

THRILLING WONDER STORIES



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• ON THE COVER

The two alien races that inhabit the stratosphere, the Squares and the Roundes, struggle for supremacy in a strange scientific duel. This painting depicts a scene in Paul Ernst's novelette, THE MIND MAGNET.

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WHEN SPACE BURST

Again and Again the Pioneer
Tried to Plunge Through a
Mighty Cosmic Barrier!

By
EDMOND HAMILTON

*Author of "Mutiny on Europa," "Space
Mirror," etc.*

"TEN billion miles!" cried John Haley exultantly. "The furthest any ship has ever gone outside the Solar System!"

Mart Allinson nodded, his eyes glistening with emotion.

"The Pioneer has done it, John. Our ship—our dream."

The two young men stood in the pilot house of the little space ship, peering out into the star-gemmed blackness of interstellar space. Out there amid the thronging stars burned a bright yellow one. It was the sun of their own Solar System. Their ship was so far out from it that it appeared to be only another star.

They were alone in the glassite-walled pilot house. A deep silence reigned, for the atomic generators and rockets had been cut off. The ship was drifting in the void, having blazed a trail more distant than any ship had ever gone before.

"I knew we'd set a new record!" Haley was saying, his square, rugged face alight. "Mart, where's Doctor Rider? He must certify our record."



for us officially."

"He's still in the observatory cell," Allinson answered. "You go see him—I'll wait here at the controls."

Haley flung open the door of the pilot house and hurried down a ladder and back along the main corridor of the little torpedo-shaped ship. He met lank, dour Angus Anders, their engineer.

"Lad, we did it, didn't we?" asked Anders anxiously. "We set a new record?"

"We did, Angus, and the credit goes to you for the way you pushed those generators," Haley told him. "You'll likely be decorated by the Earth Government when we get home."

"Bah—who wants a fancy medal," scoffed Anders, though a grin cracked his craggy face.

Haley hurried on along the corridor and threw open the door that gave entrance to the observatory cell. This was a small room crowded with astrophysical instruments. Telescopes and spectroscopes loomed here, their lenses set in the ship's outer wall.

Doctor Thomas Rider's spare, elderly figure was hunched at one of the instruments, and his slim, vibrant, red-headed young daughter waited anxiously beside him. She was her famous father's assistant, and it was to further his abstruse researches in cosmic physics that the Earth Government had financed construction of the *Pioneer*.

"Doctor Rider, our space log shows ten billion miles since we left the orbit of Pluto," said Haley excitedly. "We want you to certify it for us now."

"Quiet, John!" said Ethel Rider quickly, in a low and urgent voice. "Don't disturb him now."

Doctor Rider had not turned from his taut crouch at the telescopic instrument, had not even heard. The astrophysicist's superhuman concentration indicated something unusual. And now Haley noticed that Ethel's vivid face was pale and strained, that her grey-green eyes were deep with strange dread.

"Why, what's the matter, Red?" he asked her puzzledly. "What's your

father doing?"

"He's rechecking observations we made on the outward trip," Ethel told him. "We've gone over our calculations three times and we're sure that they are right. If the observations on which we based them prove correct, too, it means something terrible, means that—"

Doctor Rider suddenly turned, and Haley's heart missed a beat as he saw the wild expression on the scientist's ordinarily austere face, the fixed horror in his eyes.

"Father?" cried Ethel imploringly.

"The—the observations check, Ethel," Doctor Rider said huskily. He turned toward Haley. "John, give orders to start the *Pioneer* back toward the Solar System at once, at full speed!"

"But I don't see—you've not certified our record yet—" objected Haley, stunned.

"Your record?" the scientist shouted wildly. "What does your record mean now? What does anything mean in the face of what's going to happen? Give the order, I tell you!"

Driven by the fierce command, John Haley opened the door and yelled down the corridor: "Angus! Start the generators at once. Mart, stand by for a quick start as soon as the generators are going!"

He turned, facing Dr. Rider.

"In five minutes we can have the rocket-tubes going," he exclaimed. "But what in the world is it that's going to happen?"

"The greatest event in the history of the cosmos is about to take place," the shaken scientist told him. "Haley, a cosmic collapse is imminent, may come at any moment. Space, the space of our cosmos, is about to *burst*!"

Haley stared at him stupefied.

"Can't you understand?" the doctor went on. "You know that space, our ordinary three-dimensional space which makes up our cosmos, is not infinite but finite—is *curved* in a fourth dimension. It is so curved back on itself that it forms a great sphere, floating in the four-dimensional abyss.

"And you must know, too, that spherical space is expanding, stretch-

ing out like a great bubble being blown up. Why, Eddington and De Sitter and all those other old scientists of five hundred years ago knew that. The bubble of our space has expanded like that for ages and it has been getting too big! It has got so big, the strain on it so great, that now it is about to burst!"

DOCTOR RIDER'S thin face was colorless and his hands were trembling violently as he continued.

"I made this trip outside the Solar System in the *Pioneer* so that out here, away from the distorting gravitational forces of the sun, I could study this space strain. I've been studying it during all our outward trip.

"My observations and calculations show infallibly that the strain of expansion has become so great that our spherical continuum of space is going to pop like a breaking balloon. Space will be ripped to fragments at any moment, and those fragments will henceforward be separated from each other by a four-dimensional gulf in which there is no space!"

"God, and we're ten billion miles outside our System!" cried Haley. The full terrible nature of the menace unfolded in his brain. "If we can only get back there, at least, before the thing happens—"

He lunged out of the small room into the corridor, running desperately toward the pilot house with Doctor Rider and Ethel close on his heels. The whole fabric of the *Pioneer* was quivering to the rising drone of the great generators, as they disintegrated matter into atomic force that would be poured out of the rocket-tubes in blasting streams of fire.

Haley burst into the pilot house, and Mart Allinson's keen, youthful face flashed alarm as he saw his friend's countenance. In incoherent, tumbled words, Haley tried to explain, and saw Allinson's expression freeze into incredulous horror.

Doctor Rider was climbing into the pilot house ahead of Ethel.

"Start, Haley! Start at once!" he cried.

Haley reached for some small shining levers in the bank of complex controls before him, jammed them rapidly downward. The *Pioneer* shook with a tremendous shock and roar as all the stern tubes blasted at once. The three men and the girl in the pilot house were pressed against the rear wall by the sudden start. Quickly the ship gathered speed, heading toward the bright yellow star of their own System. Then—

"Look, it's happening! It's happening now!" Doctor Rider cried wildly.

Their faces ghastly, frozen masks, all looked out through the glassite wall at the most stupendous thing that had ever happened or ever would happen in the cosmos.

The stars had suddenly gone mad in the heavens! They were coming through the sky with nightmare, incredible speed, great swarms of them driving away from each other. The firmament itself seemed splitting, great rifts of blackness appearing here and there, cracks in cosmic space itself.

Such a widening crack appeared between the speeding *Pioneer* and the distant Solar System. It widened with the swiftness of thought into blackness. The Solar System and all the stars beyond it abruptly vanished from their vision.

"My God!" yelled Doctor Rider. "Space has burst and we're caught in a section closed from our Solar System. We're—"

"Look at that!" cried Mart Allinson hoarsely, pointing back up through the glassite roof of the pilot house. "Suns running mad—that one's coming right at us!"

The hair stood up on John Haley's head as he looked up. The sky behind the *Pioneer* still held many stars and some of these stars were approaching the ship with delirious speed, enlarging with ghastly rapidity.

Already one of the stars had expanded to fill a quarter of the heavens behind them, a colossal white sun whose blinding glare drenched them through the glassite walls. It was rushing straight upon them with inconceivable velocity.

Then, as the white sun bore down on them in that wild storm of stars, the *Pioneer* was seized by immense forces and batted through the void like a chip. They were flung violently to the floor of the pilot house, John Haley's head hit the floor with a crack, and he felt Ethel fall across him as consciousness left him.

Haley came back to awareness of his surroundings, feeling supporting arms that quivered as they held him.

"He's coming to, Ethel," said a reassuring voice that he recognized as that of Doctor Rider.

Haley opened his eyes, then was forced to close them a moment by the glare of intense white sunlight. He opened them again in a moment, more cautiously.

He lay on the pilot house floor, his head held by Ethel Rider, her tear-stained face bent over him. Doctor Rider, pale and shaken, was stooping to him, and beyond he glimpsed Mart Allinson with a bleeding cut on his forehead, and the craggy, anxious face of Angus Anders.

"What—what happened?" Haley faltered. "The *Pioneer*—"

"The ship wasn't harmed, John," said Mart quickly. "We're safe—for the time being."

"Aye, for the time being," muttered Anders grimly. "How long we're going to live is a different matter."

Haley staggered to his feet, helped by Ethel. Leaning on the girl's firm little shoulder, he looked bewilderedly out through the transparent wall.

Out there in black space, only a few hundred million miles from the *Pioneer*, glared the huge white sun he had last seen rushing upon them. Now it blazed serenely motionless in the void. Beyond it was visible a sky of sparse and scattered stars that also had ceased entirely their crazy gyrations.

"That white sun!" exclaimed Haley. "It was thundering right down on us—I thought we'd crash into it."

"We almost did," Doctor Rider said soberly. "It just happened that the *Pioneer* was not directly in the sun's path. As it was, we were of course caught in the star's gravitational grip."

"But the Solar System—our own sun?" cried Haley, his eyes hopefully searching the strange new heavens. "Where—"

The scientist shook his head somberly, and Haley saw the same dark foreboding on the faces of the others.

"We are cut off forever now from our own Solar System, John," said Doctor Rider. "The spherical space of the cosmos burst, as you saw, into fragments. We are caught in a different fragment of space from the fragment which holds our Solar System, are separated from it by an un-navigable four-dimensional abyss."

"The patch of space we happened to be in when the bursting occurred at once closed up on itself to form a smaller space-sphere like the former vast one of the cosmos. Such closing of space which contains matter is inevitable, due to the distortion of space by the gravitation of the matter it holds. It was the sudden closing up of this remnant of space which brought that formerly distant white sun suddenly near us. Just as two points far-separated on a sheet of paper can be suddenly brought close together by rolling the paper up into a circle."

"But how are we going to get back to our own Solar System?" asked Haley.

"We can never get back to it," said the scientist sadly. "The guilf of the fourth dimension forever separates the space of this tiny cosmos from the space of that other little new cosmos which now holds the Solar System."

The full, freezing force of the situation came home to John Haley's heart. The cruel, bitter irony of it bit into his soul. That he should have toiled so long to build the ship, that he should have spent so many weary weeks forging out from the Solar System, only to cut himself and his friends and the girl he loved away from their home forever!

"Surely there's some way of getting back, Doctor!" he exclaimed desperately. "We can't just give up."

DOCTOR RIDER shook his head. "I'm afraid we must, John. We are three-dimensional matter and

as such we cannot leave this three-dimensional space; we cannot enter or cross the four-dimensional abyss which separates us from our System."

"But couldn't we use a tremendously powerful vibratory force to propel the ship suddenly through that four-dimensional void?" Haley insisted. "I've heard such a thing proposed many times. Physicists have pointed out that a man leads an almost two-dimensional existence on the surface of Earth, utilizing only slightly the vast third dimension of depth; that, by using thousands of times his own power, he has been able to propel himself into this third dimension in an airplane. Why can't we project this three-dimensional ship through the fourth in the same way, by a sudden tremendous application of force?"

The elderly scientist's somber face remained impassive as he answered.

"Theoretically it is possible, John. We could rig a projector and do it easily, if we had enough power. But we haven't—it would require a thousand times more power than the generators of the *Pioneer* could produce, so it's out of the question."

"What are we going to do, then?" pursued Haley. "We've got to do something—we can't just float around this sun in our ship until our air and rations are gone."

Mart Allinson interrupted, a slight gleam of hope on his keen face.

"We've a little chance, John. Before you regained consciousness, Doctor Rider discovered that this sun has one planet, a large world not very far from us. We're going to head toward it, and maybe it will be habitable."

Haley nodded slowly.

"It looks like the only thing we can do. If it only has a breathable atmosphere and edible vegetation on it, it will give us a respite at least."

Soon the rocket-tubes were blasting strongly, propelling the *Pioneer* toward the speck of steady light that was the distant planet. It was almost lost to sight in the tremendous glare of its great parent sun.

Haley watched the planet slowly grow larger in view, peering from the pilot house while Mart Allinson han-

dled the controls. Dark forebodings clouded his mind despite himself. He foresaw at the best a horrible, lingering existence of utter isolation to which death might be preferable.

He discovered suddenly that Ethel Rider was watching beside him, her grey-green eyes fixed too on that distant world.

"John, what kind of life will it be for us on that world?" she asked. "Four men and one girl—cut off forever from the rest of our race. Marooned for the rest of our lives, without hope."

"Don't think of that, Red," he said brusquely, putting an arm around her slim, quivering shoulders and drawing her bright head against him. "Things will work out somehow."

"I wish almost that our ship had fallen into that sun," she whispered. "It would have been better than this dreadful isolation far across the Universe from our own world."

He could find nothing to say to that. He knew with terrible certainty that she was right. Yet the old human instinct to struggle until the last possible moment, to fight blindly until the very instant death closed down, persisted in him.

He watched intently with the girl as the planet ahead loomed larger. It was twice the diameter of Earth, Haley saw, a big pale globe spinning here in the terrific glare of the diamond-white sun.

MMART ALLINSON was expertly using the bow rocket-tubes to break their fall as the *Pioneer* rushed in toward the planet. The ship shot downward with a smooth rush, through a gaseous envelope that screamed loudly against its walls.

"By heaven, it's got an atmosphere of some kind, at least!" Haley exclaimed tensely. "If it's only breathable!"

"Father's down in the observatory cell now, checking it," Ethel said. Then she cried, "But John, look—"

He stared down with an amazement equalling hers as the surface of this alien world rushed up toward them. The landscape below was a barren,

desert one of endless white rock and sand and it all was faintly shining. A pale, eerie glow came from every particle of its surface.

"That's queer," he muttered as Allinson maneuvered the ship in a circle before landing. "That shining—"

Doctor Rider rushed suddenly into the pilot house.

"Don't land, Mart!" he yelled. "If you do, we're lost—this whole world is one of radioactive matter that will burn and destroy us!"

The craft had been dipping low for the landing at that moment, but Mart Allinson acted with instinctive swiftness, jamming the rocket controls over hard.

The *Pioneer* tore upward screamingly with a jerk that flung them all once more against the wall. At that frenzied speed, they were out of the planet's atmosphere in a few minutes.

Doctor Rider wiped his glistening brow with an unsteady hand.

"That was close!" he whispered. "I was down in the observatory cell checking the atmosphere. I'd just found that it was a deadly compound of radioactive gases, when I noticed by my other instruments that this whole world is highly radioactive. Every atom in it is unstable, emitting terrific radiation!"

John Haley, whose face had suddenly become strange, exclaimed, "A radioactive world? But that means—"

"It means that our last chance is gone," Doctor Rider said bitterly. "This sun has no other planets—we're doomed to float here in space until we starve or die for lack of air."

"Couldn't we reach one of those other stars in the *Pioneer*?" suggested Mart Allinson desperately, pointing through the wall to the sparse stars glittering beyond the huge white sun. "Surely some of them have habitable worlds."

Doctor Rider shook his head.

"They're too far from us—I've already checked their approximate distances and the nearest is over a light-year away. No, our bolt is shot. We're marooned here in a zone of space forever separated from the space of our own Solar System, and

we can't live here for very long."

He looked them all squarely in the face.

"I don't know what you people think, but I believe it would be better for us to open the space doors of the ship and die in a moment, than to prolong our existence into the horrible death of starvation or suffocation."

"Yes, it would be far better!" Ethel Rider cried. She turned to Haley. "We don't want to see each other die in torture, do we?"

But John Haley's face was flaming from excitement.

"Will you all stop this talk of dying and listen to what I've been trying to say?" he cried hoarsely. "We don't need to die at all—we have a chance to live, to get back to our own System!"

HE pointed down through the wall to the palely shining world beneath.

"You said that was a world of radioactive matter, Doctor. All right, you ought to know that if you use radioactive matter instead of ordinary stable matter to disintegrate in atomic generators, you get thousands of times more power.

"If we get a hundred pounds of that radioactive soil and use it in our generators we can produce tremendously greater power. Enough power to do what I was talking of, to hurl the *Pioneer* temporarily out of three dimensions into the fourth, to project it back across the four-dimensional abyss to the space remnant that now holds our Solar System!"

Doctor Rider's eyes were suddenly narrowed, bright.

"It could be done," he whispered hopefully. He turned to Anders. "How long would the generators hold up, using radioactive matter for fuel, Angus?"

Angus Anders shook his big head grimly.

"Not for more than five or ten minutes! Why, that glowing stuff would wreck the generators with its emanated forces in that little time, for sure."

"Yet that might be time enough!"

Rider exclaimed. "If we can actually project the ship into the fourth, our crossing of the abyss should be nearly instantaneous. For our ordinary three-dimensional time does not operate in the fourth."

Then the scientist's face fell.

"But we're forgetting something. How can we even get any of that matter into the ship? We can't land on that world—it would be fatal to the ship."

"We don't have to land," Haley declared quickly. "We can hang motionless a few hundred feet above the ground, and you can let me down, in my space suit, by a rope. I'll take a lead container and fill it with the radioactive soil."

"And you'll be burned, perhaps fatally, while you're doing it," the scientist said grimly. "A metal space suit won't keep out the deadly radiations down there, John."

"My suit will!" Haley exclaimed. "I had it fitted a year ago with a special ray-proof lining so that I could explore a radioactive volcano on one of the airless satellites of Saturn. You can let me down and I can get the stuff without danger."

"Head back down to the surface, Mart, and hold the ship steady five hundred feet up," he directed hastily. "Angus, I want you to lower me from the space-lock."

Within a few minutes, the *Pioneer* was poised five hundred feet above the shining surface of the deadly planet, its rocket-tubes purring just enough to hold it suspended there.

Haley and the engineer entered the keel space-lock of the ship and donned metal space suits, then opened the trap in the floor, letting the air puff out. Then Angus Anders carefully lowered Haley at the end of a thin, strong metal rope. Tied to the belt of the descending young man's suit was a large covered leaden box and a small spade.

The others watched tensely from the lower windows of the poised ship as John Haley's metal-clad form dropped at the rope's end toward the shining soil. They saw him alight and start to work with frantic speed,

shoveling the glowing soil into the container. In a few moments they could see him swaying erratically, staggering.

"The greater gravitation of this world must be getting him," Doctor Rider said tautly. "There, he's got the container full. Angus is hauling him up."

WITH the heavy leaden box dangling at his belt, John Haley was rising again toward the ship. Cold fear clutched Ethel's heart as she saw how limply Haley hung. As soon as he was inside the space-lock, the door slammed shut and released air hissed into the lock as the engineer turned a valve.

Angus Anders then tore his space suit off and shouted to Mart Allinson, up in the pilot house.

"All right, get up away from here! We daren't stay this near that devil world for long."

Allinson sent the *Pioneer* flying up through the poisonous atmosphere. Meanwhile, Ethel and her father were helping the engineer take the space suit off Haley's limp figure.

As they pulled off the helmet, Haley's face emerged, white and with eyes closed. Ethel uttered a choked cry of horror as they took off the suit. John Haley's body bore terrible blue burns that were deepest on his hands and legs.

"The radioactive emanations down there have burned him badly!" Doctor Rider cried.

"I'll get the first-aid kit!" exclaimed Anders as he raced toward the generator room. He was back in a moment with a case from which he took a silver box of white paste. Swiftly he smeared this on the unconscious John Haley's burns.

"Stuff is meant for use in atomic blast burns," muttered the engineer as he worked. "But it's good for radioactive burns too—will neutralize them before they work deeper into him."

Haley opened his eyes, his face twisted by pain.

"You got the lead box all right?" he mumbled. "I was afraid—I'd drop it—"

"Lad, what went wrong?" Anders demanded anxiously. "The ray-proof lining of your space suit must have been faulty—it certainly didn't keep out the emanations down there."

John Haley grinned weakly.

"That suit has no ray-proof lining," he confessed. "I just told you that—I knew you'd not let me go down there for the stuff if I didn't. And we had to have it!"

Ethel bit her lip, and her eyes blinked with unshed tears. Her small hands tightened around his burned ones as she said in a choking voice, "John—"

"I'll be all right, Red," Haley reassured her. He stirred and struggled weakly to his feet, with their help. "There's no time to lose. We've got to rig the projector at the stern that will fling the *Pioneer* through the fourth dimension. And you, doctor, will have to compute the direction we must take across the abyss to hit the space zone of our Solar System. Can you do it?"

"I think I can," said Doctor Rider, though there was haunting doubt in his eyes. "I'll have to calculate by pure mathematics the position which that other cosmic fragment of space would have assumed relative to this one—a problem no astrophysicist ever tried before."

"Start on it at once, then," John Haley urged. "Angus, you help me back to the stern and I'll try to help you and Mart rig the projector."

Eight hours later, the work was done. During that time the *Pioneer* had floated motionless out in space away from the devil world, and there had been feverish activity by Mart and Angus back in the tube-rooms at the stern. Haley, sitting weakly in a chair, with Ethel clinging to his side, had supervised.

The projector was ready, the simple mechanism that was to hurl the ship and all in it across the awful extra-cosmic breach that no human being had ever entered before. The thing was a large metal cone, its apex fitted back into the conical stern of the ship. From the cone would radiate forward the vast force that must

thrust every atom of the ship through alien dimensional gulfs. Connections ran from the cone through complicated transformers and condensers to the great generators. The switches were in the pilot house.

DOCTOR RIDER finally emerged from the observatory cell. The scientist staggered a little, and his face was dead white and shining with perspiration from his long ordeal. He handed Haley a slip of paper.

"That—that's the direction the ship must be pointing when you turn on the force. It should hurl us straight across the gulf to the space remnant that holds our System."

Then he suddenly added torturedly, "God, if my calculations have erred! We'll be flung through the fourth dimension far across infinity, perhaps into some utterly alien universe!"

"Steady, Doctor," Haley said quietly. "We all know the chances we're taking."

"Ready to start the generators, Angus?" he asked the engineer.

Angus Anders nodded, his craggy face a tight mask.

"I don't dare put that radioactive matter into them until we're all set to go, lad."

"We're set now," Haley told him. "Use only ordinary matter in two generators—we'll need them if we do make it to the Solar System. Feed the radioactive soil to all the others."

Anders, without a word, opened the leaden box of shining soil that Haley had secured at such cost to himself. Using long leaden gloves, the engineer rapidly shoveled pounds of the glowing matter into the hopper of each generator, save for two.

The great generators began instantly to purr, a humming that waxed swiftly into a thunderous drone. They rocked on their bases, the whole ship quivering wildly, as the disintegration of the radioactive matter in them produced a power thousands of times above the normal.

John Haley watched like a carved statue as the dial-needles on the wall mounted rapidly. The terrific power now being produced by the generators

was being stored up in the condensers, ready to be released from the conical projector at the stern in one colossal bolt.

"Generators are starting to crumble a little already," remarked Angus calmly over the thunderous droning.

The mechanisma were giving off a feeble luminosity, beginning to disintegrate slightly around the edges.

"We'll have enough power in the condensers in a few minutes, if those generators just hold up," Haley said nervously. "Try to keep them going, Angus, I've got to make ready for the start."

With Ethel and Allinson helping him, and Doctor Rider following, Haley climbed to the pilot house. There, using the power of the two normally functioning generators, he carefully swerved the *Pioneer* so that it lay in space pointing along the course the astrophysicist had computed.

Then Haley waited, his hand on the switch of the projector, the control that would release the condensers' stored power in one vast surge. They started as there came a loud crash from the generator-room, audible above the humming mechanisms.

"Two of the generators just went to pieces," Anders cried out. "The rest are going fast but we'll have power enough in about a minute. Stand by!"

"Standing by!" Haley cried back, his hand tight on the handle of the switch.

"I'm not afraid, John!" exclaimed Ethel, her face taut with emotion. "I'm not!"

"Good girl, Red," whispered Haley with a strained smile.

THE crash of more crumbling generators sounded below. Immediately following it, came Angus Anders's high-pitched yell:

"Let her go!"

Click! Haley's hand convulsively closed the switch.

Then it was like the end of everything. A stupendous shock of force that seemed to Haley to be wrenching the atoms of his body one from another. A terrible vertigo, a feeling of falling into fathomless depths.

He forced himself to keep his eyes open. Doctor Rider had sunk to his knees; Ethel lay in an unconscious heap on the floor and Allinson was clutching a stanchion for support.

Through the glassite front wall the Universe was a nightmare before his eyes! The scattered stars that had formerly extended normally away from them in all directions were now all behind them, and were curved in a crazy geometry his eyes could not completely apprehend. He saw this little cosmos as a weirdly angled sphere, an insanely proportioned island of three-dimensional space floating in extra-spatial abysses.

The *Pioneer* was being hurled through those black abysses outside space at incalculable velocities. Ahead, like shining bubbles, glittered other continuums of space, each holding hundreds or thousands of suns. One of them was dead ahead, its appearance and exaggerated proportions changing crazily as the ship neared it.

John Haley could never remember whether it seemed ages to him or only instants that the craft rushed through the four-dimensional abyss. In that dimensional realm, time was different and not to be understood by his human senses. He only knew that somehow the *Pioneer* was finally driving like a bolt of lightning into the great sphere of curved space that was their goal.

And once inside it, the ship was driving through suns and worlds. They were merely a flare of light or an instant of darkness, and the ship was through them. Their three-dimensional matter was unreal to the ship moving through four dimensions.

Haley's eyes searched frantically amid those hundreds of stars. At last he recognized amid the vastly altered constellations the yellow star of his own sun blazing dead ahead. In the instant that he reached wildly to throw off the switch, that star loomed up as a flaring sun, the tiny, slow-circling light-specks of its planets around it.

The switch clicked open in Haley's hands. He felt again, more cruelly, that awful wrenching force that tore

at every atom in his body, as the projector ceased functioning and the ship and all in it snapped back to normal.

HALEY recovered enough strength to draw himself up and peer shakily from the pilot house window. Out there now, space looked normal again. The insane curving of geometry was gone, and there stretched a black vault that held a thin cloud of scattered stars.

Amid those stars shone the bright yellow sun, no more than a few hundred million miles away. They were well inside the orbit of Jupiter, he discovered. The *Pioneer* was drifting aimlessly in space. He managed to revive Allinson, who staggered down to the generator room. Ethel and her

father were already showing signs of consciousness.

When Allinson came back with Angus Anders, they found Haley holding Ethel tightly in his arms.

"John, we're all right now!" cried Allinson. "We can use the two generators still left us to limp along to Earth."

Doctor Rider's eyes were brilliant with excitement.

"We crossed the four-dimensional gulf, ventured outside space itself for the first time in history! Do you realize what that means, John? Do you realize that it can be done again, that—"

John Haley, bending over a bright red head buried on his chest, did not even hear.

FORECAST FOR THE NEXT ISSUE

BEARDED patriarchs slapped each other on the back and chuckled in glee as young Norton made last-minute improvements on his machine. Norton's invention was the ten thousandth application for a perpetual motion patent. If his machine worked, the scientists claimed, it would develop enough ergs to pull the hat off your head.

But it *did* work! The spokes on the machine did not falter or jerk, but built up its angular velocity until the whole apparatus was vibrating with alarming violence.

That's only one of the opening dramatic situations of **ZONES OF SPACE**, one of the greatest science fiction novelettes ever to appear in **THRILLING WONDER STORIES**. It's by **MAX C. SHERIDAN**, and presents an amazing theme centering around the sunken continent, Atlantis.

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Anton York, the immortal scientist, of "Conquest of Life," lives again! In next month's issue EANDO BINDER narrates the story of Anton York remaking the Solar System. LIFE ETERNAL is a powerful story of applied science, one you won't soon forget!

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Also, among the fine novelettes in the next issue, is **DREAM-DUST FROM MARS**, by a favorite writer, **MANLY WADE WELLMAN**. It's an ingenious story of commercial traffic in the stratosphere, and of the men who knew only one slogan: *Stratocars Follow the Sun*.

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A thousand years from now one name will still be emblazoned in astronomy's Hall of Fame—Sir James Jeans. He is the most famous astronomer of modern times! THRILLING WONDER STORIES is proud to present an up-to-the-minute article on the newest phases of this popular science. It's an engrossing article more informative than a text book, more entertaining than an H. G. Wells fantasy.

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In addition to all these stellar attractions, the next issue brings you more novelettes, several short stories, and newer, brighter features.