookcase," Harl said, with a low whistle. "I guess I'll have to take it back about their being stupid."

One entire wall was filled with shelves of books. Harl took one of the volumes and examined it. It was roughly bound by hand, and the pages had obviously been made by a crude process. The words were all handwritten, amazingly tiny and beautifully formed. The other walls were filled with paintings, whose colors were the richest Harl had ever seen; small figurines, of excellent form, lined the walls.

The host motioned for Harl to sit in a rickety chair. Then he made motions for the young commander to start talking. On the spur of the moment, Harl recited the regulations of the Space Command. The man nodded as though this were satisfactory and took up a stance behind Harl's chair. He placed his small, delicate hands on Harl's head and began staring straight ahead of him as though in a trance. When Harl seemed to run down, the man motioned for him to talk on.

After nearly a half hour, a halt was called in the demonstration, and, to Harl's astonishment, the man said in perfect English, "Hello."

"How is it that—?" Harl asked.

"—that I speak your language?" finished the man in a soft tenor voice. "You just taught me. I placed my mind on what you said and the meaning of the words. I do not know all of your speech in such



## *Hands Across the Deep*

a short time, of course, but I believe we can understand one another."

"What marvelous memory training!" Milo said.

"My name is Jhassa," said the man. "You must be from another land."

"Another land, he says!" Harl chuckled. He tried to explain the enormous distance they had traveled. Jhassa nodded but did not seem very much impressed.

"We of Myr Ityra have no desire to go beyond our world," Jhassa said. "We are philosophers and artists. To us, the mind is more important than the materials of life you call science."

"I think you'll admit that the marvels of physical science have their advantages, too," Harl countered.

Jhassa began to make a case for his beliefs. He showed the men volume after volume of profound writings, the cream of Myr Ityra's greatest minds. Jhassa convinced the earthmen that these were not merely speculative ideas but practical ones. For the people of the red world had complete control over their desires and emotions. Everyone knew his own limitations, and there were no selfish ambitions. No hatreds, no stealing, and no murder. Each man quietly farmed, raised a family, and improved his mental powers. For recreation he went to the arts.

Jhassa proved that mind control even extended into the physical world. He showed Harl a burn on his arm that had recently occurred. "It does not pain," the man said. "By centering my mind I shut off all feeling from the spot."

"But how do you cure such injuries?" Harl asked.

"We can cure small hurts like this by centering our minds, too," Jhassa answered. "But we cannot do very well with larger injuries. The victim either dies or gets well. I have a sister whose boy is very sick now with a great heat in his head. He tosses on his bed and cannot control his mind."

This was the opening Harl had been waiting for. He explained the great advances that had been made in medicine on the planet called Earth. That the terrible afflictions of the past centuries, such as polio, cancer, and heart trouble, were scarcely known any longer and that when detected could be cured swiftly.

Harl next demonstrated the awful power of their electron blasters and tried to make clear to Jhassa the more simple facts about the *Andromeda* and space travel.

"Your science is interesting," Jhassa admitted, "but how are the minds of your people?"

Harl had to admit that here there was room for improvement and that the science of mind certainly had not kept up with the march of physical science. He admitted that nerves still held earthmen in a grip of fear and uncertainty.

"We have feelings," Jhassa said, "but we use them with temperance. While we never experience great joy, neither do we permit ourselves to suffer grief. We have all been trained early in life about these things."

"Is this mind-control business the reason why we

## *Hands Across the Deep*

haven't caused much of a stir—er, excitement—by our arrival?" Milo asked.

"All of us heard the loud roar of your landing," Jhassa replied. "It might have been the end of our world—many thought it was so—but if it was, we were ready to accept it without excitement. I am the councilor of this village; so I was sent by The Kufaya, our supreme ruler a few villages away, to investigate. The rest of the people went about their business as usual."

Harl was thinking of the panic and confusion that would have occurred if aliens had landed in an Earth town. Yes, he had to admit there was something to the calm philosophy of the Myr Ityrans.

Further conversation was halted when a man appeared at the door and handed Jhassa a message. The old man turned to Harl and with a bland face spoke words that chilled the spaceman to his heart in their very grimness:

"It seems that our discussion must end here, for you and your friends are about to die."

Harl's dark eyes bored with disbelief into the man opposite. His fingers seized the electron blaster near by. "Will you say that again?"

"The Kufaya has said that you must die," the man of Myr Ityra repeated. "I am sorry for you, but that is his decree."

Harl's lips curled in bitterness. "You have just finished telling me there is no hatred among your people, yet you are prepared to commit murder without reason!"

Jhassa raised a hand to quiet him. "Do not excite yourself. The Kufaya bears you no hatred. It is just he believes you are a careless, excitable race and may upset the temperament of the people or cause more destruction."

"How does he know about us?" Milo asked, "when he has not even met us?"

"The Kufaya has met you, my friend," Jhassa said. "The Kufaya is the greatest among us; that is why he is The Kufaya. One of the gifts he alone has developed is tele-telepathy—mind reading from a distance. He has listened in on all of our conversation."

"If he doesn't like the way we tick, why doesn't he just let us go away?" one of the crewmen burst out.

"I asked the messenger that, and he said The Kufaya does not want the rocket to leave the ground," Jhassa replied. "He is afraid of the possible destruction. Some animals were killed when you landed; he thinks people may die if your fire machine should take off."

"There will be no destruction if no one stands near!" Harl retorted.

"The Kufaya has said that you must die by stoning," Jhassa said stubbornly. "There is nothing I can do."

Harl broke for the doorway and looked out. Surrounding the house in an unbroken cordon were men, women, and children, all of them holding stones.

"Even your methods of execution are primitive!"

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Harl bit out. To Milo he said, "I don't know why we should fear this fragile army of stone throwers! We could cut them all down with our blasters, although I'd hate to do it."

"Put down your weapons," Jhassa said quietly to the men.

To Harl's amazement, he found himself, with the rest of the men, laying his blaster on the floor in front of Jhassa's feet!

"Controlling the wills of others is a new advancement of ours, Spacemaster Gurman," Jhassa said. "Will you give me that packet on your belt? It too may be a weapon."

"It's no weapon: it's only a first-aid kit," Harl said. Suddenly he had an idea. "How would you like to see your sister's son well?" he asked.

"We never like to see one of our own die, of course," Jhassa replied.

"Your nephew's life for our lives, Jhassa," Harl proposed. "You can lose nothing by letting us try."

"I will get a message to The Kufaya and see what he says," was Jhassa's reply.

First he had the weapons removed outside the house. Then the men spent a tortured hour as a running messenger was dispatched to the abode of the revered leader of Myr Ityra, supposedly a mile or so away. An answer was finally brought back from The Kufaya, who was too old to come himself.

"He will let you try to help the boy," the old man told them. "He says it will mean much to



us if there is a way discovered to cure heat in the head. If you can cure, he will be forced to release you in gratitude. But if you cannot cure. . . ." He did not need to finish.

"How do you expect to help this boy?" Milo said to Harl. "Our medicine is for people like ourselves!"

"All I can do is try and hope," Harl said tightly.

The boy's bed was set up in the middle of the street. The odd "army" kept its ring intact, looking on from a distance. Only Harl was allowed with the boy, the rest of the *Andromeda's* crew being restrained in the house of Jhassa.

Realizing how much was at stake, the young commander's palms were sweating as he leaned over the pallet of the red-skinned lad. He wished he had some of Jhassa's mind control. Perhaps that would give him and the men the courage to face the frightening death that would be theirs should he fail to bring the boy around.

He saw that the patient had a burning fever from a badly infected leg sore. It looked hopeless even for the miracle drugs—even had the boy been an earthman for whom the drugs had been made. He gave the boy's thin arm a shot of GH-41, the new fever-combating drug, which put the boy in a coma. Then he lanced the swollen skin over the sore and cleaned out the infected area. Lastly, he stuck an aerated plastobandage on the place.

Now began the wait that would determine whether or not he and the men would live or die.

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The fever drug in an earthman took a few minutes to work. If the patient's system were strong enough, he would recover completely in a short while. If he did not pull out of the coma in a matter of minutes, he never would.

Desperately Harl looked at the mass of big-eyed faces surrounding him. The absolute absence of tension in them was maddening. The natives held their stones loosely in their hands without so much as a nervous quiver, just waiting patiently. Harl saw his crewmen gathered in the doorway of Jhassa's house, looking on. Their calmness was conspicuously absent, as shown by their strained faces. Their taut expressions seemed to ask if they had come trillions of miles through space only to perish in a primitive execution on a faraway world.

They waited minutes—many minutes—then a half hour. But still the boy lay still as death. Finally the leader of the executioners called for the other prisoners to be brought out into the middle of the circle with Harl. The commander looked regretfully at the disheartened features of his men. "I'm sorry," he told them.

"I'm not going to just stand here and take it!" cried one of the men and started toward one point of the outer ring. He had taken only a few steps when he stopped short, as though physically unable to move his limbs another inch forward.

"I guess that's an example of Jhassa's mental stuff," Milo Frank muttered.

"It looks like they've really got us," Harl said dully.

Suddenly one of the men cried out, "Look! He's coming to!"

The boy was stirring, just as he was about to be removed from the area. His fevered look was gone, and he sat up. He glanced around him for a moment, then swung his feet to the ground and walked calmly through the cordon of his friends into his house across the way.

Jhassa went to examine him, then came back and said to Harl, "The boy seems perfectly well."

"He is well," Harl told him confidently.

"That was a fine show of Earth science," Jhassa said. "I am glad you were successful."

"There's no magic in it," Harl said. "Any of you could do the same if you had the supplies and knowledge."

Jhassa's large meditative eyes glowed with feeling. "We want those supplies and knowledge," he said with great earnestness. "We admit now that there is much we can learn from you earthmen. The Kufaya said that if you cured the boy he would like you to show us all you can about your science."

"I have a proposal to make, Jhassa," Harl said. "Teach us some of your mind magic, let us take pictures and carry on some scientific research on your planet. In exchange, we'll tell you all you want to know about us and our ways."

Jhassa offered his thin hand and smiled. "Let us get started, my friend."

Some weeks later, the cosmic-ray power cham-

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bers of the astronaut throbbed with revived energy, prepared to release the craft into the depths of space. Harl was pleased to see that many of the townfolk had turned out to witness the blast-off. A warm friendship had grown up between the people of Myr Ityra and the men of Earth in this short time.

Harl stood before the air lock of the star ship, his hand outstretched to Jhassa. On his shoulder perched his chattering Venusian pet. "Good-by, Jhassa," he said. "I wish we could stay longer, but we have a long way to go."

The young commander thought he detected a tear in one of the little man's eyes. It seemed that all men must show their emotion at times, Harl thought, even the orderly minded Myr Ityrans.

"Will I see you again?" Jhassa asked hopefully.

"Not likely," Harl answered. "I would have to give up another eight years of my life if I were to come again. I don't believe an earthman can stand two such voyages in his lifetime. But there will be other young men, Jhassa. And they will bring you marvelous things and ideas, only a fraction of which we've been able to give you."

"We shall be waiting," Jhassa said quietly. "Good-by, Harl Gurman."

Harl warned the people back and entered the ship. Moments later, the *Andromeda* rose thunderously into the heavens. Harl and Milo stood looking out through a port. The storm clouds had dissipated completely for the first time, and the beau-

tiful world of Myr Ityra was revealed in its true rosy splendor.

"This is only the beginning, Harl," Milo said. "We've reached our nearest star, but there are other millions to be explored, and nebulae and galaxies too."

Harl nodded, thoughtful. "I'm wondering if among those deep places there may be other civilizations who have something to give and something to learn."

"Time and space alone can answer that, Harl," Milo replied. "*Time and space alone.*"



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