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PROFESSOR JAMESON
SPACE ADVENTURE

#5

doomsday on ajiat

Neil R. Jones

**Even the machine men of Zor
could not withstand this holocaust!**



CAPTURED BY MONSTROUS ALIENS

When morning came, the bulking creatures that had chased the Zoromes in the dark suddenly attacked.

They moved with large, easy bounds, covering the ground with such amazing swiftness that the machine men were scarcely aware of their danger before they found themselves surrounded.

The things towered fully fifty feet in the air. They stood on legs which resembled a small forest of tree trunks suddenly grown up about the Zoromes. Their jaws were armed with long fangs.

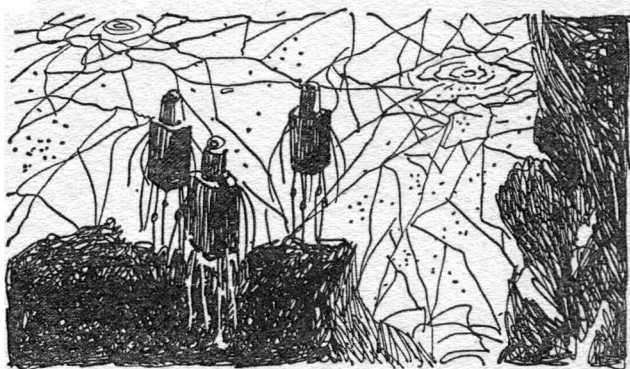
And suddenly Professor Jameson felt himself seized and lifted up to one of those terrifying faces! . . .

This fifth book in Ace's thrilling series of PROFESSOR JAMESON SPACE ADVENTURES introduces two new, never-before-published exploits of the star-traveling Zoromes, *In The Meteoric Cloud* and *The Accelerated World*. Both these portions of the Jameson saga were accepted for magazine publication when written, but the magazine discontinued publication. Their appearance here underlines the Professor Jameson epic's record as the longest-lived series in science fiction history.

For information about the earlier books of PROFESSOR JAMESON SPACE ADVENTURES, see page 160.

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Neil R. Jones



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DOOMSDAY ON AJIAT

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Contents

IN THE METEORIC CLOUD	7
THE ACCELERATED WORLD	60
THE METAL MOON	105
DOOMSDAY ON AJIAT	134

IN THE METEORIC CLOUD

PROFESSOR JAMESON'S ODYSSEY

The professor's earlier life and biography is more or less irrelevant to our story. Where we become interested in him and directly concerned with his career is in the October of his life. He dreamed of preserving his dead body against the inevitable law of nature much as had the Egyptians, yet his dream crept deeper into the realms of eternity than those of his predecessors.

Nearing the end of his life, he built a radium-propelled rocket to find an orbit around the Earth, where in its cosmic coffin his body would remain forever unchanged, free from bacteria and other earthly effects. Like a leaning tower of Pisa, the rocket ejector appeared to the uncomprehending villagers of Grenville. He left full instructions for his nephew to act upon subsequent to his death. Silent and glistening, ready for its strange career, the rocket rested against the eight tracks of its slanting tube, waiting. During the wait, the professor foresaw and forestalled the menace of meteors. Automatic, radium repulsion rays, their source kept continually rejuvenated by a process of transformed sunlight, answered the problem.

The vigil came to an end; the professor died. He passed away on a December morning not long before a late risen sun burst forth to flood the countryside with the rare novelty of December sunshine. The nephew was stunned by the secret instructions left him, yet acted upon them nevertheless. There was the lonesome trek at midnight through the snow-mantled cemetery, the pilfering of the grave vault, the emplacement of the body in the rocket, the tripping

of the radium release, the hurried run for shelter, and Douglas Jameson remained the only comprehending witness to the rocket's plunge into space. The incendiary firing of the ejector building with its clustered laboratories followed as an aftermath, the roaring, devouring flames consuming all traces of the professor's secret. For many long years, the secret was kept, but one day Douglas Jameson, still working in the interests of his deceased uncle, told the world. It was generally classified as a hoax, despite the empty grave vault in the Grenville cemetery, until the discovery by Clement in 1968. With his telescope, he discovered and charted the course of the Jameson satellite on its orbit sixty-five thousand miles distant from the Earth.

Years passed. Decades slowly rolled into centuries. Centuries passed by thousands—then ten thousands. History grew multifold. Mankind, life on Earth, rose and fell, finally disappearing off the face of the aging planet. Still the professor in his rocket satellite circled the Earth. More than forty million years fled by, the rocket circling the Earth constantly like a tiny moon. Professor Jameson had accomplished his great ambition. Yet how true it is that men plan without taking into consideration the caprices of fate, that unmoved destiny which rules the courses of worlds apart.

It was one of fate's caprices which brought a party of space wanderers, machine men from a distant corner of the universe, into the shadow of the dying world, a planet lifeless and untenanted, a pathetic semblance of past glory. They found the lonely rocket satellite revolving about the Earth on its endless orbit.

The machine men of Zor had achieved immortality by the removal of their brains from organic bodies of flesh and blood to machines which knew replacement and repair rather than death. A cubed body, four metal legs, six metal tentacles and a metal, cone-shaped head enclosing the vital brain presented a weird but practical aspect. Conveniently encircling the metal head were shuttered eyes, working much on the same principle as television, a single eye in the apex of the coned head permitting upward vision. They communicated by means of mental telepathy.

No greater surprise can be imagined than that of Professor Jameson when he came to his senses and found himself a machine man. The Zoromes had transferred the brain from his perfectly preserved corpse to one of their machines and had recalled it to life. He found himself a machine man, a convert to the ranks of these scientific wanderers of the cosmos who journeyed from one planetary system to another, exploring the myriad wonders of an unending argosy.

Professor Jameson had visited strange worlds and had met with even stranger adventures. He had known weird, unearthly forms of life living in environments where life would not have been suspected of being found, and he had known unusual forms of intelligence among the creatures the machine men had discovered on their travels. When Professor Jameson became one of the Zoromes, he was given the numeric title of 21MM392. He was now a seasoned mariner of the cosmos, his adventures and escapades legion. Once, they had returned to Zor, and the professor had met representatives of the organic species of Zoromes who later supplemented the ranks of the machine men. This latest expedition was under the joint leadership of the professor and 744U-21.

I

THE BLOT AGAINST THE SKY

The oval gleam of the planet fragment had long since dwindled out of sight behind the spaceship, followed into obscurity by its larger, parent body around which it rotated. The sun had become a star, but one of the many, perhaps of the first magnitude, in the sky behind them. Before them lay a starless, black void which grew broader as they approached, like a great, empty pocket of space, reminding the professor of an immense storm cloud threatening to swallow them in its thunder-wracked maw from which the stabbing play of lightning would soon emerge. But this was no storm cloud. The illusion passed from the professor's fancy, for every machine man knew what it was.

It was a cloud, but not a cloud of moisture. This cloud consisted of meteoric particles and lay menacing and cloak-like across an appalling distance of many light years, burying in its dismal shroud all suns and worlds it chanced to encompass in its relentless travel and obliteration, veiling all stars which lay beyond it.

"There is something dismal and foreboding about that vast, towering cloud," observed 119M-5.

"It is depressing," the professor agreed, "but probably because the beauty of so much starlight is closed off from our view."

"Or perhaps because we know that it means death to all life on the worlds it encloses, if there are such, shutting off the necessary sunlight," 41C-98 added.

"I would not say necessarily that all life was menaced," 744U-21 countered. "There were the surface dwellers of the sunless world, and the inhabitants within the immense shell, all of whom were not dependent on sunlight."

"The exception, however, not the rule."

"Of course."

"How close shall we come to the meteoric cloud?"

"20R-654 will penetrate through one edge of it in order to give us the novelty of seeing space without the surrounding stars."

"We shall have to slow our speed," 6W-438 advised. "At the rate we regularly travel, the spaceship would become heated from friction with the dust particles, glow white hot and burn up."

"The cloud moves slowly in comparison to the speeds of more solid, celestial objects."

The immense veil of cosmic debris loomed closer, blotting out one-half of the sky.

"We are now entering," said 744U-21. "It is not yet obvious, however, for the thin layer behind us is not sufficient to cloud the starry background."

"In my day on the planet Earth, there was one large meteoric cloud which could be discerned in the milky way and was popularly known as the 'coal sack,' " Professor Jameson said. "Several others were also noticeable against the starry heavens of the milky way. Astronomers of my time

first believed them to be rifts in the galactic system through which the blackness of space could be seen beyond, but this idea was later discarded in favor of the cosmic dust theory, which, of course, is the true one."

"Watch the stars behind you," urged 744U-21 to his companions. "20R-654 has greatly reduced our speed, but the change will not be entirely imperceptible."

The machine men watched and were aware of a subtle change in the brilliant, fiery star trains and constellations. Their sparkling iridescence became slightly subdued; they lost some of their lustrous brilliance. And while the machine men watched, stars of the lesser magnitudes became indistinct and faded from sight, the brighter stars changing color, becoming red and yellow. More of them disappeared until finally only the brightest remained, and they shone with a pale, dull, sickly light. The last and brightest star to their rear gradually faded from sight, the blackness around closed in, and the spaceship forged through an apparently dark and starless void as if all the suns of the universe and their distant companions, the remote nebulae, had suddenly died out, becoming dark, cold, invisible bodies.

"We are definitely in the cloud," said 41C-98.

"And getting deeper all the time," 777Y-46 added, swinging a tentacle dramatically to indicate the surrounding starless gloom.

"It would be terrible to become lost in its depths at the comparatively slow pace we find it necessary to maintain," said 119M-5 uneasily. "The time we might take in finding our way out with no stars to guide us is appalling."

"It would be worse than the labyrinth in some respects," 12W-62 reminisced of past adventures. "Of course, the menace of the orbs would be thankfully absent, but we should be so much longer in finding our way out."

"Allay your fears," urged 744U-21. "We are but penetrating a small, fragmentary edge of the floating mass and will soon be out. 20R-654 has the ship pointed straight ahead."

The spaceship plunged on through the complete darkness, the machine men finally deciding that they were approximately in the center of the cloud's edge where they had

chosen to pass through. A sudden, mental commotion from the control room jarred upon the sensibilities of the machine men, most of whom were in the observation chambers where, strange to relate, they found nothing at all to observe. This, itself, was the novelty.

"The controls are behaving strangely!" 20R-654 exclaimed. "The ship is not responding to my touch."

"What is the trouble?"

Alarm quickly smote the machine men.

"The ship is changing course erratically! It is picking up speed rapidly!"

The alarmed Zoromes felt strangely helpless. What, they all asked, could have happened?

"Something has us in its influence!"

"Another ship of space!"

"If it is," spoke 20R-654 mentally, "it is so distant as not to be distinguishable by our proximity detectors."

"That throws out my theory of a large, hidden world not far off or a large meteoric chunk close by," the professor told them. "It can mean but one thing."

"What?"

"Faulty controls. The ship is not responding to the controls because something has gone wrong with them, something we must have failed to correct efficiently after the fire dwellers had tampered with the ship before it crashed on the planet fragment."

"What an insidious, evil moment for them to go awry!" 6W-438 exclaimed. "Here in this abominable cloud!"

It was the nearest the machine man could approach to an oath.

Once more from the control room to which the machine men were hurrying came the alarming, mental intonations of 20R-654.

"We are being hurled through the cloud at a terrific speed which is heating up the ship's hull! It will burn away, exploding, destroying us or leaving us scattered in space!"

"Stop the ship!"

"I cannot."

"To the propulsion chambers!" cried 744U-21. "Break the connections!"

Knowing full well their impending peril with its devastating consequences, the machine men scattered pell mell for the propulsion chambers, tiny cubby holes for the most part, narrowly flanking the hull in different regions of the spaceship. Professor Jameson with 8L-404 and 59V-5 rushed into the fore of the craft, breaking open the entrance cover to the propulsion chamber they had come to attend. An alarming sight greeted them through the round opening. The ship's side glowed a dull red, and up forward the lurid glare was becoming white from the terrific friction of their runaway speed. They were met by an intense wave of heat, yet unheeding the three machine men crawled inside to their duty. It was like stepping inside a furnace, yet there was no heat by convection, there being an absence of air in the propulsion chamber and the adjoining rooms. The latter were governed by airlocks, but a terrific radiation of heat smote the machine men so intensely that without the temperature equalizers, which they had had neither time nor forethought to bring with them, they dared not linger too long over their task.

Rapidly, clutching tentacles tore away all connections. The three machine men were dizzy from the swiftly increasing heat as they staggered to the round opening and climbed through one at a time. The reeling 8L-404 was last to go through, and he was literally dragged from the propulsion chamber by the tentacles of 59V-5 and the professor. The latter was reminded of the bewildering trek through the fire country of the planet fragment. They hurried back to the control room.

The ship was commencing to decrease its speed, for 20R-654 still possessed a limited control over the reversals, which had purposely been left unbroken. During the brief emergency measures, the ship had plunged through crazy gyrations and in many directions as various working parts had become disutilized by the sudden emergency disruptions of the machine men.

"As if we had not been thoroughly lost as it was after the controls went bad," 12W-62 observed.

"We may be deep within the cloud of meteoric debris, or we may be nearly out of it. There is no way of telling."

"The mad, crazy speed might have plunged us against a hidden planet or meteoric fragment."

"The odds are against such a collision, though it might have occurred."

The ship continued to slow down, and the machine men examined parts of the cooling hull, finding in several places where the metal hull had actually been eaten away by heat and friction.

"That was a close call."

"The closest we have had as a group since leaving Zor on this present expedition."

They plunged through space at the slow rate of less than five miles per second, which was far beneath the maximum speed safe for penetration of the dust cloud. It was decided to decrease the speed no lower, although for all they knew they might be plunging deeper into the obscuring mass of meteoric particles. First of all they must repair the controls. That must come before they could act any further. Afterward, the connections would have to be replaced. In coordination with this work, repairs could be made to the friction-worn hull, especially to the spots where it was possible for the machine men to reach through and wave their tentacles into space.

The trouble with the controls was soon discovered and rectified more speedily than they had thought possible. The cause of the trouble lay in the defect of a peculiarly hard metal taken from the planet fragment when the ship had been repaired. The Urum had brought it with them from their cities beyond the towering mountains. As a working part, the machine men now realized its defects, recognizing it only too sorely in their present, uncompromising position.

The problem of replacements was readily solved by taking down a small, inner partition of the spaceship made of metal once mined on Zor's sister world of Poth and fashioning it into all moving parts previously constructed with the defective metal from the planet fragment. Not only were the broken parts of the defective metal replaced, but the other working parts of the same metal were discarded. Reconditioning and repairing the hull took much longer. Two more partitions were torn down and utilized, not to mention

the resmelting and use of the defective metal from the planet fragment which had proved serviceable in other capacities.

Once the controls were found to operate smoothly and efficiently, the machine men rebuilt the broken connections. Once more the ship was spaceworthy. The greater problem which the machine men had held suspended while making repairs to the ship in space now stared dismally at them, no longer to be denied. The machine men discussed it.

"How are we to get out of this?"

"We have no idea where we are," said 6W-438. "We may be at the nucleus of the cloud, or perhaps we are only a short distance from the outer edge on one side or another. There is nothing before us but a gamble. Any direction we take may easily require so much time that it is staggering to conceive of it. On the other hand, the choice of a single direction might win us free very shortly."

"One thing is sure," Professor Jameson stated. "We can push on at the fullest speed possible in this meteoric cloud and trust in fate and sufficient time to bring us out."

"We may take the longest way; we may take the shortest way," added 744U-21, "or we might choose an intermediate distance which is the most probable, but as 21MM392 intimates we shall follow the universal law of a moving body and continue in a straight line, regardless of the absence of guiding stars in space about us."

"The cloud was very far across, and the best speed we are capable of making without endangering the ship by friction is twelve miles a second," said the professor. "How long would it be possible for us to plumb the depths of this cloud?"

There was no immediate reply until 29G-75 spoke up.

"About eighteen hundred of your years, 21MM392, if we continued in a straight, unswerving line. On the other hand, we might at any moment glimpse dim-veiled stars and see them wax brighter. We do not know where we are in the cloud. While the ship plunged about in varying directions at a dangerous speed, there was no way of telling where we were. Being able to travel at speeds more than double the speed of light, we are cut down many thousands of times to our present slow pace."

The machine men faced the issue philosophically. They kept little track of time. Tireless, made of metal, time passed rapidly. Though the ship was equipped with chronological instruments, they were rarely used. Time, unless they were upon a planet, rarely existed for the mechanical Zoromes. In space, they were only cognizant of the longer periods of time, adapting themselves to planetary chronology only as they found themselves exploring a system of worlds.

The dimly-veiled stars which 8L-404 had painted in their imaginative hopes as a long possibility remained as a long possibility and glowed only in their imaginative hopes, not in the sky in any direction. All about them remained only the abysmal depths of the meteoric cloud. A long time passed, and the machine men waited and hoped. The professor knew that more than fifty of his Earthly years had been measured off from eternity. Nearly an average, normal lifetime. Still only the disheartening blackness. The machine men found themselves strangely affected by the absence of the studded sphere of which they seemed always the center. The stars were still there, yet they seemed gone. The insignificant, snail's pace they found it necessary to maintain pushed back the invisible stars to alarming distances. And as if this was not enough to depress the machine men, there came to exist the discouraging ogre of uncertainty. Several times they had received clashing blows from small, meteoric fragments which were found to be comparatively numerous and which 20R-654, reluctant to dodge out of his straight line, could not always completely avoid. These dents and perforations the machine men were able to repair, but there existed damages, perhaps only imaginative, to their chosen direction.

Even the smallest meteors, the machine men knew, were capable of changing slightly the course of the ship. They hoped, however, that these minor impacts would not swerve their ship sufficiently to make a great deal of difference in the matter of general direction. Several of the machine men took hope in this, claiming that such variations in direction might be for the best, that after all it was a gamble and that their chosen direction might have been the length of the

cosmic dust cloud. They could only wait and hope, puzzle and conjecture.

Fifty of his Earthly years had passed, the professor meditated, since they had entered the great dust cloud of the cosmos. Those years, or rather the time, had flown swiftly, yet he recollected that a month had not seemed so very long during his Earthly life, and fifty years represented but six hundred months. In fact, a lifetime now looked very short indeed. The proverbial three score years and ten added to only two hundred and eighty seasons, eight hundred and forty months. Reduced to actual hours of existence, the normal lifetime had represented somewhat more than six hundred thousand hours, and from the cradle to the grave there were but two and a quarter billion fast-moving seconds with no way of stopping them. And unlike the machine men, one-third or better of this time was spent in comatose sleep.

Nothing had served to break the monotony. The machine men made their way about the ship occasionally, discussing the main topic, their present situation, and talked of adventures on other worlds. Once in a while they found it necessary to climb out upon the hull of the ship, equipped with their temperature equalizers, and repair a puncture or replace a dented portion where it had been difficult to avoid one of the smaller meteors. The proximity detectors always picked up the larger wanderers in time for 20R-654 to slow the ship or hasten it slightly until they were safely past. Greater speeds than twelve miles a second were possible for but a limited stretch of time.

The hopes of the Zoromes remained steadfast and optimistic, and always there were some of them on the watch for the first dim signs of starlight. It had become a regular duty, but aside from the particular assignments there were usually a few of the machine men who watched through choice. They hoped for the unexpected, such as a rift or a break in the cloud through which they might guide the ship into free and unobstructed space. Neither did they overlook the possibility of coming through the edge of the cloud momentarily before striking into another irregular section. Even at twelve miles per second, such breaks and indentations could pass swiftly, and the machine men were

not going to be caught unawares if such an opportunity did occur.

So it was no wonder that a mental shout from 27E-24 brought every machine man into vibrant attention and instant action. Those nearer hurried to where 27E-24 gazed off into the depths of the meteoric cloud. The rest soon joined them, aware that something unusual had either been seen or had happened.

27E-24 pointed off into space ahead of them and slightly to one side. Far off glowed a dull, barely perceptible orb the size of a large coin held at arm's length. To say that it glowed overemphasizes a difficult distinction; to the machine men who for fifty years had seen nothing but darkness all about their ship, the distant body's surface of lesser darkness seemingly glowed. Much darker than a totally eclipsed moon, the celestial object marked a definite, discernible spot ahead of them.

"It is still far off," said 6W-438. "It is a sun, a buried star, and probably possesses a retinue of buried planets. How large it is and how far distant from us is rather difficult to judge. An illusion of greater distance may be possible due to the surrounding dust cloud. We may be nearer than we appear to be."

A call from 20R-654, still at his post, notified them of the sun's registration on the proximity detectors.

"At first I thought the agitation to be from one of the huge meteoric masses which we have occasionally met and passed. Now that you have definitely seen the body and identified it, a few adjustments of the proximity detectors will tell us more about it."

The professor gazed in moody conjecture at the dull glowing orb whose disc was alight but little more than that hidden portion of the new moon he had once upon a time seen barely distinguishable by Earthshine.

"We shall pass to one side of the sun."

"How many planets do you suppose it has?"

"Perhaps none."

"We shall probably never know."

"We could search for them."

"But lose our original direction. No, we must keep ever onward."

"If there are planets, and if any of them ever supported life, such life is dead by now," observed 41C-98. "Some time in the far future the cloud will pass on. What may then occur upon such frozen, lifeless worlds as this sun may possess is problematical."

"It might happen soon."

"Or perhaps in another million years or more, many times more. The speed of the cloud is very slow."

The spaceship continued on, and the dull red orb grew larger and brighter as they drew ever nearer. The clouded sun, however, did not lie directly in their path but ahead and to one side. The machine men figured to pass within several million miles of it. Here lay another trouble which 744U-21 promptly cited.

"Our selected straight course is once again menaced, this time by the proximity of this sun. Like wandering meteors or asteroids, our ship will tend to curve around it in parabolic flight. This of course 20R-654 can easily counter-act, but with no astral pointers from which to reckon, it is a puzzle as how we are to ascertain the amount of deflection."

"There is but one way," said the professor, "and that is to keep onward. We can watch the surface of the sun for sunspots or other areas of identification. Probably the body rotates, especially if it possesses planets. We must reckon its rotation, and in that way we can figure our direction. We are not yet as close as we may come in passing. There is plenty of time for observation."

The machine men examined the growing ball whose disc also increased in brilliance as well as size. Soon they were the closest they would ever approach to this buried sun of the meteoric cloud. The flaming globe possessed few characteristics, the machine men found, and with sinking hopes they saw many of the alleged sunspots in the process of comparatively rapid formation, others slowly disappearing, yet none too slow to survive the slower and laggard rotation of the mighty body.

II

THE BURIED WORLD

The ship passed on, and the sun retrogressed through the shades of color and the corresponding sizes which it had assumed on their approach. Those spots which the lost Zoromes had detected were for the most part lost by obscurity or had changed and disappeared by the time the sun had slowly swung its giant bulk in a complete rotation. What few identifications the machine men were able to confirm proved the disheartening assertion of 744U-21 that their approach near the sun would swing them out of their chosen direction. Though proving that they were headed off their selected route at an alarming tangent, the facts were not sufficient to allow them an accurate estimation of the divergence. The best 20R-654 could do was to swing the spaceship back in the general direction they had originally pursued, putting the diminishing, fading globe directly behind them. Once again, as before, they were trusting to chance.

The sun disappeared. Once more all about them lay the obscuring veil of the stellar cloud. More than ever did they feel buried. Nothing seemed certain now. It was as if they might never win free of the cosmic debris stretching across the vast immensity, much less hope to pursue a direct line, the most obvious certainty of eventually winning free. The trouble had its source in another system, the first link to this amazing chain of circumstances forged on the elongated bulk of the planet fragment. As instruments of fate, the fire dwellers and the defective metal from Uri were undeniable. And, as if to prove a conclusive factor of discouragement against their ever returning to their direct route, there was issued from the control room the general announcement that they were entering the vicinity of one of the planets to the invisible, receding sun.

"Is it large?" queried the professor.

"Somewhat larger than your planet Earth, 21MM392. We are passing close enough for it to affect our course."

"What do you think about landing upon it?" offered 744U-21. "We can be no worse off after landing and starting out again than we are now."

"I guess you are right," the professor agreed. "It can do no harm. The variation will be welcome, and it is possible, no matter how remotely considered, that we may be able to find a clue in helping us to get out of this dismal cloud."

Cautiously, the spaceship was guided in the direction of the unseen world. Closer it loomed, making its proximity felt upon the instruments of the spaceship. In no way could it be seen. Even in space where there had been no sun to light the hemisphere of a drifting world, the machine men had alighted upon lone, cosmic bodies, aided by the blotting out of the stars behind the object, but here not even this facility existed. They were hunting in a blind pocket, entirely dependent upon their proximity detectors, and as they approached closer they proceeded ever more slowly, more cautiously. Soon they found themselves within a few miles of the invisible planet. Huge, far shining lights were turned on and focused below them, throwing the ground beneath into dim relief, more brilliantly lit as they dropped groundward, no longer groping in utter darkness.

Before they landed, they were aware that the world possessed an atmosphere, but to suppose that it supported life of any kind seemed to be an extremely unlikely possibility. The episode of the sunless world, however, with its surface dwellers had not been forgotten. Upon his planet Earth, the professor had found that the term impossible had been greatly overworked, and his career as an adventurer of the cosmos with the machine men of Zor had substantiated this tendency of narrowing the apparent scope of the impossible.

The spaceship settled to rest, and out upon the dark, frozen surface of the buried world the machine men walked. Beneath their feet lay a long, level stretch of ground revealed in the lights of the spaceship. It was plainlike in its smoothness, and in spots it glittered dark and opaque. The professor kicked at the frozen dirt beneath his feet in a dawn of understanding. Beneath a thin layer of dirt something

glassy chipped off and flew into a shower of myriad, scintillating specks.

"This is not ground under us. We are on a frozen body of water."

"A lake—or an ocean!" 6W-438 exclaimed.

"Or even a river, if it is a broad one," 41C-98 added.

The latter possibility became exploded as searching lights were cast upon shoreless horizons.

"Let us look for land," said the professor.

Back into the spaceship went the metal Zoromes. Low over the broad body of frozen water they cruised swiftly. It soon became apparent as they increased their speed that here was no lake but an ocean, a frozen ocean mottled with haphazard layers of wind-blown dust, some of it no doubt from the meteoric cloud itself. The machine men saw something else. From time to time there shot down through the atmosphere long, lurid, meteoric flashes from out of the depths of the cosmic dust cloud. These brilliant, intermittent trailers of fire, grimly suggestive of what might have been the ultimate fate of the spaceship in its mad, unmanageable plunge through the meteoric curtain, were the only relief against an otherwise perpetually dark world and sky. The monotony of smooth ice was broken and jumbled by topographical features of terrain as 20R-654 suddenly swung the ship upward to avoid possible, upthrust prominences.

"Follow the coast," the professor advised. "If life ever existed here, the chances are that it resided near the water."

Swinging back again, 20R-654 found where land and water met, and from then on their progress above the irregular coastline remained sufficiently slow to afford a cursory examination of the shoreline for signs of life. The powerful lights kept playing incessantly ahead, behind and on all sides, many keen, mechanical eyes searching for a telltale sign of life. The machine men were just beginning to wonder if they had not chanced upon a world already lifeless before the coming of the dust cloud when way ahead the farthest edges of light reflected back from a scattered collection of massive domes and towers.

As the spaceship sped above and circled, the lights played down upon what was evidently a city, a dead, de-

sented city, several of the buildings even at this height suggestive of aging ruin. Others seemed quite intact and untouched by the ravages of time and elements. The ominous, oppressive silence which hung over the mysterious city left the machine men without comment. They waited eagerly for the ship to settle upon a wide, dark plaza of rough-hewn stones. Those staying with the ship kept their thoughts sharply attuned to those of the several searching parties into which the majority of the Zoromes were divided.

The professor found himself with 777Y-46, 28A-155, 57L-426 and 199Z-073. Leaving the glowing aura surrounding the spaceship behind them, they plunged off into the darkness of the dead city, playing their body lights down a broad street and upon the mighty edifices to either side. Evidently the inhabitants of this place had been far up in the scale of civilization and progress. During their travels, the machine men had found universal law strangely averse to intellectual advancement. The more advanced species of the planetary systems came soonest to grief in what seemed to represent an unanswerable law. So was it here, too.

As they advanced, the deserted street impressed them with its lack of life. On second thought, however, it was apparent that the cosmic peril had not descended upon the planetary system so suddenly as to catch the creatures, the intelligent ones at least, unawares. Probably they had known of its coming for many years. Yet where had they gone? A search of the buildings might answer the question.

The five Zoromes were about to enter a broad, flat building through a high, towering arch flanked by triangular columns tapering to pyramid tips, when 28A-155 called attention to an indistinct figure lying about halfway up a flight of rounded steps. The machine men congregated around it. Here they found an object of organic origin and frozen, but it had evidently reached a state of semi-decomposition before the terribly low temperature invoked by the sun-hiding menace from space had claimed it. The ancient corpse was unrecognizable, only dimly suggestive of its appearance in life.

"One of the city's inhabitants?"

"Probably, but we cannot truthfully say until we search farther."

"It may have been an animal or a species subservient to those who built the city."

The machine men entered the building and discovered queer contrivances, weird objects, unique architectural fancies but no sign of either the living or dead. Fantastic passageways led them in zig-zag paths to both the higher and lower levels, and once, to their consternation and surprise, a metal ramp upon which they stepped groaned hollowly and swung automatically into silent motion, depositing them upon another level scarcely before they were cognizant of what had happened to them. Although they searched the building thoroughly, nowhere did they find traces of life other than the inanimate objects which the living had once used.

Once again they walked out upon the darkened street. Without a warning, one of the triangular columns tottered suddenly, leaned out over the street and crashed in a dusty shower of cracked metal and powdered masonry. Time and elements had softened a portion of its base, needing only the slight vibration of the machine men passing down the rounded steps to bring it crashing to the street. Another nearby searching party had heard the crash, for a mental query of alarm reached them concerning it. They explained the harmless circumstances and added a question of their own.

"Have you found any of the inhabitants?"

"Yes," replied 6W-438. "There were two of them lying on the floor of the building we just searched."

"What are they like?"

"Like nothing you ever saw before, 21MM392. They are nearly transparent, at least in death. Time, too, may have had something to do with it. What they were like when alive is open to conjecture."

"They are thin?"

"Inclined to be so. Their legs are long and end in claws. There are two of these and two upper appendages as long as the lower ones."

"Are their faces intelligent?" the professor queried. "Do they appear to be the creatures who lived here?"

"Strange to say, their faces are barely distinguishable, being the most translucent portions of their anatomy. The brain is semi-opaque, and by its size and numerous corrugations I would be willing to state that they are the rightful species belonging to this city. The corpses, however, are in a rather poor condition."

"We found one in the street that was partly decomposed before the preserving cold set in."

Through the city streets and buildings the machine men roved, the many strange discoveries they made peculiarly stimulating to their imaginations after the long, dreary flight in the depths of the meteoric cloud. They conceived how years before it came the monstrous dust cloud must have blotted out the stars of the heavens and cast a shadow of gloom and ominous dread over the comprehending peoples of this world. They might have searched in some futile manner to counteract the horrors of perpetual dark and eternal cold which threatened them. More surprising an idea to entertain, they may have succeeded in doing so. Where were they now? Not upon another world, even had they mastered interplanetary flight, for the rest of the worlds in the planetary system, if there were such, were no better off than this one. They might have plumbed space to another star and its system, but somehow the idea seemed unlikely. What had been done, if anything, to avoid the cosmic calamity the machine men had yet to find out, besides figuring out the answer to their own calamity.

More of the dead creatures were found, some of them badly kept, others nearly intact. Bacteriological decay had touched most of them slightly, however. What puzzled the machine men were the scant numbers found. They seemed easily less than what must have been one per cent of the city's entire population. The dead were often found in strange attitudes. Many of them had apparently lain down around heating devices to the last. One of the creatures they found beside scientific instruments as if to the last it had been deeply engrossed in the problem of the encroachment of the colossal cloud from space. Even a speci-

men found pilfering deserted possessions was come across, sitting dead among the gains of his useless thievery.

Throughout the city the machine men roamed. Finally, they returned to the spaceship and recounted what they had seen and what they had found.

"How long ago do you suppose it was that the dust cloud enveloped this world?" 6W-438 asked.

"There seems to be no way of estimating it," said 744U-21.

"If we only knew, we would have some kind of an answer to our position, for we already know the extent of the meteoric cloud and its relative speed."

"There is much about this planet which we could learn that might prove of value to us."

"There is one short-cut to knowing as much about this world and the coming of the dust cloud as the inhabitants knew on the eve of the engulfment," the professor suggested.

"How?" queried 6W-438. "Study their archives?"

"That is one way, but there is a better way," the professor replied. "Learning the various interpretations of their symbols and records might prove only hazy at the best. We must bring one of the creatures back to life."

"Impossible," was 29G-75's sober observation. "They are too badly preserved. Where would we find a suitable specimen?"

"I agree with you when it comes to those we have recently found," Professor Jameson told him, "but the main body of the population has eluded us. It is my belief that they went somewhere prearranged to battle for life to the end. If this was so, then they existed until the full, bitter force of the cold descended upon this world. To have prolonged their life and to have died then would have left them more perfectly preserved than those who expired from the earlier effects of the cutting off of the sunlight."

"Your argument is logical," said 41C-98. "Under synthetic conditions, many of these creatures could have existed long after the dust cloud descended, but do you suppose we can find them perfectly preserved? They may have been cremated or disposed of in some such manner, explaining the absence of their remains here in the city."

"It is only a possibility," the professor replied. "We have indeed found no specimens here which would be of any use."

"Let us hunt for more cities," said 12W-62. "We can follow the coastline. That should lead us to more seaports. It seems the easiest way of finding the cities."

The idea was immediately acted upon. They flew high above the coast once more, leaving the silent city with its few dead to be enshrouded in darkness once again. A good many miles were put behind them by the professor's reckoning before the spires and columns of the next city came into view. Once more the machine men searched the buildings, this time more systematically than they had the last place. Delicately traced inscriptions on thin sheets of metal were closely examined. Strange bas-reliefs were given scrutiny. All symbols eluded the comprehension of the machine men as did the queer writings on the metal sheets.

It was 119M-5 who discovered a huge map in one of the larger public buildings. From identifying characteristics which plainly marked the position of the city on the map, they learned where they were, and the position of a city farther down the coast which, they agreed, must be the one they had first visited. There lay the broad ocean.

What interested them particularly, however, was a round circle on the map far inland, showing many routes leading from all the cities on the continent to this central position. From the record they had kept of the distance from the last city to the present one, which the professor had estimated at little more than two hundred miles, this central city measured over two thousand and three hundred miles from the coast.

"What do you make of it?" 744U-21 asked.

"I was wondering why that central city should be routed so importantly on the map," the professor replied. "There seems to be a peculiar significance attached to it."

"The place may be a capital city."

"Possibly."

"It seems the logical place for us to go."

6W-438 looked up from several broad maps he had pulled from a deep shelf. "Here are maps of the world, this

continent, the city itself and divisions of the continent. They are older maps than the one on the wall, and on them the central city is nowhere to be found."

"That settles it," said the professor. "Somehow or other that new city has something to do with the coming of the dust cloud."

Into the spaceship the machine men crowded, ready to be off for the mysterious inland city. Gauges were calculated and set, directions obtained. The ship rose high and started on its journey across the continent. It was not long before they reached the vicinity of the circle on the map, yet they found nothing except the same dead, frozen ground. Circling the vicinity, they found the frozen remnants of what once had been a forest, now in a curiously strange condition. Miniature glaciers had formed around the dead trees. Of the city they had expected they found no trace.

"Keep circling wider," the professor told 20R-654. "You have probably missed the place."

Constantly widening circles at rapid speed finally brought into the aura of their lights a reflecting flash from some broad, curved surface far below. Wheeling to investigate, they saw below them a dark, shining dome so broad and colossal that it might easily have held a city beneath its inverted bowl.

"There it is!" 6W-438 exclaimed. "The central city!"

"And from all appearances it was built to keep out the cold from lack of sunlight. If life exists beneath that dome there is certainly no outward show of it."

III

UNDER THE GREAT DOME

The spaceship landed at one side of the massive dome which was rather squat, suggesting that the city might be sunk slightly beneath the ground level. Immediate examination of the substance composing it classified it as a light alloy.

"How do we get inside?"

"We must don the mechanical wings and search the dome's surface."

The machine men acted upon the idea immediately. Machine men on the wing spread in every direction over the vast dome, appearing from far above like many roving fireflies as their body lights groped for a sign of an entrance to the mysterious city they expected to find beneath. If life existed within, the probing metal faculties of the Zoromes failed to contact it, yet this was not taken as a definite proof that life did not exist inside. What startled them with the initial examination of the dome was the absence of seams or plates of any kind. It was as if the entire dome had been built in a single piece. It was their belief, however, that a thick plating of metal had been employed, being sprayed or poured over the seams where plates joined or overlapped. The dome covered easily twenty-four square miles, the professor estimated, rising to less than a quarter of a mile in height. Like a huge, squat, volcanic bubble, it mushroomed out of the ground.

For an enclosed city, it possessed but few entrances. This puzzled the machine men. And their curiosity grew as the four entrances next to the ground were found to be no larger than would allow a double file of the creatures to enter. The entrances, though securely fastened, were not airtight, yet a casual observation by Professor Jameson cited the fact that even so there might be double gates within, or possibly airlocks. The machine men tried the doors and could not open them. Intricate designs of odd-shaped holes suggested keys or combinations.

"How shall we get inside?"

For answer, 6W-438 took the initiative of kicking lustily on one of the doors. The sound rang double-hollowly and mockingly inside, sharp and clear outside. Machine men flew swiftly to the other entrances and repeated the performance of 6W-438.

"I do not believe there is anyone inside alive," said 119M-5, "or that there has been for a long time."

"Let us burn down the door with heat rays," offered 29G-75.

"It would seem the only way," the professor agreed.

Curiosity goaded them to alacrity, and they set to their task. Soon, the door was but a shambles of twisted, eaten metal which they shoved out of the way. Heeding the sudden caution of 744U-21, they made their entrance carefully, and only a few of them hurried past the wrecked door.

"There are no more doors!" 27E-24 exclaimed in surprise. "That was the only one! We are completely inside!"

"There are many buildings which stretch away into the gloom," said 1T-781. "They rise out of sight of our lights."

"All is silent," added 777Y-46. "All is dark!"

The usual number of machine men had been left with the ship. The rest pushed in through the entrance to the vast dome. As 777Y-46 had said, all was silent and dark. Buildings rose up before them, merging into the dome's side and set so closely together as to leave but a narrow passageway, scarcely a street. Another significant fact became apparent. No openings were visible in the buildings. The only relief was a closed door on each level, the upper levels fronted by a narrow, jutting ledge, with stairways leading up from one ledge to another. These ledges overhung the narrow thoroughfare and reached across so close to each other that it appeared to require but a light jump from one side to the other.

The machine men saw that on this particular avenue at least their mechanical wings would be useless, and so they walked in a body. From time to time, side avenues broke up the two walls between which they walked. Several of the machine men were sent climbing far up above the limits reached by the body lights. They kept going upward from ledge to ledge, up stairway after stairway, reporting back that the buildings continued unbroken nearly to the domed roof, large columns supporting the dome. The buildings were all the same, with the only difference being that as the dome arched higher the buildings were found to be higher, merely more floors being added to the monotonous architecture.

Splitting up into groups after penetrating the domed city for nearly a mile, they diverged down side avenues which were squarely at right angles and geometrically correct. Keeping in mental contact, the reports were always the same.

The narrow avenues were always just so far apart, and the single doors fronting each other across the avenues and set precisely above one another on every level. The stairways and ledges were always the same, everything set to a single, exasperating standard. Only the single variation was proved by the machine men who traveled beneath the dome over the roofs. As the dome rose higher away from its sides, so rose the height of the buildings, strong stanchions towering upward from them to support the dome.

The doors were tried and found to be steadfast against invasion. There were four of these entrances on each level, facing all four directions, fronting all four streets, bordering each building which occupied its exact square of territory.

"We shall have to destroy more doors evidently," said 5ZQ35. "If this is a city it must be a city of the dead."

"It would appear to be abandoned."

"Then where did the inhabitants go?"

"They could not have come here for protection against the cold," said 41C-98. "Not with the ill-fitting doors to this globe letting out heat and admitting cold."

"But what of the doors to these buildings?" 6W-438 returned. "They appear as if they were sealed airtight. The buildings look to be constructed airtight, too."

"Somehow this place does not appear as if the doomed creatures expected to live here against the menace from the dust cloud," was Professor Jameson's opinion. "Why should they have built this great dome and not equipped it with airlocks if they wished security from the cold? Why did they not build the entrances more securely?"

None of the machine men in the group were able to offer an obvious solution, for none of them knew any more about it than did the professor. The answer, however, soon came in the form of an unusual discovery by one of the machine men roving over the rooftops beneath the metal dome.

"We have discovered a roof that has caved in upon the upper floor!" announced 7H-88. "With a bit of the heat ray, we can effect an entrance!"

The call came from above them, and the machine men of the professor's party were soon clambering up the stair-

ways from ledge to ledge, their body lights dancing fitfully in the gloom. By the time they had gained the last level, 7H-88 and a companion had finished their work and were about to lower themselves through the deflated rooftop. From inside came the reports of their discovery as more bobbing lights from many directions appeared over the rooftops, heralding the gathering of the machine men to this sudden focal point.

"This is no city for the maintenance of life against the ravages of the dust cloud; it is a gigantic mausoleum of the dead!"

Hurriedly, the professor joined the two machine men who had climbed in through the roughly enlarged aperture of the crushed rooftop. Below, he found a strange confusion of twisted, metal, oblong altars and stiff, inert bodies. Where the sagging roof had not disturbed the order of the broad chamber, silent corpses lay upturned upon the long rows of altars. Upon an overturned altar close to the entrance they had made, the professor found queer inscriptions, probably the identity of the dead creature who had rested there in peace but now lay crumpled and oddly twisted on the floor where the collapse of the roof must have thrown it.

More machine men entered the wrecked top floor. They wandered about, stooping here to crawl in under a drooping section of the roof, detouring at other points where the roof had fallen crushingly upon silent, uncomplaining bodies, overturning the death altars and strewing the floor with corpses over which the machine men stepped in their examination of the place.

"Do you suppose all these buildings and every floor of each building contains only such as we have found here?" 6W-438 queried.

"From the monotonous uniformity of the exteriors, the interiors of these buildings would seemingly be found the same. The great dome is but the cover for a colossal tomb, but of that we may learn the truth later."

"The bodies are well preserved," observed 41C-98. "There is the same, general, transparent appearance, however."

"It must be a characteristic of the species."

"Whatever made the roof collapse? It appears to be very strong and was supported by many columns with outspread braces."

"It is strange," the professor agreed. "It would appear as if too much strength had been lent to the roof's support, yet even so it collapsed."

"This place may have been invaded at some time or another."

"It is unlikely, and even so there are the four regular entrances to each floor. A break would probably have been effected there. They would never have broken down the entire roof of this one building. There must be some natural cause responsible."

"Let us bore down into the level below this and explore it," 744U-21 suggested. "The dead will be found less disturbed, and we may find a specimen whose brain we can bring back to life and activity."

The machine men directed their ray ejectors upon a circular bit of the floor. Many things happened as the combined beams of 6W-438 and 7H-88 broke through. A terrific gust of air swirled suckingly about their metal bodies, whirling several of them off their feet and landing them on the metal floor which wrenched and cracked to dull, sobbing explosion which sent tremors and echoes rumbling noisily about them. That portion of the floor which they had selected as the spot for their cutting now represented the bottom of a steep, concave hollow, a ragged tear gaping up one side of it. Through this tear slid the metal legs of the professor whose cubed body caught and held him there suspended. As rapidly as the bewildering events had occurred, so soon were they over, leaving the machine men to surmise what had happened.

"A vacuum!" 744U-21 exclaimed. "The chamber beneath is a sealed vacuum!"

"It was, you mean."

"For the better preservation of the dead."

"All the chambers must be vacuums," said 29G-75. "When we opened a hole into the place the air rushed in with a loud report."

"Which explains the collapse of the roof," said the pro-

fessor. "There must have been a weak spot somewhere in its structure, and the tremendous air pressure, breaking through a point of weak resistance, brought about its collapse."

"The excessive number of supporting columns is also explained," said 12W-62.

"Come, let us get through. This seam we opened up needs to be widened only a bit more."

A bit of application with their heat rays was found to be sufficient, and the machine men followed one another down into the next level of the towering tomb. With the exception of the one spot beneath the rapid ingress of the atmosphere, the long rows of orderly funeral altars stretched away between the criss-crossed lines of columns.

"Here is endless material for our experiments, 21MM392," offered 744U-21, sweeping his tentacle widely about the broad, silent chamber where dead, translucent faces stared upward, the long rows gradually receding into the gloom beyond the concentrated glow of the machine men's body lights. "In one of those heads the secret of the meteoric cloud may exist."

Leaving the chamber of death, the machine men of Zor once more continued their long trek beneath the broad bowl above them, nor did they pause until the opposite curved wall of the great bell lay before them. On the way, they had discovered a collapsed wall much like the damaged roof. At the other end of the vast mausoleum, they once more invaded the sanctity of the dead by entering one of the broad, hermetically sealed chambers on the ground level, entering through the front wall halfway up a stairway. Here, even as in the tombs on the farther side, were the same altars, the same upturned, indistinct faces set in death, the same columns and the same distance between the altars.

They searched for and found another of the four entrances of the huge dome, the one directly opposite the door they had forced. Here, they found the door easy to open from the inside which they accounted strange, for who inside would ever be expected to require such a convenience? The professor argued that the pall bearers required this easy method of opening the door from the inside, all of which resolved itself into the claim and counterclaim as to whether

the doors were left open or not during the interment. This triviality, unimportant of itself, however, brought up the question as to whether the corpses had been brought there one at a time or in wholesale numbers. They reached the conclusion that the dead had been brought collectively and irrespective of relationship, each level when filled having had the air withdrawn before being sealed.

Leaving the mausoleum by the doorway opposite to the one through which they had entered, the machine men flew back over the globe on their mechanical repeller wings. At the spaceship, they held a conference regarding the professor's plan for bringing back to life the brain of one of the dead creatures even as the machine men had long ago revived his own brain. They decided that instead of bringing the dead to the spaceship, all necessary equipment could be taken to one of the tall tombs inside the great dome.

"It will be better if we work inside a vacuum, even if the vacuums in the buildings are not perfect ones," said 6W-438. "Getting into the buildings without allowing a simultaneous entrance of atmosphere will be difficult, but we can surmount that obstacle by constructing an airlock at our point of ingress. One airlock will permit us to penetrate all levels of a single building by cutting our way through the floors."

"It will mean the creation of more machine men," warned 119M-5. "Will this species make desirable companions? Remember the Mumes."

"That is difficult to foretell," said the professor. "That they are intelligent, we are already aware. The idea is to bring to life one of them who can tell us more about this world, the coming of the cosmic dust cloud and reckon for us the amount of time that has passed since the cloud came."

Against the roof of a building the machine men constructed their airlock, afterward cutting down into the upper floor. This time there was no sucking concussion and ripping of ceilings as they silently lowered themselves into the darkness below among the still, frozen figures on their oblong altars. The materials necessary for the brain transpositions and sub-

sequent revivals were next lowered into the airless chamber, after which the machine men lowered a metal stairway they had cut from the exterior of the building and which they now fastened into place.

Next, there came the selections among the dead. Their first subject was one who had apparently reached the apex of life and by all exterior phrenological appearances seemed a logical choice. Together, several of the machine men peculiarly versed and practiced in this science set to the careful examination of the brain before its removal. A conical head was then prepared to fit the individual requirements of the creature's brain. It was a long, patient task which lay before the machine men, especially because the subject was not of their own well-known species and therefore not subject to their own transposition standards.

Once the metal head was prepared and inwardly equipped, especially regarding the sensitized, neuron-impulse transformers, not to mention the distributory centers of cerebral nutrition and eliminative conductors and a host of other intricate requisites comprising the marvelous headgear of a Zorome, the brain was carefully and expertly removed to the coned head.

It was accomplished. Through the vacuum shone a pale glow of illumination reflecting off the metal cubes of the machine men who surrounded the new specimen who had yet to be brought back to life. Affixing the apparatus to exposed, unsealed terminals of the coned head's interior mechanism surrounding the brain chamber, 744U-21 and 6W-438 let penetrate varying currents of synthetic life force, the necessary stimulation for the revival and continued functioning of a long dormant brain. This was a delicate, exacting business, and the machine men were none too hopeful, for certain features of the brain they were attempting to revive had puzzled them. Eagerly, yet with uncertainty, they waited, scanning the brain of the long dead creature with their mental probings.

There were no outward signs of returning faculties, for the head had not been supplied as yet with a body and appendages. The first intimation of reviving consciousness reached them in a whirl of chaotic thought impressions,

bizarre and fantastic, unintelligible for the most part, but here and there the machine men recognized phases of thought they could understand. The delirious, cerebral waves rambled and drifted into one another haphazardly, uncertain, yet occasionally clear and legible.

The awfulness of it—where had his companions gone—he must die—a black menace had come—no stars—no sun—no warmth—no life—no—no anything—what was happening to him—it had happened—where was he—yes, the skies had cleared—who was with him—he knew them not—again the terrible menace—his friends were gone—he could not remember who his friends were—he did not try—it was too hard—and he was dying—how cold it had become—but strangely he felt no cold—he was a spirit—no body—what awful nightmares swam before his eyes—what were they—they were gone—again the dismal cloud from the sky covered all—doom—no escape—he knew—the long trip—the last resting place—why did he linger—or was it death—those things with the many staring eyes—flat, square bodies, flourishing cables—above shone the sun again—no, a light—the vision faded—what had become of him—his senses reeled—blackness—surrounded by the dust cloud—how red the sun had been—it had gone—back again were the strange heads—the many eyes—

“He is slowly coming around,” said 6W-438 hopefully.

“What he believes is his worst illusion is what he really sees,” 744U-21 remarked.

“How well I remember,” the professor mused. “His worst shocks of reality are yet to come.”

The brain of the creature cleared slowly. It was a long time before it commenced to function smoothly as the reviving process cleared the congested thoughts and brought coordination to the intricate byways of his subconscious. Even then the complete realization came but it was fragmented, punctuated with delirious gaps and complete absence of mind bordering on the unconscious.

“What is this?” came the first normal query in the creature’s brain.

He was answered by the machine men until he again

lapsed into mental chaos after which they regarded the metal head before them patiently, waiting for reason to return behind the staring, emotionless, mechanical eyes.

"You have been brought back to life."

"It cannot be!"

"But it is," affirmed 6W-438, making no attempts at elaborate explanation as yet.

"I never died," spoke the brain, "but I am dying."

"You died a long time ago."

This was too much to mentally digest, and the brain reeled into chaotic oblivion, finally coming out of its bewildering spin to issue a query from its reorganized channels.

"What are you? Not the awful things I see before me. It cannot be true. If I live, I am seeing things not before me."

"You are alive. What you see is the truth. See, I wave one of my metal tentacles before you. I pick up your head; then set it back down."

"Oh, world of doom! I am mad—mad! And it is too horrible! Let me die!"

Again reason became blotted out, and the Zoromes again waited patiently for a return of the creature's sensibilities to an ordered state. The professor, reminiscent of his own experience, understood somewhat better the state of mind behind the mechanical eyes of the unattached head. It was he who now addressed the restless brain.

"The meteoric cloud from out of space came and covered up your world and its sun. The stars were blotted out of the sky, and death came to all of your people on your world."

"Yes! Yes! How did you know?"

"We are on your world now."

"Where am I?"

"In the tomb beneath the metal dome in the center of the continent."

"Oh—yes! I did not die then."

"You did die, long ago. You have been dead longer than we are able to learn. Look upon your companions."

The machine man picked up the conical head and swung a light upon the long, receding rows of corpses.

The reawakened brain became suddenly aware that it could look in all directions, with the exception of downward, simultaneously.

"I am alive! But how? What strange thing has happened to me?"

"Your brain was removed from your body and brought back to life," said the professor. "Your brain is inside one of the conical heads like the ones you see atop our metal cubed bodies."

Much of this was lost in astonishment, and another brain storm threatened.

"See, there is your body," said 6W-438, swinging a light full upon the corpse from whom the upper cranial structure had been expertly removed.

Expressionless eyes fixed themselves upon the ghastly exhibit as the brain, through the mechanical sight of the head, gazed upon, and recognized, its erstwhile body. Beyond a vibrant radiation of stupefied horror, there was no other mental observation.

"You have lain dead here for countless generations," said 744U-21. "We have recalled you to life again, offering you immortality as a machine man, hoping that you can tell us how long ago the great cloud came and from which direction it came."

The machine men waited for a reply which did not come. The brain seemed suddenly uncommunicative, expressionless. The machine men searched it with mental probings for a lessening of the mental chaos into which they fully believed it had once more lapsed. There was no chaos. They could distinguish nothing.

"Dead."

"The shock of seeing his own dead body proved too much."

"If that were sufficient to have killed the reawakened brain, it is doubtful if the creature could have lived very long anyway," said 744U-21. "I feared something like this when we were at work on the brain. Things did not seem adaptable; they did not go right."

"Our work was all in vain."

"But we must keep trying."

"Can we be successful?"

"It is too early to give up."

"We must choose our subjects more carefully."

IV

"I AM NOT DEAD!"

Again the machine men started at the beginning with a fresh subject. This time, failure crowned their efforts most miserably. Before they had finished their job of installation in the coned head they were frustrated. 6W-438 discovered signs of reawakened bacteria which the stimulating effects of the initial, applicative forces of life had favored.

"This may have occasioned our first failure," he told his metal brethren. "The obstacle must be overcome."

And it was. A cleaning ray penetrated the head of the next subject, destroying all possibilities of dormant, frozen bacteria returning to life to ravage the brain. But again there rose trouble. The rays had done something else to the brain. The eventual stimulation of the brain cells elicited but a feeble, imbecilic reaction. Still undaunted, the machine men of Zor chose another subject. 6W-438 suggested trying another floor of the building or even another building.

"There may have been a flaw in sealing this place," he said, "or it may have been left open overlong before being sealed."

"Quite possible," the professor agreed. "Unless this next experiment proves sound, we shall try the next floor beneath. Each floor is sealed individually, and like you say there may have been varying conditions."

The next experiment brought hope to the machine men. The subject came out of his sluggish, chaotic state of mind quite rational, and for a short time carried on a conversation with the machine men; then suddenly there followed a lapse of insanity from which the creature never emerged alive. All that the machine men had been able to learn was the fact that the immense globe under which they

were experimenting had been designed to hold the mortal remains of the meteoric cloud's victims, acting as a general protective covering over the towering tombs. The place had been prepared long before the advent of the cloud with hopeless, fatalistic resignation. The race had always preserved their dead, though usually they employed embalming as well as sealing the remains in a vacuum, but there had been little time subsequent to death, and the intense cold had promised to eliminate the necessity of embalming.

The machine men did learn one peculiarly valuable fact before their subject lost his mind. The last buildings to be filled were near the center of the dome, and the journeys in aircraft from the cities to the funeral dome had been through intensely cold air to which the corpses had immediately been subjected following their deaths. They would be found in better shape.

With their last failure dead before their eyes, the machine men gathered up their paraphernalia and quit the building they were in, heading for the center of the dome where the highest buildings soared upward under the great metal shell. Once more the airlock was built upon the top of a towering structure below which lay the many chambers of the long departed. Inside the airlock entrance, they cut their way through, dropping down upon the top floor. The gloom around them was rudely shattered by their crashing clatter as they struck the metal floor beneath, the echoes rolling down the silent rows of close-set columns and coming back faintly from far walls as if there had come a whispering answer from the dead.

Their body lights revealed the same orderly lines of funeral altars stretching away in every direction, the same silent figures undraped and staring straight upward, their bodies nearly transparent, revealing the faint tracery of inner organs. Behind the vanguard of Zoromes came those with the disengaged, metal stairway and the necessities for transposition and resuscitation of a long dead and perfectly preserved brain. There came the hunt for the likeliest specimens while other machine men were arranging a temporary laboratory. Down the aisles between the funeral altars walked 6W-438, 744U-21, 41C-98 and the professor,

shining their body lights upon the grim, shadowed faces whose expressions were often difficult to ascertain due to their semi-transparent nature.

"Look!" exclaimed 41C-98. "What is that over there?"

He pointed to a nearby column across which the beams from the professor's body lights had swung. 41C-98 turned his own body so that his own lights shone where his tentacle had pointed. Something dark and vague was outlined against the column.

"One of the creatures!" 744U-21 exclaimed. "What is it doing there? Why is it not on an altar?"

They walked closer. The dead body lay up close against the column, its arms tightly twined about the column for support. The creature wore strange accoutrements, evidently a light effect of clothing.

"He was never on an altar," said the professor, noting the position of the sagging body. "He died where he is now."

"Sealed inside by mistake!" 6W-438 ventured.

"Or he may have elected to stay," said 744U-21. "Imagine the future that faced the living. They had but a short time before coldness and a lack of fuel claimed them."

Whether the creature had chosen to stay and die or whether he had been sealed alive in this mausoleum of the dead, none of the machine men were able to reckon, but that he had died there instead of having been brought there dead they all agreed.

"Why not make him our first subject?" the professor suggested. "We could ask for nothing better. He died in a vacuum in the bitter cold when air and heat were both withdrawn from the chamber."

The idea was acted upon, and the machine men immediately set to work loosening the body from the pillar. They found this difficult to accomplish. The body, having clung there so long stiff and frigid, could not be moved. It was like a frieze or other decorative carving on the pillar to which it adhered. The clinging arms would not loose their tenacious grip, and the machine men found it necessary to cut away the encumbering limbs before they could remove the corpse from its death grip.

Once more the procedure of the brain transformation was undergone—followed by the reviving of the brain with its subsequent chaos of mind before the dawn of clarified thought. Hope rose in the aspirations of the Zoromes. There were signs that this experiment was to be successful. Through the revived brain of the creature raced his last, living thoughts.

"Let me out! I live! I am alive! Do not leave me here! I am not dead! I struck my head in the dark and fell unconscious! Do not leave me here with the dead!"

In his mind there reflected a hammering on the sealed door, a shouting, turning and groping in the dark. The air was automatically withdrawing, taking with it the heat. A terrible, chilling cold was sweeping over the creature, leaving him shivering in the Stygian gloom, buried alive in the vast tomb. He stumbled dazedly, running into altars, recoiling frenziedly from contact with the cold, still figures outstretched upon the upraised oblongs. Through the creature's reeling senses tolled the despairing realization that the living had gone; that he was forgotten, left alone to die among the dead. No longer did he cry out. He was aware of a chilling cold numbing his body, his senses. In labored gasps, his breathing came sibilantly, then stertorously, like the sudden rising of a southing, night breeze. His consciousness reeled into oblivion just as he staggered blindly against one of the many columns.

"Quick, 6W-438!" cried 744U-21. "More of the stimulating life current, or he will be dead again and our work in vain! Quick, before he becomes a victim of his own subconscious mind!"

The waning consciousness rallied, grew stronger. Reason returned, the mind asserting its control over the mechanical eyes of the metal head.

"That was close," the brain radiated as if directing vocal utterance. "You returned just in time or I would have been dead. You nearly forgot me. I struck my head in the dark. I must have fallen. I was out I do not know how long. I awoke and found you gone. I am deaf. I cannot even hear my own voice. I cannot see. I must still be delirious from the shock, for I see strange things in front of me. I can

hear something! There are sounds I can distinguish, but I cannot hear my own voice. Is it faint? Do you hear me? Am I really talking? Answer me! Tell me!"

The professor strove to allay the obvious anxiety, the uncertainty of the unsettled brain in the conical head before them. "You have no voice, but we hear you nevertheless. You are listening to us, but you hear no sounds of conversation. Mental telepathy. Your brain directs a voice which does not respond, yet such response is unnecessary. We read your thoughts. Yes, you hear sounds but no voices. We are impressing our thoughts on your consciousness. You are not delirious any longer. What you see you actually see. You did die—a long time ago. Your brain, and your brain alone, has been brought back to life."

Into the stunned faculties of the creature the professor emphatically impressed his explanatory message, calmly and deliberately, slowly and with the greatest understanding.

"Who are you?" upon which followed the inevitable: "Where am I?"

"You are in the place where you were trapped alive and died. We are wanderers from the world of a distant star. We came in spaceships."

There came an encouraging query which pleased the machine men with their efforts. "Is the great cloud from space gone? I feel that much time may have passed. What you have told me appears no more fantastic than my present position."

"The great cloud is still here," was the reply. "We are lost in it. We chanced by this dark, desolate world and landed. Some time ago, we passed the sun."

"How long ago did it come? How long have I been dead?"

"Had we known the answer to that question, you would probably have remained dead forever," said 6W-438. "We brought you back to life hoping you might be able to tell us the answers to the very questions you just asked us. Perhaps you can help us after we have fitted you with a body, tentacles and legs and you have had an opportunity of looking around on this world."

"First," said the professor, "tell us as much as you know concerning the cloud."

"It was always against the sky as long as our people can remember. The ancients reported seeing stars we were never able to find because the cloud's nearer approach blotted them out. Not until my own earlier life did we really understand the nature of the menace which loomed before us, and then there was nothing much we could do because of the awful width and immensity of the cloud. It finally covered one half the sky. At night, a section of the sky remained dark and starless. In the daytime, the distant cloud as it came closer to our planetary system reflected a soft luminescence. In this manner, one edge of it often appeared silvery at night."

"Did your people possess the art of space navigation?"

"No, and even if we had there would have been no advantage. None of the other planets were adjudged suitable to our necessary conditions of life, and besides this the meteoric cloud was expected to cover a territory so wide as to render the boundaries of our planetary system insignificant."

"That is true," said the professor.

"How well I recall the coming of the cloud. The first evidence came in the form of succeeding weird sunsets. The sun sank below the horizon dark red, lacking much of its former brilliance, the red haze disappearing quickly in an abbreviated twilight. The stars, those we could still see, shone at night with a subdued light, and there were less of them than we had seen previous nights. Dawn was a ghastly sight, for the sky no longer was blue. It had become lurid as if a fire was sweeping up about the curved horizon on all sides. The sun became less bright, changing to subtle shades of its former brilliance.

"It began to grow colder. The second day was much darker and hazier than the first one, the sun a bloody, crimson orb which disappeared much earlier than the day before, complete darkness falling soon after. Then we commenced seeing the first falling stars. Each day grew darker. The disc of the sun became more deeply obscured. Frost covered the ground, and our immense heating plants were put into action. People then started dying rapidly. Finally, the sun became a scarcely visible orb against the sky. The next

day it was gone from sight entirely. There was no dawn—and if we are still deep in the cloud there has been no dawn since then.”

“How many were left when you died?” 6W-438 asked. “How were they living?”

“Nearly three-quarters of the population had succumbed. The lack was not food, for many long years before the coming of the cloud we had prepared for the lack of food. The discrepancy was not entirely the lack of fuel, though it was the lack of heat which eventually doomed us to an even earlier fate than we had expected. The cold was terrible, much more intense than what we had supposed it would be, and our fuel was insufficient. The chambers of the dead all over the world were being filled rapidly. Only a small percentage of our habitations were warm enough despite the profuse use of fuel. The airships proved to have been constructed the warmest, and it must have been in these that the last survivors finally died—if they did die. I wonder.”

“Wonder no longer,” the professor told him. “It seems but a short time ago to you. It might easily be ages since you died.”

“We shall make you one of us,” said 744U-21. “Then you must help us gain access to various files and records and explain them to us.”

The sole survivor of the dead world was equipped with a metal body to which were affixed the tentacles and legs, and he appeared no different from the rest of the machine men. There was no way of knowing what his name might have been; he had no way of articulating it, and sounds do not transpose themselves mentally. There exists but the picture or the instilled idea. The new convert was given the designatory combination of 45T54. His first act subsequent to his complete assemblage was to walk wonderingly and falteringly among the long, silent rows of his long dead companions, scanning the vague, upturned features of a face here, the inscription at the foot of an altar there in melancholy awe. Several he identified. He had known them.

The machine men no longer had need to stay, yet strangely

enough when they left they did not take their equipment, for in the back of their minds lay the secret thought hidden from the duller perceptions of 45T54 that he might still be only a protracted failure and go the way of their earlier experiments. Up out of the airless death chamber they led the new machine man and out upon the roof of the huge tomb beneath the great dome. 45T54 recollected how they had come there. It did not seem long ago to him. When they left by way of the smashed doorway and were out upon the desolate, dark surface, 45T54 made further comment.

"It is just the same as it was—who knows how long ago. It might have been but yesterday."

"Think, 45T54," 744U-21 urged him. "Where is the nearest important city from here where we may learn what we would know?"

"Star maps are necessary," said 6W-438. "It is well that we first know exactly from which direction the cosmic dust cloud approached this system of planets. Our approach was slightly less than at right angles to the cloud's movement through space, so we already know the approximate speed and distance across this immense curtain."

"I know where you want to go," said 45T54 when they had gained the spaceship. "Let me show you."

He drew a map of their whereabouts, drawing in the two distant seaport cities at 6W-438's suggestion in order to give the machine men an accurate bearing as to directions.

They traveled but a few hundred miles to the city where the new machine man claimed they would find accurate star charts of the heavens depicting exactly the direction from which the great cloud descended.

"Very good," said 744U-21. "Now it is a case of finding out how many years have passed since the cloud came. That promises to be difficult."

And when 744U-21 forecasted the difficulty they were to encounter he but reflected the eventual truth. From city to city they traveled in search of data and records, 45T54 proving invaluable in the matter of interpreting records. His own scientific knowledge, however, was mediocre and ordinary and, aside from what already had been known up to the

time the cloud came, he could add nothing new from the deductions which lay about them.

"It appears that we must require an entire education in the various branches of science on this dead world if we are ever to learn the answer to our questions," said the professor. "Two things are of major importance. We must ascertain in which direction the sun lies; in other words, we can then distinguish day from night despite the appearance here of eternal night. More difficult to obtain will be the information regarding the time that has passed since the cloud engulfed this world. When we know that we shall have some idea as to how deep we are in the cloud and in which direction lies the quickest avenue to free space."

"Geological data will offer us the most obvious solution," said 41C-98.

Under the tutelage of 45T54, the machine men learned the symbols of the long dead civilization until they found themselves conversant with them. Then came the search after ancient records and their perusal. The construction of apparatus for finding the sun's position was easy; as for discovering the poles and establishing longitudinal lines at right angles to the direction of the planet's rotation, this was also correspondingly simple.

Contrary to the fears of the machine men of Zor, 45T54 did not suffer any ill consequences as had his predecessors during the transposition experiments. He proved to be as normal as any of the Zoromes. His interest in their travels over the dark, dead, deserted world, tenanted only with the great masses of the dead beneath their isolated sepulchres, and peopled here and there with scattered remnants of the unremoved dead of the great cities, never waned. It was always at fever pitch, holding a morbid grip upon his imagination. 45T54 had originally been an artist, the machine men learned, but at the last he had been pressed into the rapidly thinning ranks of those who were busy carrying away the dead in airships to the inverted bowls and the sealed tombs beneath. The thought struck a reminiscent note in the professor's memory concerning an epoch in the history of his own world when the great plague had swept across Europe, and the daily rattling of the dead

carts through the cobbled streets of London had been punctuated with the ominous call of:

"Bring out your dead!"

45T54 had remained steadfast to his work even after the coming of this plague from the cosmos, and he experienced great delight when their journeying eventually took them to his native city where he found many of his old paintings and drawings. One of them depicted the last day on the world, when the eternal night had all but closed in upon them. Down through the dimly lit sky there raced one of the numerous meteors synonymous with the arrival of the dust cloud, just as now the machine men were able to watch several brilliant descents during the space of a few minutes.

V

CALCULATIONS AND HOPES

Many years had passed since they had recalled the brain of 45T54 to life once more. During that time, they had learned the significance of the peculiar writing of the long dead people. Then had followed an education peculiar to the civilization which had floundered beneath the dismal shroud of the cosmic dust cloud whose depressing mantle had stifled all life. There had followed the various researches, principally in geology. Many evidences were found to support the theory that although an interminably long time had passed the system of worlds was still far from an emergence out of the dust cloud.

"From what we have been able to learn, it was approximately one million, five hundred and thirty thousand years ago that the dust cloud swallowed this world, and at its rate of passage four hundred thousand years more must elapse before it clears this system," said 744U-21, "and that is based on calculations involving the movement of this system through space in a tangent direction."

"The year on this world is shorter than my Earthly year," the professor observed. "Four hundred thousand of these

years would make but two hundred twenty-nine thousand, four hundred fifty one Earthly years."

"But there is still a shorter direction out of the cloud than the route to be followed by this system," said 6W-438, "if our observations were correct just before we entered."

"Yes," said 41C-98. "We should have been more certain. We should have given the cloud more detailed attention."

"We should have stayed well clear of it," was 29G-75's pessimistic rejoinder.

Despite their observations and what they had learned during the seventeen years they had spent on the buried world, the machine men of Zor were reluctant to depart without an affirmation or single proof that their deductions were correct. Their facts had been based largely on geological comparisons, and this was not too stable nor exact by any means. They had also learned much concerning the aphelion and perihelion of the planet's orbit in relation to the present position of the poles, despite the fact that they were unable to see the sun. Other minor details including tidal pulls and the slight variations in the passage of years had also aided them. But the great, crying need of a clear, starlit night was denied them, and they groped in the dark.

It was 119M-5 who suggested a possible means of proving their calculations regarding rock strata, sinking coastal plains, ocean depths, volcanic eruptions, not to mention the host of other ways and means they had employed in working out a solution to the huge enigma of time.

"Bring back to consciousness the brain of an eminent scientist, one who was better acquainted with natural conditions at the time of the dust cloud's arrival than we are able to learn from the records we have examined. 45T54 can find for us the one we want, the one who may help us."

45T54 thought it a worthwhile idea, and from memory he suggested several personalities who might readily qualify. Recourse to the world's records gave a more accurate selection than 45T54 could recollect, and from this list the machine men narrowed their choice. Long ago, they had discovered the files to the great mausoleums with their identifying symbols indicative of the individuals who lay

there in death. The subject was selected and then found.

Once more the machine men set to their work of transposition and revival. In selecting the subject, the machine men had wisely considered those who had been interred last of all and had given these a marked preference, which may have been responsible for their lack of failure this time. The eminent scientist they resurrected, though long in gaining his thoughts, perhaps because there were more of them than in the case of 45T54, came out of his transposition satisfactorily. His more advanced intellect might have been responsible for the delay, yet 744U-21 cited that the greater intelligence of the Zoromes had not made them tardy in responding to the reviving process. There were, of course, many considerations of argument both for and against this contention. 744U-21 was pessimistic regarding the late awakening of the scientist's faculties, pointing to it as an unsatisfactory omen despite the fact that there appeared to be no harmful after effects. He was given the classification of 5T317.

Though astounded, 5T317 was less affected by the realization of what had happened to him than his predecessor, 45T54, had been. He regarded the whole matter as a wonderful accomplishment, yet his reaction was more staid, more matter of fact. To him, the lost machine men explained what they had learned. They told him of their calculations and how they had found them. 5T317 became deeply engrossed to the point of forgetting at moments that he was a machine man and not a flesh and blood organism. Yet there followed strange lapses of interest when his brain seemed dull. This was regarded more or less as an idiosyncrasy peculiar to him in his organic life.

In the general conference that followed, the proofs were all laid before 5T317 and, as the machine men had expected, he was able to add to the sum total of their knowledge. One fact he cited for them was in the position of the outermost planet of the system and where it should be at the present time. On leaving the planet they could use it as a time gauge. From the realm of the speculative and mathematical angle, they soon reverted to the more material facts. 5T317 accompanied them down into the dead cores of

extinct volcanoes which had been active at the time of the great catastrophe, followed them into the blind tunnels they had dug beneath the ocean beds, and went with them to the various parts of the world where geological conditions reflected the passage of time. The machine men found his opinions invaluable. Often there existed a slight diversion in figures or estimates, but for the most part the reckonings of 5T317 coincided with their own.

They were at the foot of a deep shaft previously sunk by the machine men examining rock strata when something strange and unexpected happened. It was something the majority of the machine men had not expected, leaving 45T-54 especially shaken.

"This strata at the depth you reached in your excavating here shows a much greater compression than was the case before the advent of the meteoric cloud," stated 5T317. "Knowing its character before the cloud came, I remember its consisting of little more than soft rock. We now find it quite hard. This points to a considerable passage of time. By considering the number of tons pressure to the square inch from above, you have a proof of your other experiments, although this case offers nothing exact. It merely gives an approximate check on the other methods you have employed."

"From the records, we learned that long before the coming of the dust cloud this region was once covered by the ocean," said 6W-438. "Some authorities claim that the land rose. Others state that it was filled in by deposits from the rivers."

"Probably both," the professor offered. "Both schools of thought have put forward substantial proofs. But there is no doubt that since the meteoric cloud came there have been no additions to the uppermost strata. At present, the foot of this shaft is below sea level. What it might have been before the dust cloud came is difficult to ascertain."

This suggestive lead elicited no comment from 5T317. He seemed momentarily lost in thought, one tentacle dropping slowly to dangle an aimless tip across the rough, pitted surface of the shaft.

"Yes," said 744U-21, "we believe that the land has risen in this vicinity since the dust cloud came, but little was

written concerning this region, and so we have but few facts to use in our reckoning."

The one-time scientist of the buried world remained so strangely silent that 41C-98 turned his mental faculties upon him closely.

"5T317 is dead!" he exclaimed. "His brain has ceased to function!"

It was so. The machine man stood silent and immobile on his four metal legs, a victim of the inadaptability of his brain to the metal head which enclosed it.

"I am not surprised," said 744U-21. "He never did come back to life satisfactorily even though he did possess all of his mental faculties."

"Do you suppose we can ever surmount the obstacle which prevents our making successful transpositions here?" queried 6W-438. "So far, we have had but one successful case."

"Probably if we made enough experiments and gave our problem sufficient study," the professor replied.

"But why should we stay here any longer?" 744U-21 countered. "There is no reason left for our resurrecting any more of these creatures. 45T54 alone has proved normal. Let us now venture once more into the great cloud of meteoric residue in an attempt to win through to free space. We know approximately the shortest direction to take. What we do not know or have wrongly estimated let us make up in hope and patience."

The logic of 744U-21 swayed the machine men to one purpose. There was small reason for them to linger longer on a planet of which long ago they had become so tired. The endless, perpetual night depressed them, and for many long years they had missed the familiar starlight of their boundless domain, and for many more years they expected to wander through the vast Erebus of the cosmic cloud. The miserable heritage left them by the fire dwellers of the distant planet fragment had proved a stubborn curse, and they were not winning free of the dreadful Sargasso of the cosmos by remaining on the buried world among the dead inhabitants, ghostly cities and silent memories of a living past.

"Let us try again, then," said Professor Jameson, "to find our way to freedom."

Preparations were made, directions being taken regarding their prospective flight. Once again they were to attempt the following of a straight line. Incidentally, the calculations gathered through the past years had proved that the original direction they had been pursuing when they passed the buried world would have required a stay of more than three hundred years longer in the depths of the abysmal cloud. The estimate gathered on their newly proposed direction would require but ninety or a hundred years' flight through the great cloud of meteoric particles. The spaceship was moved to a position on the planet which was soon to point directly at the imaginary spot in the black, starless sky at which they wished to aim. They desired not only to get the planet directly behind them when they left, but they also wished to leave on a flight in the direction opposite to that taken by the world on its orbit, in this manner further eliminating the possibilities of the planet's deflecting to any slight extent their straight line flight.

Long before the time came for them to leave, 45T54 expressed his desire to remain on his home world.

"Here in this terrible, dark loneliness?" 12W-62 stated his disbelief in the other's intentions.

"I once felt the same way," said the professor. "I even entertained the thought of suicide when I found that I was the last man on Earth, that ages ago all mankind had departed from the Earth, and that since then, long ago, all life had died and vanished. But I changed my mind at the final moment, and I am glad to be here and to have seen what I have seen and to have been where I have been since then."

"But I do not consider this dead world so lonely," said 45T54. "It seems so wonderful to be able to wander over its surface and among its cities, undying, always the same, that none of your tales of other worlds, nothing beyond, tempts me. I shall be a veritable ruler of this world."

"And free from any revolts against your rule, too," was the professor's humorous allusion to the millions of silent, still forms beneath the widely-spread, metal domes.

His humor, however, was not appreciated by 45T54 or his fellow machine men. They took the statement philosophically as a matter of logic.

"The memories here are intriguing to the extreme," said 45T54, his artistic enthusiasm plainly evident. "From city to city I shall wander, from continent to continent over the icy oceans. Then one day in the distant future I shall see the sun burst forth again upon this dark world."

45T54 was momentarily lost in deep contemplation of his lonely, chosen prospects, broken in upon by a pessimistic, idealistic-destroying observation of the practical 6W-438.

"You may perhaps wander far and wide and explore much, and you may exist until again you see the unveiled sun shed its dazzling daylight on this gloomy world once more, but your wandering days will be gone long before the sun ever reaches its rays again to this world. Your metal parts will wear out, especially your metal legs. How well many of us learned our eventual helplessness in the ocean pit on the planet of the double sun. When 21MM392 finally came with the tripeds and got us out of there we were but a decrepit collection of many heads, fewer bodies that functioned properly, fewer tentacles and a scarcity of legs."

"And you must take caution that your metal head is not damaged during your wandering about the world," warned 8L-404, "else it may easily mean your finish."

"There was the case of the falling column in the first city we visited here," 12W-62 recollected. "That might easily have killed one of us had we been under it. Do not take your protraction of life too confidently."

Nor his resurrection as irrevocable, was 744U-21's secret thought, for he had in mind the dismal fates of 45T54's companions, especially the late, unexpected demise of 5T-317.

Before they started off into space once again, the machine men left 45T54 a supply of extra legs and tentacles as well as several temperature equalizers and mechanical wings. They might have left him an auxiliary cube or two but realized that there would be no way for him to replace his old one.

The invisible day finally dawned. Once more they at-

tempted to persuade 45T54 to come with them on their travels from world to world, but despite their arguments he never for a moment wavered. They realized that he would remain adamant to any and all calls to leave his native world, and the professor was of the opinion that he might never be happy away from it.

"When I was recalled to life again, it was not to find the same world that I had known before my death," was Professor Jameson's parting thought to 45T54. "Everything was changed. Gone were the habitations and communities of my kindred species along with all other traces of their work; gone was all life; the continents were not those I had known, the watery seas between possessive of strange contours; the air was rarefied. I was in a much different position than you, or I might have felt the same."

"Farewell," was 45T54's final radiation as the spaceship rose up and out of sight, leaving the machine man standing alone.

Aboard the spaceship plumbing its way through the atmosphere of the buried world, the proximity detectors were closely watched to be sure that the massive bulk of the planet they were leaving remained directly behind until they were free of its gravitational influence. Once free of the air envelope down through which fiery trails of meteors created sporadic bursts of illumination, the machine men increased the speed of the spaceship to the maximum of safety allowed by the overhanging menace of friction; for, like the meteors in the atmosphere, they would burn up in space if they exceeded the limited speed forced upon them. Many times had 20R-654 felt a maddening impulse to open up at a terrific speed such as they employed in free space, yet he knew it to mean suicide and restrained the entertainment of such a thought. As they left the atmosphere of the buried world far behind, he once more longed for the open, starlit stretches of free space.

They looked ahead to the time when they would find themselves in the vicinity of the orbit belonging to the last and largest planet of the system, a giant world eighth in order from the sun. The world the machine men had just left was the fourth. It had been 5T317 who had suggested

the outermost world as a convenient marker to their selected course. The great world made a complete circuit of its orbit every 997.8769 years according to the standards of the world they had just left, requiring nearly a thousand of the fourth planet's years to complete its own circuit. The scientist of the buried world in collaboration with the Zoromes had figured the present position of the distant, outermost planet, which, like the outer worlds of the professor's solar system, moved much more slowly and had farther to go than the inner planets. If all their other calculations were correct, then the huge world would be in such a position as to barely register upon their proximity detectors. So it was with eagerness that the machine men of Zor approached the orbit of the outermost world and scanned their detectors. A flickering motion rewarded their attention, and the great world rapidly made itself apparent.

"It is much closer than 5T317 estimated it to be to our chosen course," said 744U-21.

"What is more, it is upon the other side of our passage," 41C-98 added. "It is much farther along its orbit than we believed it would be."

"I expected as much," the professor observed. "We should be satisfied with being able to have estimated in which direction the great world would be at this particular time."

The machine men calculated from their proximity detectors and the figures at hand the error in years that had been made. They found it to be two hundred fifty-three years.

"Which represents but a small fraction of one per cent in error," 6W-438 calculated rapidly.

"Unless one or even several revolutions of the last planet are also involved in the error," 12W-62 suggested gloomily.

"We have one check that shows us we are headed right," said the professor, who had been consulting several charts by the side of the speed gauge.

"What is it?"

"The orbit of this outer world is more distant from the sun on one side than on the other. In other words, the orbit is not perfect in relation to the sun but like my planet Earth possesses an aphelion and perihelion. We found this in the records and 5T317 also substantiated the fact. Our course

was to take us not far from the extreme point of aphelion, and my checking of our speed in relation to the distance from the orbit of the fourth planet to that of the eighth world figures very closely."

"It is well," said 744U-21, "but our closer approach than we expected to this huge world may draw us out of our straight line like we suspected of the sun and its fourth planet when we came near to them."

"Knowing the fourth planet to have been directly behind us, and having had a foreknowledge of this great planet's bulk, I can accurately offset the diverting drag," assured 20R-654.

The last planet of the buried system they had recently left lay far behind. Long ago it had disappeared from their proximity detectors, and the machine men looked forward in fatalistic and philosophical resignation to the long time ere they cleared the dark, forbidding confines of the meteoric cloud. The thought constantly preyed on their minds. From time to time they figured the distance they had eaten up since leaving the orbit of the last world.

A startled cry from 777Y-46 aroused them. "The stars!" he cried. "We are out! Look!"

Disbelieving machine men clattered noisily in their haste to vantage points of observation. 744U-21 looked out into a dense, unchanged blackness, and his discovery smothered the remote hopes of the machine men.

"I see only the same darkness," he stated with a surge of perplexed disappointment at the false alarm of 777Y-46, whom he fully believed had been looking too intently for them, finally believing that he saw them.

"This way!" 777Y-46 called excitedly. "You are looking from the wrong side of the ship!"

Beside 777Y-46, Professor Jameson and 6W-438 substantiated the truth of his statement. There in riotous profusion gleamed the brilliant, far off stars like glittering gems of the cosmos. Momentarily the machine men remained mentally silent in exhilarating contemplation and tribute to the unexpected, welcome spectacle. It was 119M-5 who raised the question; 6W-438 who supplied its answer.

"How are we out so quickly when we did not expect to

be clear of the meteoric cloud for a long time? Were our calculations incorrect?"

"Not entirely. From our position on approaching this cloud of meteoric dust when we left the system of the planet fragment, this great bend in the meteoric cloud was blocked off from our view. Our calculations were taken in ignorance of this veritable bay cut deep into the dust cloud. It is our good fortune to have struck it."

"See how the cloud is banked up on all sides of us except straight ahead and to our left," the professor observed. "Had we not struck this cavity, we might have moved on slowly to the length of our previously estimated time before winning free."

20R-654 was satisfying the long-pent-up desire he had necessarily stifled. The spaceship gained momentum and raced through space so rapidly past the ominous banks of the meteoric cloud that the distance which would have required years to have passed in the depths of the dust cloud was put behind them in a surprisingly short time. Eventually, they passed by the last ragged fringe of the cosmic curtain which now lay behind them, a massive blot of obscurity.

Somewhere in its depths lay the buried world on which a solitary machine man was the sole survivor, a lonely wanderer among the deserted cities, over the frozen oceans and into the immense mausoleums of the dead, hoping that he might live until the far-flung day when once more the sun would shine upon his desolated world.

To the machine men of Zor, however, the past episode was to become but a memory among memories as they sped on to new worlds and new adventures.

THE ACCELERATED WORLD

I

THINGS OUT OF THE GROUND

With 6W-438, Professor Jameson stood in the fore of the spaceship and stared at the growing point of light far ahead, a star among stars, a solitary sun. The point of light grew steadily as they approached. Their last field of exploration had been a dead planet where their interest had consisted largely of metallurgy. The professor now hoped for something less academic and less open to confirmed anticipation. 744U-21 joined them. He and the professor, or 21MM392, as he was known among the Zoromes, shared the leadership of the expedition which consisted of thirty-nine machine men. Of the original forty-three leaving Zor, four had met with catastrophe, losing their lives on the world of the metal absorbers. The twin worlds lay far behind on their course. They had visited several systems since then with minor adventures befalling them.

"We have already found that the sun we are approaching has one planet which is unusually distant from it," 744U-21 announced. "We shall pass by it on our way. It is quite probable that there are other worlds, too, which are yet too distant to register upon our detectors."

True to 744U-21's promise, they passed close to the planet. Sunlight illuminated one side with a bluish cast, the crescent of pale azure growing slowly gibbous, then full, as they passed by. To all appearances, the world seemed dead.

It was 41C-98 and 29G-75 at the detectors who first

discovered the next two worlds simultaneously. One was very large and lay about equidistant from the first world they had seen and the sun. It rotated quite rapidly, much more so than the farther world they had passed, and the professor had remarked the faster rotation than was usual for a world so far removed from its central body. The second world, unlike the farthest planet, possessed a very thin aura of atmosphere. Two small satellites encircled it, the further one rotating slowly, the nearer motionless. The third world, smaller than its two outer companions, immediately drew the general attention of the machine men following a remarkable discovery.

"How fast that world turns!"

The machine men focused their instruments upon the world as the spaceship sped rapidly toward the spot of blue, unblinking light among the twinkling stars for closer investigation. The fast-moving world had four moons, all of them rotating, they learned, as they approached.

"I should like nothing better than landing upon this rapidly turning world to witness the quick succession of days and nights," said the professor. "It appears favorable to life of some kind, too."

"To be sure," replied 744U-21. "We can land on this world and take notes of the system, later exploring the worlds outward from the sun in their regular order."

They learned many things about the planet as they sped nearer. The professor found that its volume was approximately two and a half times that of his planet Earth, and that its density was considerably less. The weight and gravitational attraction, however, despite these counter differences, exceeded less than double that of his own world, Earth. On the other hand, the professor believed that this swifter rotation gave less weight to objects on the surface, making gravitational conditions more or less similar to that which had characterized Earth at the time his space rocket had been shot upon its journey. The planet possessed a very thick and heavy atmosphere which refracted the blue sunlight, giving to it a violet and purple blending.

"That world makes a complete rotation in sixty-seven and three-quarter minutes by my method of Earthly reckoning,"

the professor announced after consulting various chronometers and tables between observations.

Under the skillful maneuvering of 20R-654, the spaceship dropped rapidly planetward among the hills and valleys strangely pock-marked with holes. The blue sunlight spread a lovely canopy over the landscape, causing the professor immediate reminiscences of the planet of the double sun; but this blue sunlight was of a different shade and character, and did not possess any of the morbid and depressing influences of that other sunlight. These reminiscences were shared by three others of the Zoromes, 5ZQ35, 92ZQ153 and 454ZQ2 who had once been triped creatures on the planet of the double sun and, like the professor, had become converts to the metal ranks of the machine men through brain transposition.

The spaceship landed. No motile life presented itself, although vegetation of various colors grew lush and luxuriant. The caves, or holes in the ground, however, were strongly suggestive of life. Most of the machine men left the spaceship and stood upon the strange world, keenly interested in everything about them. The sun moved across the sky, and as they watched they saw shadows slowly wheeling and shifting positions. They had landed halfway between sunrise and noon, and already the sun was reaching high into the sky of deep purple, which, contrary to theoretical supposition, was dazzling to the eye. Two satellites, not far from one another in perspective, rode above the morning horizon, set in blue, crystal loveliness against the purple sky. Hills surrounded the machine men on every side, limiting their vision to little more than a square mile.

How it all happened, the machine men were afterward unable to accurately reconstruct, it occurred so suddenly and with such rapid consummation. A few of them did report seeing indistinguishable flickers near the holes in the ground suggestive of rapid movement. There was peaceful tranquillity, and then all at once they felt themselves hurled and knocked against each other and against huge, soft bodies which blotted out the sunlight momentarily and crushed them into the ground, from which they were instantly seized in rough claws and covered with grating

noises against their metal bodies, succeeded by soft, questing suckers, searching for something the grating feelers were expected to have produced. Their assailants moved so rapidly the machine men were unable to distinguish what they really were.

The professor saw one of the things as soon as any of the machine men. One or more of the unknown creatures had him down, wrenching persistently at his appendages, and feeling all over him for what he quickly guessed to be some signs of flesh and blood which might be torn by the rough, grating teeth, or possibly mandibles, and drawn into mouths or other openings by the suckers. There were claws, too, for it was these which he felt trying forcibly, yet ineffectually, to remove his legs and tentacles. These were the professor's fleeting thoughts barely before he had given himself time to get over the surprise of the unseen and sudden attack. Not until he was lying on a side of his cubed body was he able to give one of the things a cursory examination. A huge, worm-like creature several times as large as a machine man remained for a brief moment motionless, holding itself curled in an attempt to engage his assailant. As many as eight thin, jointed legs supplied the long, repulsive body with locomotion. Many gaping mouths on the underside of the creature's body fastened themselves to the metal parts of 27E-24, while in and out darted white, needle-like teeth with the rapidity of shuttles. A very short, brown fur streaked with yellow covered the backs of the things, while several long, sensitive feelers surrounded a glaring orb which the professor believed to be an eye. All this the professor saw in little more than a second's time. The monster cast 27E-24 to one side in evident disappointment and leaped among the threshing bodies of machine men and more of its kind in search of something more edible than 27E-24 had proved to be.

Conflicting mental exclamations and expressions of helpless query concerning the things they had to deal with sprang from the minds of the machine men together with advice hastily given. Into this telepathic hubbub, the professor's mental voice broke clear cut and incisive.

"Tighten your tentacles about these great soft things and

squeeze hard! Kick with your feet! They have shown no power to hurt us as yet."

The professor suited this suggestion with personal action, finding that the creature which held him pinned down became suddenly elusive, slipping away from the pressure of his tentacles as if it had almost disappeared. The speed of movement and failure of the thing to remain in a single position for as long as a half a second was hard to understand. They seemed continuously on the move, accomplishing much in a few fleeting moments. Had the machine men been flesh and blood, it was the professor's opinion they would all have been eaten within the space of less than a minute, the brief time which had already ensued since the attack upon them. The professor had installed a heat ray in one of his fore tentacles, and he now employed this, waving it at the various soft bodies he felt hurtling or crawling swiftly across him. He became aware of frantic sighings among lesser notes of what sounded like quick, sobbing puffs of wind which he had not noticed before. The heat ray's effect upon these soft things was not too slow to register in spite of the agility of the creatures.

Again the professor tried to wrap his tentacles about one of the creatures. He kicked and squeezed empty air. Turning his faculties to getting up off the ground and on his feet, he braced his four metal legs just as a rushing body staggered him nearly to a recumbent position once more. He made an effort to see the things which had attacked them. They were all like the one he had seen holding 27E-24. Standing up, he could see them all at a distance, now, as they leaped and swarmed among the machine men, pulling and hauling at metal legs and tentacles, jumping away like bullets when kicked or squeezed, slithering quickly away from the slower movement of confining tentacles. The professor saw rather triumphantly that 6W-438 had caught one of the things in a death grip and was slowly constricting the furred body. The sighings grew to frantic squeaks like the swift-drawn, higher notes of a violin string. The convulsive movements of the creature were blurred like the rapid movement of a fly's wings caught in a spider web, but there was no escape, and the machine man crushed

it to death amid a last, dying flurry and terrible squawks accompanied with a spattering and gush of brownish life fluid.

The professor tried again to seize one of the darting bodies, but it eluded him before he had taken more than a half grip upon it. He used his heat ray once more. Unable to keep it focused upon a single one of the creatures long enough to do any great damage, it did keep them away from him, and he strode to one side of the fray. The spaceship rose suddenly into the sky, and the professor became aware of 41C-98's exclamation from the ship.

"Several of the things are inside!"

They had risen to be free of further entrance by the creatures. Professor Jameson watched the ship as it circled slowly. He gathered that there was fighting inside the ship.

"Rise so high into the atmosphere the things will die," he advised 20R-654. "They must eventually burst open or die for want of air."

Instantly, the ship jumped skyward, so rapidly that it became a speck and disappeared. No time was being lost. The machine men had flown damaged ships before and wanted no repetition.

The professor's attention was aroused by a new sound, a steady chattering. Over the hills leaped a steady blur of new figures. They were not so swift and indistinct as those which had attacked the machine men, and the professor instantly perceived this difference. The new arrivals stood erect. One of them stopped abruptly on a nearby hilltop, and the professor's swift, searching glance took in his detail. The professor marveled at the thin body which was no thicker through at its widest diameter than six inches. The creature stood on two legs, but they were the strangest pair of legs the professor had seen upon any biped, or was the creature a quadruped? The professor remained undecided, for at the lower joint each leg branched off into two separate appendages which terminated in several wide-spread digits like those of a fowl.

The two upper appendages, like the lower, branched off at the elbow into two forearms, each of which terminated in four boneless fingers which curled like the tentacles of the

machine men. An article of tight-fitting clothing covered the body. This suggested intelligence, though it was true in his travels from world to world Professor Jameson had found that clothing was generally worn only in the rare cases of intelligent beings who lived in unnaturally cold climes. The creature carried something in one hand which he suddenly lifted up, but the movement was so quick, and he merged all at once with his companions hurrying down the hillside, that the machine man caught but a slight glimpse of it. He suspected, however, that it was a weapon of some kind.

II

SUN TUBES OF DEATH

The chattering grew louder as the new horde swept down the slope in a twinkling, surrounded the combatants, then darted in and out among them excitedly. The professor found that none of them attacked him or any of the machine men. They were fighting the things out of the ground. Many of the latter lay visible and motionless. He saw the new arrivals brandishing their weapons, making quick adjustments which were too rapid for the eye to follow. He heard no reports, and he saw no projectiles leave them. Neither did he see any rays or beams, at least none which were visible. Once, however, he caught a gleam of a small azure disc held by one of the newcomers.

It was evident the things from out of the ground represented a common enemy to both the machine men and the creatures who stood erect. The professor radiated this observation to his companions, many of whom were getting up from the ground. More of the ground beasts lay dead. Many of them had scampered back to their subterranean retreats with burns from the professor's heat ray, lacerations from the other machine men or mortal wounds of a sinister character given them by the mysterious means at the hands of the new arrivals. Quite suddenly as though by common assent the remainder darted away with melancholy sighs, leaving

their conquerors and the machine men among their abandoned dead.

The creatures who had come to the rescue of the machine men stood unafraid and resolute as the Zoromes gathered before them in contemplative discussion.

"They are brave," the professor commented.

"Perhaps there is no such thing as fear on this world," offered 6W-438. "We have found it so before. See how rashly the things which now lie dead about us attacked."

"But their companions retreated," was 5ZQ35's mental retort.

"They knew they were beaten."

"These things seem intelligent."

"How fast they move—and those other things moved even swifter," said 19K-59. "How hard I tried to seize one of them. Each move they made was a quick, darting gesture and they moved often."

"It is a quick world upon which they live. Something of the tempo of this planet's rotation must affect all life upon it. The day is such a quick one. That, too, would be a shaping environment."

"They may, and probably do, live their lives very fast."

"That we do not yet know."

"Where did the spaceship go?"

"Aloft to kill several of the things which went aboard," the professor replied. "They will die quickly in the stratosphere or perhaps above it."

"We must question these things. They seem intelligent."

Professor Jameson sought to fasten his mental faculties upon the minds of the creatures before him. He found it difficult. The others agreed with him. The brains of the creatures were set to so fast a tempo that it was difficult to find a hold. A similarity struck the professor which took him momentarily back to the Earthly life he had known nearly a half million centuries before. Attuning their thoughts to those of the creatures they sought to interview was much like trying to catch hold and ride upon a speeding auto. He could perceive dimly the rapid train of thoughts concerning the metal things which they believed they had

rescued from the things out of the ground. The chattering was very rapid and voluble.

The professor took a few steps in their direction, waving his tentacle to calm them into an effort at communication. The action was taken with suspicion, for they leaped backward a quick step and held up their weapons menacingly. The professor saw many azure discs gleam at him from the barrels of the weapons directed his way. He wondered if he was not already being fired upon in some mysterious manner, and from the fleeting thoughts he gathered he became confirmed of this suspicion. Then he must be invulnerable to their weapons, if such was the case. Every pair of goggle eyes peering from flat faces which twitched excitedly was directed upon him. He exerted his mental efforts in an attempt to instill his thoughts. It was evident the creatures were intelligent and had caught a confused glimmer of his mental radiations, but it was not sustained, for their train of thought was too accelerated to dwell sufficiently upon it. They seemed, somehow, to be impatient, and many of them darted about in strange movements before resuming their attentive postures once more. It suddenly occurred to the professor, even as he was concentrating upon thoughts of friendship, that it must seem a long time they had stood there to these creatures who lived so quickly.

Suddenly, he became aware of the change in their attitude as he strove to impress them with his thoughts. The twitching of their faces slowed, and he realized that in their sphere of life these were not the quick movements they appeared to be. The movements of their appendages lost their speed, too, and they gazed at him in a sort of stupor. He caught the sudden deceleration of their thoughts. His mental efforts had placed them in somewhat of a hypnotic state, and he found their minds open. Their thoughts were reduced to a speed where the machine men might converse with them mentally.

"We are friends," the professor told them. "We are thankful you came and extricated us from our trouble, although it is true the things from the ground were unable to injure us. We are made of metal. They could not bite us or draw from us our blood, for we have no blood."

"Where do you come from?" one of the creatures demanded, his chattering reduced to a distinguishable jabber.

"From another world," the professor replied, reading the thoughts behind the unintelligible words.

"From one of the moons?"

"No, nor from one of the planets, either. We come from another system far beyond that of your own sun, so far that if you ever estimate such things you would measure the distance by means of light years."

"How came you?"

"In a spaceship."

"Where is it?"

"It rose into the sky and out of sight when we were attacked. You shall see it return presently. You do not have to speak your thoughts articulately, for we do not understand your language. We read your minds, the thoughts behind your vocal utterances, and we project that which we would have you know upon your brain."

They digested these facts, yet in their subsequent conversation they did not rid themselves of speaking vocally. In this manner, the machine men heard them refer to the ground beasts as "geoobs" and themselves as Plikits. They lived in cities and did not fear the geoobs, who, though fierce and dangerous, seldom left the vicinity of their underground retreats.

"How did you kill the geoobs so easily and quickly?" 744U-21 asked them.

"With these," replied several of the Plikits, brandishing their weapons.

The machine man took one of them and examined it. He saw what appeared to be a tube several inches in length and closed at each end with a ragged disc of blue crystal carefully cemented into the metal tube. Imprisoned between the crystals there appeared to be a fluid. At one end, a piece of bright, polished metal worked on a hinge. Metal twists acted as handles for the tube.

"They are more effective and kill more quickly when the sun is high," a Plikit explained.

"How is that?"

"Because the sunlight which shines through the tube is

stronger. You see, a temporary paralysis is inflicted, and this is succeeded by death. Certain qualities of our sunlight when filtered and intensified through the crystals and the liquid are deadly to anything living."

"But you can only kill from a single direction, then," the professor argued. "You must hold the tube between the sun and the focal point."

"That is not necessary," said one of the Plikits, advancing and moving the bit of flat, bright metal on its hinge. "We use a reflector."

"Where do you find this blue crystal?" the professor asked.

"In the place of death by day. We only go there at night to get the crystals. To go there by day is to invite a slow, creeping death which comes upon us the day after we have been there. If we go when it is raining, we sometimes die instantly. We once came upon this place by accident, and that is how we learned of the peculiar properties of the crystal. Now, the sun tubes are used by our people in all the cities."

"Where is this place?"

"We shall pass not far from it on the way to our city, if you are going to come with us as you partly suggested. We dare not go even close to the quarries by day, but you are made of metal and will not be harmed."

"But our brains are not metal, and they may be vulnerable," 6W-438 pointed out.

"No, I don't believe that anything behind metal is affected," said the Plikit who had spoken most and who appeared to be a leader. "We have always found it so, and just a while ago several of us directed our tubes at your heads when one of you walked toward us."

The spaceship returned, and the Plikits regarded it in surprise and awe. Machine men on the ground radiated an account of the rapid events which had taken place since the spaceship had risen. In turn, they learned that the geoobs aboard the spaceship had died in the upper strata of the atmosphere and had been tossed out. No damage had been done to the ship.

"We are going to the city with the Plikits," 744U-21

told 20R-654. "Go and wait outside the city. It may be several of their days before we arrive."

As the spaceship disappeared beyond the hills, machine men and Plikits set out on foot in the direction of the nearest city. The majority of the Plikits walked with the machine men at the pace the latter took, but the professor noticed that several of them were emerging from their comatic deceleration. Aroused from the stupor, they flitted quickly about their slower companions and chattered excitedly. More acquainted with the minds of the creatures than formerly, the machine men gathered from the rush of swift thoughts to their released minds that they realized their late stupor and knew their companions were still in such a condition. They held no distrust of the Zoromes, however, considering them with wonder and awe instead. In their temporary trance, their attitude toward the machine men had been more casual and matter of fact. They were now trying to tell their slower companions they were bewitched. On the other hand, those who were superinduced to comparative sluggishness regarded their revived companions in mild surprise, for they saw with the attitude of slower beings like the machine men and imagined their companions as being abnormally swift and so quick of speech as to be incomprehensible.

Gradually, however, they all returned to the normal tempo of their world. Their leader, Natitun, was among the last to shake the spell of the machine men, probably because it was he who discoursed with them the most. It was from Natitun they learned of a formidable enemy of the Plikits menacing them, descending from time to time in great numbers from the distant mountain heights to carry them into slavery. Natitun's mental image pictured huge brutes capable of tearing their homes to pieces to get at them.

"Fortunately for us, they do not come very often," added Natitun. "Although we Plikits for the most part can adapt ourselves to the rarefied heights at which they live, they cannot survive our denser atmosphere and greater barometric pressures. In fact, it is only at two regular seasons of the year they come."

"Can you not slay them with your tubes?" 6W-438 asked.

"No. Although the tubes have a partial effect upon them and there are rare instances when we have slain them, they do not seem to be sufficiently strong to kill these Gropojyds. For one thing, they are so large and strong. Then, too, and this is probably the greatest reason for the ineffectiveness of the sun tubes, the Gropojyds are naturally less susceptible to the more dangerous rays of the sun. They live at heights where the sunlight is less veiled, and their hereditary constitution has a built-up resistance to our sun tubes or ray intensity."

"That is logical," the professor observed. "But why is it that these Gropojyds do not come down out of the mountains other than at two seasons of the year?"

"That we do not know. It seems to be a ritual with them."

The Plikits accompanying the machine men became fewer in number. Many of them, unable to accustom themselves to the slow progress of the Zoromes, had flashed on ahead and out of sight. Some of them continued to the city which the professor's Earthly computation had estimated to be only a few hours away. The Plikits had told them that at their slow pace and movements two, or three days and nights would pass before they reached the city. The machine men were in no hurry, however, wishing to experience all the wonders of the fast-moving world. From time to time, they came upon groups of Plikits reclining on the ground who had gone on ahead at their naturally swift pace and had waited for the machine men and their companions to catch up.

III

THE PLIKIT CITY

The blue sun grew bluer, and a purple sunset tinged with azure heralded the swiftly approaching night. Two of the moons gleamed in the sky. Their changing phases were wonderful to see as they moved quickly across the sky, one of them faster than the other. Both were still in sight when another of the planet's four satellites rose. The

machine men traveled by moonlight, first bright and then dim as all three moons shone and then were reduced to two and finally to one as the satellites slipped from sight beneath the horizon. It was near the middle of the brief darkness when several of the Plikits complained of weariness and lay down to rest while others volunteered to carry on with the slow-moving machine men.

It was near dawn, for a faint azure flush relieved the darkness, when more of the Plikits lay down to rest, while those who had previously been left at rest many miles behind hurried up and joined the machine men. It all seemed so strange to the professor, for it had been dark no longer than half an hour, and the coming daylight would be little longer than this. At midday, or not more than fifteen minutes later, they came in sight of the quarries where the Plikits mined the azure crystals they used in their destructive ray tubes.

The Plikits halted and told the machine men they would wait for them to explore the quarry if they wished. The quarries consisted of several hills partly dug away and exposing a rough, loose rock. Among the hills, the machine men saw bright, azure gleams from the raw sides of the newer excavations. When the Plikits sat patiently down to wait for the machine men, they had not taken into consideration their different interpretations of time, and when night descended and the machine men were still not returned from the quarries, they went in after them and met them coming out bearing great slabs of blue crystal; it would have taxed the strength of several Plikits to lift even one.

"You take such a long time," Natitun chafed. "You do things so slowly. If we can be induced to slow ourselves to your tempo of living, why is it you cannot hasten yourselves to our quickness of movement and thought?"

"There is a world of conjecture and argument in that idea," Professor Jameson told him. "Right now, we have been taking steps to insure your greater security against the Gropojyds."

"How?"

"We have brought from the quarries many large slabs

of the blue crystal which can be mounted in especially large tubes for protection against your enemies in the mountains."

The Plikits chattered volubly and excitedly over this, arguing over the possible effectiveness upon the Gropojyds. They were grateful, however, for having it mined in such large quantity by the machine men and carried by them to the city.

They traveled most of that night, reaching the city just before the purple dawn. A beckoning light from the spaceship drew them. They found the city itself in darkness. At the spaceship, they learned how many of the machine men had already been inside the city.

"They are an intelligent people who are slowly advancing out of barbarism," 29G-75 summarized. "Somehow or other, the thoughts and movements of their daily lives are synchronized to the swift rotation of this world, and to the Plikits their day and night is as long as the day and night of Zor seems to us. It is all a case of relative attitudes and environments regarding time."

In wandering through the city of the Plikits, Professor Jameson found it straggling and squat. The buildings were never more than one story and were built mostly of stone. It was a strange fact, until explained to him, that there were always two stories or more underground, the partitions between floors of unusual strength and thickness. These lower levels were for protection against the Gropojyds. The great brutes from the mountains had definitely influenced Plikit architecture. They had suppressed it and caused it to hide underground. The machine men were shown many wrecked dwellings where Gropojyds had tried to capture Plikits, and they marveled at the strength of the creatures.

"We shall have to make a trip into the mountains before we leave, and see what they are like," said the professor.

The machine men had decided on an extended stay among the Plikits and visited the various communities. There were also certain metals they wished to mine and smelt before they left. Natitun had told them of a distant locality where their ancestors had once explored and found such

metals which the machine men now wanted. But before they set out for their mining venture, the Zoromes learned much about the world on which they were stopping. They made many astronomical observations, for one thing, and found two more planets they had not seen upon entering the system. A peculiar discovery was also made concerning the sun. The blue, flaming orb rotated quite rapidly, even faster than the world on which they took their observations. There were numerous eclipses of the moons. They found that the world on which they had landed, although rotating rapidly, took a contrastingly long time negotiating its orbit. Nearly nine thousand of the short days filled a year's time, and the professor's computations proved that the time taken by the planet to circumnavigate its orbit exceeded his Earthly year of old. An average lifetime among the Plikits was two years. In only rare instances did the age of a Plikit exceed three years. Their world was tipped somewhat more than eleven degrees, so they experienced four slightly moderated seasons each year.

The machine men helped the Plikits cut and fit the large slabs of blue crystal into big tubes which were mounted at various points of the city to be used in defense against the Gropojds. The tubes, with their giant reflectors, were much like cannon, silent cannon.

Their acquaintances with the Plikits were strange. They learned to read, and to break in upon, the rapid thoughts of the creatures, but whenever a conversation ensued between them it was always necessary for the Plikits to lapse into a decelerated coma. The professor made the interesting discovery that their organic processes also slowed during this mental interlude. It was weird to see the creatures grow old before them, to see how rapidly they grew from infants day by day. They were always greeting the machine men as if it had been a long time since they had last seen them.

They searched for and found the locality of the metals they needed, having left the city of the Plikits and the towering mountains in the background far below the horizon. There followed a seemingly endless succession of rapid days and nights during their mining operations. The sun gradually reached higher into the sky. As they were near the planet's

equator, they knew one of the warmer seasons was upon them. They were gone from the Plikit city for more than a full season, a good share of a Plikit's lifetime. On their return, the blue mountains loomed above the skyline long before the straggling city became visible, their peaks lost in the blue haze and sapphire mists which lingered about them like veils.

They found the Plikits in great excitement. It was Natitun himself who lapsed into the decelerated comatic state to tell of all which had happened.

"You have been gone for such a long time we thought you had left this world. It has not been so very long since a great catastrophe befell us. The Gropojyds came and took many of us away."

"But the big tubes," said the professor, "did they not repulse the Gropojyds?"

"They did, killing so many of the huge monsters we considered ourselves safe from them. They retreated back into the mountains, but they came back by night, something they have never been known to have done before, finding us careless and confident in our easy and surprising victory. Our big tubes were no good in the night with no sun shining, and they killed and ate many of us, as is their custom, carrying still more of us back into the mountains with them."

"It is time we paid the Gropojyds a visit," Professor Jameson said. "Never fear, Natitun, we shall do all in our power to bring back those of your people who have been enslaved."

Nineteen of the machine men were left behind in the city while fifteen Plikits accompanied the machine men who gave them ray guns and taught them the use of the weapons. The unusual speed of the creatures was a deciding factor in favor of their going. The spaceship hung low above the mountainside as it rose higher. They were not far up the first slope when Natitun called their attention to something on the ground.

"Look—there is a dead Gropojyd!"

They dropped the ship, landed and examined the huge creature. It was the machine men's first sight of the things.

The dead body was fourteen feet long and nearly half as large through. There were antennae and large, bulging eyes which reminded the professor of an insect. The body, however, was scaly, like that of a fish, a dirty, brownish-green in color which deepened to black in scattered spots. The legs were short, but there were many of them. Near the center of the oblong bodies, two long, angular limbs, somewhat like those of the Plikits, were capable of reaching far to either side of the body. Compared to the size of the body, the head was puny. A pair of tusks spread sidewise from the head. In battle, Natitun explained, the use of these formidable horns consisted of ripping to right and left by vigorous shakes of the head. They examined the great brute carefully.

"Of what did he die?" 6W-438 inquired. "Do you think he was wounded from the effects of the sun tubes?"

"No," said Natitun, who invariably kept himself attuned to the slower movements and thoughts of the machine men. "What he died of, and what the Gropojyds often succumb to when they come down from the mountains, is the greater density of the air down here. We Plikits can stand their altitude much easier than they can accommodate themselves to our greater barometric pressure. It has always been so, regretfully, I should say, in the matter of our adaptability, for if we were like them we should not be able to stand the heights and would die there. Then they would never come to enslave us."

"We know they are of less intelligence than you, and we suspect that some day you will make this difference of intellect count in your favor and be free of their menace," said 744U-21. "It must be a frightful fate to which you go. If you are not at once eaten or kept for select breeding purposes, you have to toil your lives away in their service. Is there no escape for those taken?"

"Not after a certain share of their lifetime has been spent in the mountain heights," Natitun replied. "We become as they are, unable to stand the greater air pressure. They know this and guard us well at first, until they know there is no escape for us. Those few who have escaped did so after their capture, and they were pursued until the Gro-

pojyds fell dead like this one, from the increasing pressure of the low lands. It is well for us the Gropojyds can come down out of the mountains no oftener than five times during our lifetimes, or twice each year."

"That is strange," the professor mused. "And you say that you cannot understand the reason?"

"We have never learned why they come at those times. It must be something about the temperature, for it is when the sun crosses the equator and we have the hottest weather that the Gropojyds descend upon us. At least, we know when to expect them. They do not often catch us unawares."

IV

BATTLING THE GROPOJYDS

"There is some reason," pursued the professor, "why they can survive the density of the lower atmosphere at the time the sun passes above the equator."

"There are a few exceptions," Natitun pointed out. "On every raid, several of them fall dead, and others, like this one, die on the way back, so you can see the rule does not hold in all cases."

Higher they coursed. The low lands disappeared behind them, lost in the twirling wraiths of mist which meandered among the higher reaches of the mountains. Over tall, towering summits, they slowed their speed. Natitun held but a vague idea concerning the location of the nearest Gropojyd village. He knew only the legends which had come down from those few who had escaped the dreaded monsters.

"All new captives are held in a high, deep cavity from which tunnels branch off," said Natitun. "These tunnels are either barricaded or else closely guarded. The cavity is open to the sky, and upon one edge of it stands a tall spire of rock."

The distance above the mountains at which they rode was too great for visual distance. They had no desire for the Gropojyds to see the spaceship. The telescopes intrigued and awed the Plikits, who were given to understand their

working principle was not greatly unlike that of the sun tubes. Both magnified, although it was true that the telescopes of the machine men possessed no liquid filters.

It was 12W-62 who first discovered the habitations of the Gropojyds rising like immense bee-hives in a cluster all around a broad, concave peak, one side of which rose in a tall spire which leaned slightly inward above the bowl.

"The very place!" Natitun exclaimed excitedly. "There is the spire towering above the great cup in the mountains. It is where my people are imprisoned!"

And as they cruised far overhead, they saw that the peak was much like an old volcanic cone and that its center was hollow. As the professor remarked, however, it was not necessarily of volcanic formation. The effect might have been produced by ages of weathering in softer rock surrounded by a harder composition. The lofty spire seemed to argue this possibility. Tiny objects down inside the great bowl were identified as Plikits. Larger figures were recognized as their brutal masters.

"We can come down unseen during the darkness," 744U-21 told them. "The Plikits who are enslaved down there will recognize us, for they have seen our metal bodies before. You Plikits must arouse them to instant action but get them quietly into the spaceship. By making two trips, we can bring all away. All the storage rooms were emptied before we started."

They cruised and watched until after the purple sunset had gone and left the mountains in darkness. For many of the Plikits, this was a long time, but to those attuned in a dazed manner, as judged by their unaffected companions, the time went by swiftly. Silently, they dropped to the floor of the bowl, the broad, starry heavens, with two moons, narrowing in circumference as they settled slowly below the circling escarpment which gradually came to tower above them.

Like flitting phantoms, the Plikits were out of the ship and away to seek their companions scarcely before it touched the ground. A few minutes later, they returned as swiftly as they had gone, this time surrounded by silent and hopeful Plikits who had been taken on the raid of the Gropojyds.

Under the star-speckled disc of sky, they filed noiselessly within the spaceship until it was crammed to utmost capacity. Only then did it rise and leave behind the surplus who went busily about seeking the remainder of the prisoners to have them ready for the spaceship's return.

"Shall we take them to the low lands?" flashed 20R-654. "Have we time to make a second trip in the interval of darkness left?"

"We must go back before daylight!" pleaded Natitun, catching the significance of 20R-654's strong thought projection. "Even if we leave those of my people already rescued upon the mountainside somewhere!"

"It will not be necessary," said Professor Jameson. "Now that we know the way, we can proceed swiftly. To the low lands. We shall land outside the city and then return here."

The trip was made with a speed which surprised even the Plikits, accustomed as they were to the slow life of the machine men. True to their nature, at least to the slower perceptions of the machine men, the Plikits were out of the spaceship with blurred speed, and the spaceship was once more racing back into the heights above the mountain and finding the location of the bowl once more. Again they dropped down inside the dark, circling walls which towered several hundred feet at their lowest level. Stars peeped once more at them from between the ragged edges of the cliff-tops as they came to rest. The nineteen Plikits and eight machine men left the ship, their ray guns held ready, the professor armed only with the formidable heat ray installed in a fore tentacle.

"They are not here, 21MM392," said 119M-5, addressing the professor. "This is not the place where we came down in the bowl before."

"It is very near the same spot," argued 12W-62. "The Plikits will find those we left."

"More than half the night still remains," said the professor. "It may well pay us to go cautiously and not too quickly, or we—"

The professor's thought wavered and died as a shrill chattering suddenly broke out. Mental waves of pain, horror

and dismay inundated his mind and the minds of his metal comrades. To the ears of the Plikits, that chattering sound conveyed the vocal equivalent to the stabbing realization picked up by the machine men. The rescuers had been discovered. The Plikits became instantly galvanized to action, racing to the source of the trouble, their ray guns blazing weirdly against the blackness of the night even before the machine men had scarcely taken stock of the situation. The pit became suddenly illuminated with an eerie blaze of light from many spots on the high escarpment. The illumination grew as more flares augmented the first ones, shining with an unworldly glow on the walls of the pit, and baying calls mingled with raucous screeches set up a yammering din both near and far. Almost instantly it seemed to the machine men, a thundering horde of fleshy monsters bore down upon them and thudded hollowly against the spaceship. It needed but the lightning quickness of thought to apprise them of the fact that the Gropojyds had realized that a wholesale release of their captives was in progress.

To the professor's senses, it was something like the battle with the geoobs, except these larger creatures were not so swift. The wrecked buildings of the Plikits had been mute testimony to the strength of the Gropojyds. The machine men now felt that strength. They were picked up like chips and scattered to right and left by the great brutes. It all happened so quickly. Before they realized their danger they were prisoners. The machine men used their ray guns on the first rush of the fearsome creatures, but were overpowered and found themselves helpless by sheer weight of numbers. Strange to say, it was the Plikits, using these weapons of the Zoromes for the first time, who created the most havoc. With their agile speed, they blazed quickly and often at their larger enemies, ducking and dodging nimbly out of harm's way during the minute of time in which the machine men were subdued. The Plikits, too, were overcome and several were killed.

The spaceship meanwhile resounded to savage blows against the metal hull. A flare of destruction annihilated the puny head of a Gropojyd who started into the ship, and the opening was immediately closed. A massive chunk of rock

hurled at the ship shook it and broke into pieces, showering the hull with dust. More missiles beat a lusty tattoo as other Gropojyds followed the initiative of the first.

"Rise out of danger!" flashed Professor Jameson.

The ship rose, the Gropojyds still pelting it until it was too high to reach. The professor marveled at the great sections of rock which the huge monsters were able to pick up and throw. He realized as did the other machine men that hard thrown objects of this size might damage the exterior controls. From the ghastly light thrown by the numerous flares set against the walls and rim of the broad pit, the machine men saw more Gropojyds pouring into the bowl from tunnels. Somehow or other, they had learned of the first nocturnal visit to release the captive Plikits, and they had found, probably by torturing one of the captives, the spaceship was going to return for the rest of the Plikits. They had prepared themselves and waited.

A quick glance from the ring of mechanical eyes surrounding his metal head apprised the professor that all seven of his metal companions were taken and were making no further resistance, recognizing it as useless in the present circumstances. Their ray guns had been taken from them. The professor, however, still had his installed heat ray in a fore tentacle.

The spaceship rose and circled the bowl, looking for an opportunity to strike a blow which would effect the freedom of the eight machine men. The professor watched it glide beneath the tall, looming spire illuminated from beneath by the bright, flickering flares. Something dim and misshapen suddenly plunged down from the top of the peak, growing larger in perspective as it neared the ground. It was a great boulder hurtling over and over. Like a comet, it dropped toward the spaceship, gathering momentum in its half-mile plunge. Other boulders followed it in swift succession. As it dealt the spaceship a terrific, glancing blow, a luminous glow lit up the top of the peak. Tiny figures were rolling more giant rocks into position to shove into the abyss.

"Quick, 20R-654!" warned Professor Jameson. "Get the ship away from the high pinnacle!"

"They are dropping big rocks from the top!" added 41C-98.

The spaceship lurched crazily as several more of the boulders juggernauted past and smashed with shuddering concussions against the floor of the pit. But another hit it squarely, and as the ship turned crazily and dropped erratically toward the ground, the professor saw with increasing trepidation a great dent in the hull. The shock was great enough to have stunned many of the Zoromes, and he feared the dropping ship was either damaged or else 20R-654 had been knocked insensible at the controls through a violent blow dealt his metal head against something in the control room. Another rock struck the ship as it continued to fall, halting its turning motion and sending it careening sideways. Professor Jameson radiated a frantic message.

"744U-21! 6W-438! The spaceship is falling!"

A jabbering roar of triumph arose from the Gropojyds who made a rush in the direction of the slowly falling ship, hastily gathering up rocks as they proceeded. On the high peak, the tiny figures could be seen standing ready to hurl more of the crushing missiles if the ship should again come into line below them. The machine men were jerked along by eager Gropojyds at what seemed a bewildering pace to the machine men. The Plikits had been taken in the direction of a nearby tunnel. The ship had fallen so low that already the Gropojyds were again pelting it with their crude ammunition. As it struck the ground with a sharp jolt and rolled halfway over, the assailants abandoned the assault temporarily to swarm over it.

"744U-21!" the professor called. "Zoromes inside the ship!"

"21MM392!" came the radiant reply from within. "This is 57L-426! What has happened? Many of us are dazed, and we are not all recovered yet!"

"Rocks were hurled from the high peak and smashed against the ship in flight! Go to the control room and see what has happened to 20R-654! The ship has settled to the ground!"

While the Gropojyds swarmed rapidly all over the ship looking for a way to get inside, those within the ship were becoming aware of their predicament. The mental radiations flew thick and fast, between those outside and inside, and among those inside. 20R-654 was found stunned, just as the

professor had feared. Others took over the controls and found them ineffectual and unmanageable. Connections had become disarranged or else broken.

Meanwhile, the Gropojyds had come to a mutual agreement. They wanted to open up the great hull and get inside. The easiest way was to smash it open. The rocks they had thrown at the ship had affected it but little, while the larger boulders dropped from the great height of the peak had dented the hull and sent the ship to the ground. Their combined thought now was to roll the ship beneath the towering pinnacle where Gropojyds from above might drop rocks at their leisure with calculated accuracy. The professor wondered if they would be able to budge the fallen ship. The wall of the pit beneath the looming peak was not far. When he saw the large number of Gropojyds who bent their mighty strength to the task, he no longer doubted the fulfillment of their design.

The spaceship tottered slowly and rolled over, the Gropojyds following up this advantage with a renewal of their efforts amidst thunderous self-acclaim. Slowly, the spaceship was rolled in the direction of the wall where it might be the target of the dwarfed, scurrying figures on top of the peak which leaned inward toward the bowl. The captive machine men radiated a notice regarding the sinister intentions of the Gropojyds to those inside the wrecked spaceship. The latter, hampered by the slow rotation of the ship, were busy repairing connections in the control room.

V

METAL SLAVES

"Make haste!" urged the professor. "Those upon the peak have combined their strength to roll to the edge of the cliff great boulders which will surely smash open the ship!"

"How far away from the spot are they?" returned 744U-21 from within the ship. "How long will it be?"

The professor gave him a quick approximation of the time.

"Are you close to the ship?" called 6W-438.

"Yes. Those who hold us captives are following close upon those who push the ship."

"Where are the Plikits?"

"They were taken into a tunnel, we believe. The Plikits fought valiantly and made a better defense than we did."

"They are quicker," said 744U-21. "If we had been quicker, this would not have happened."

"Quickness will make up for it now," advised the professor.

"Struggle with your captors," urged 6W-438. "Try and fall farther behind those who are pushing the ship. Make a run for it. We shall try a burst of power destruction and stop their rolling the ship."

"We must do so at once, then, for they are not far from getting the ship into a dangerous spot."

Professor Jameson quickly estimated their chances. All eight of them must be free of the ship's vicinity when those within tried the offensive equipment. He saw with satisfaction the Gropojyds who held them with their long, angular arms had relaxed their vigilance. The machine men had made no struggle, breeding into the minds of the dull brutes over-confidence and contempt.

"When I use the heat ray, break away and run," he urged his metal companions.

Cautiously, he placed his fore tentacle in line with the cable-like arm of the Gropojyd who held him. A quick sputter of dazzling brilliance rivaled the weird display on all sides of the great, ragged bowl, and the monster who held the professor suddenly found his arm burned in two and the machine man blazing a sweeping path through those who held his companions. Then all eight of the machine men turned and ran at top speed. They had made good distance across the bowl before the Gropojyds gave pursuit. Escape remained unthought of, for the tremendous speed of the great brutes, like that of the Plikits, quickly brought them down upon the machine men once they had started. Gropojyds from the other side of the pit had started out to head them off.

"Let go, 6W-438!" the professor radiated.

The spaceship became enveloped in an iridescent glow

Gropojyds were annihilated right and left, no trace of them left where shortly before they had been pushing upon the hull of the ship. A crackling roar succeeded the flash, and the ground about the spaceship for a hundred feet broke into pieces which cascaded into dust columns, obscuring the ship and an outer ring of dead and mutilated Gropojyds. Those who had recaptured the machine men stared back in awe, vaguely aware that if they had not been pursuing their strange captives they, too, would have died. The spaceship commenced to roll strangely all by itself, lifting and bumping along the ground. Those within were getting results from their repairs. Slowly the ship raised into the air, undecidedly, bobbing and staggering.

"We are rising, 21MM392," said 744U-21 from the ship, "but the mechanism is in a bad way. Fourteen of us are practically holding parts together for functioning or else we are acting as relay prompters for other parts."

"Get over the rim if you can and down out of the mountains," the professor advised. "Repair the ship and return."

"It may be a long time."

"Do not fear for us. If we cannot escape, we shall wait patiently."

"What of the Gropojyds?"

"If what we know of them from Plikit legend is true, they will enslave us. We are not likely to come to harm."

"That one burst of destruction we let go cannot be repeated," said 6W-438. "Weakened mechanism which we had realigned and held in place before the blast broke during its single operation."

"Try and make the low lands, or as far down the mountain as you can go," Professor Jameson told them. "Watch out the Gropojyds do not come down and surprise you, for the season of their descent is not yet over."

Like a great, wounded bird, the spaceship of Zor rose staggeringly into the sky and headed for a lower ridge of the ragged cup into which it had disastrously descended. The Gropojyds had fallen silent, contemplating the few remains of those dead, only occasionally stuttering and howling in soft accents. Several times, the spaceship faltered and

sank, much to the great concern of the eight imprisoned Zoromes who stood and watched, but always it recovered itself with difficulty to rise again. Once it gained the level of the saw-toothed ridge, it proceeded erratically, battering the rock wall twice and sending loose shale and debris in miniature avalanche down the inner rim before it knocked off a small peak of rock and lunged out of the bowl from the sight of the machine men left behind.

For a few seconds, the Gropojyds remained statuesque and silent, watching the spot where the spaceship had last been seen. They quickly rounded up their captives and divided them, rushing each group off in the direction of a different tunnel leading into the wall of the pit and not until they had reached a cavern lit with the luminous flares did the Gropojyds examine and ponder over the strange things of metal they had captured along with the Plikits. The machine men found them to be great, stupid beasts whose reasoning intelligence ran mostly to craft and cunning. Their mentality was far beneath that of the Plikits, and although their consciousness ran to the same tempo as that of their smaller neighbors, their thoughts were so relatively few and simple the machine men found them less difficult than they had anticipated to understand.

For what the professor estimated roughly to be four of their days and nights, they were kept in the cavern. Gropojyds came from time to time to examine them. Most of the Gropojyds were of the opinion the machine men were creations of the Plikits. When two of the Plikits were brought in and told to explain all they knew about the machine men, the professor promptly charged them with information to substantiate the belief of the Gropojyds.

"Tell them we are machines you made to do work without rest or food. Tell them we are so cleverly made we think for ourselves and will make good workers for them."

The Plikits did as they were told in their own jargon which a few of the Gropojyds, selected as interpreters, appeared to understand.

The machine men were promptly put to work on a day and night schedule which saw them at work in the fields during the day and in the storeroom caverns at night. The

Gropojyds chafed at the comparative slowness of the Zoromes, but the simultaneous use of their six tentacles and their strength, which was many times greater than that of the Plikits, helped to offset this somewhat, and as the Plikits explained that the machines would work no faster, the Gropojyds had to be content.

The eight Zoromes found the Gropojyds a very lazy and indolent race of creatures who disliked all kinds of extra effort in the way of tasks. Most everything was done by the Plikits under the superintendence of overseers. Needless to say, many of the unfortunate creatures were overworked and died. Others were slain when they became disabled. These were eaten by the Gropojyds, who considered the Plikits a delicacy. This fact hung like a suspended sword over the heads of the Plikits and kept them in a rigid line of duty. Punishment for infractions generally meant they were eaten by their captors. At home, the Gropojyds rarely ate meat. They were mostly vegetarians. It was only on their semi-annual raids into the low lands that they ate very many of the Plikits.

This vegetable diet was responsible for a good share of the work done by the Plikits, in which the machine men now helped. Outside the towering bowl lay broad fields which the Plikits planted, cultivated and harvested. At night, the machine men stored much of the produce which was being harvested at the time in the storeroom caverns.

On several occasions, the machine men saw groups of the Gropojyds band together for raids into the low lands. Even at the speed to which the lives of the Gropojyds were set, these raids appeared highly unorganized and impromptu. The great brutes often dropped whatever they were doing, or even became aroused out of their sleep, as if they had heeded a call, to start for the low lands. The machine men understood from the Plikits these individuals or small groups waited for more companions at a trysting spot far down the mountainside before they descended and fell upon the Plikit city in large force.

"They obey a certain ritual, it seems," was Natitun's only explanation. "That is why they behave so queerly and do not organize their full party here among the mountain tops."

"There is more to it than just that," was the professor's opinion, yet he had no theories to advance.

The quick periods of day and night sped rapidly for the eight Zoromes. The impatient and less optimistic Plikits came to believe the machine men would never return—that the spaceship had fallen from a great height and had smashed every metal head aboard it. The professor pointed out to them that although he did not believe such a dire catastrophe had happened even in the face of the possibility, the fact remained there were nineteen machine men down on the low lands who would eventually journey into the mountains to find the lost Zoromes if they failed to return.

As the warmer season commenced to wane, the character of the machine men's work altered. There were new crops different from those they had been harvesting. The Plikits told them the iriji would not last much longer. This was a crop which the machine men had been often detailed to keep free of a fungus blight which was forever threatening it.

About this time, the professor and several of his companions came across a dying Gropojyd who told of terrible pains which wracked his body. His appendages were drawn close to his distorted body, and the machine men found great difficulty in straightening them out. Through the mind of the brute ran the single thought that he had received punishment for not descending to the low lands and capturing at least a Plikit or two. He had known he was to go and had disregarded and put off heeding the call. The machine men carried him to several other Gropojyds who gibbered among themselves meaningly but stood by as if helpless, doing nothing to alleviate his intense and increasing pain which seemed to center largely about his joints. The Gropojyd died quickly, and then the machine men saw a strange thing happen. Several blood vessels broke inside the creature and out of his mouth came rushing and foaming a huge quantity of his life blood.

The rest of the Gropojyds seemed awed and moved by fear. That night, many more of them than usual started for the low lands together. It was the first time the machine men had seen so many of the great brutes leave at once,

and this time they organized more methodically. The machine men were more surprised, however, during the following days to see most of them come straggling back either singly or in pairs, the last to arrive appearing rather worn-out and sick. This was surprising, because those who went to raid the communities of the low lands were generally gone for many days.

The professor puzzled over this strange state of affairs regarding the Gropojyds and thereby broke a precedent the machine men had established upon mutual consideration since being taken prisoners by the Gropojyds. He placed a thought impression upon the mind of one and surprised the great brute. The machine men had previously considered it prudent that the Gropojyds be kept ignorant of their faculty for telepathic communication, thus insuring their greater freedom and exchange of thoughts with the Plikits. Professor Jameson startled an unsuspecting overseer with an inconsequential remark repeated several times before it sank into the creature's bewildered mind.

"The day is nearly over."

"How—how do you say this to me?" jabbered the awed Gropojyd, staring amazedly at the machine man. "You have remained silent—as always—yet I know you have said this to me—that the day is nearly over! In truth, it is! And I shall sleep—and another will take my place—to see that you walking and understanding machines keep strictly to work!"

"I am different from these other machines," the professor fabricated. "I have a marvelous, mechanical brain which reaches out and impresses its thoughts upon those who have the intelligence to grasp them."

The Gropojyd was frankly taken in by this flattering allusion to his own mental powers, and his good nature, along with his curiosity, expanded generously.

"What do you think about?" he asked simply.

"Among other things," said the professor, steering the conversation to the topic which occupied his thoughts most of late, "I wonder why you go to the low lands during the warm seasons."

"To capture the Plikits, of course!"

"But why do you go only when the sun is high?"

"Because that is the time for us to go," was the stupid reply.

"Why not go all the year around? You would have more slaves, then."

The Gropojyd pondered this question as though it had never before occurred to him.

"But we do not get the call during the cooler weather," he expostulated, as though discussing something already taken for granted. "If we go when we are not called we die. Those who went the other night and soon returned were not called, and if they had kept on their way to the low lands when they were warned back they would have died. If we do not go when we are called, we die. It is our solemn duty."

"What call?" the professor pursued. "What is this call like? How does it come to you?"

"It comes—it comes—why, it comes much like your thoughts do!"

Here, the Gropojyd stopped in sudden surprise, his great eyes ogling the machine man both in astonishment and awe.

"This call comes from inside of you, then," the machine man continued. "What happens if you disregard it? Does it become more insistent?"

"So much so that it causes us pain," the Gropojyd replied. "And this pain drives us to our duty in the low lands."

"And once you start on your way the pain disappears?"

"Not instantly," the Gropojyd rejoined hastily. "It becomes gradually less."

"And you know this to be a fact? You have yourself experienced this?"

"Three times already during my lifetime. One season I descended the mountain twice."

"Did you not suffer pains of any kind while you were in the low lands?"

"Nò—only a strange feeling of oppressiveness like something weighing upon me from all directions. Comrades of mine complained, and some of them died, but they were probably with sins which the powers of mystery meant to

punish. We are not regarded in the same respect by the powers of mystery. A few of us have never received a call. When we receive the call, we must leave at once, however, and wait far down the mountain for others to come and join us, or else we join those already there, who have waited. Some of us are not allowed to go all the way to the low lands and must stop and wait until our companions return with captive Plikits. Pains of death warn us in time. And some of those who go down cannot return up the mountainside too quickly. It is all very complicated, and we can only obey the instinctive urges which we feel in such matters. You saw what happened to one who did not go when called."

"I remember well," said the professor. "Meanwhile, it would be well for you not to tell the others we can talk together. They might become envious, especially your superiors and there is no telling what they might do."

"That is right," the Gropojyd agreed.

In the succeeding days, the professor, unknown to any others except the machine men, talked often with the Gropojyd he had taken into a partial and misleading confidence. He learned all he could about the huge brutes who held such strange thoughts and acted upon even stranger and undeniable symptoms regarding the raids upon the Plikits in the low lands. He came to entertain specific ideas and suspicions of his own concerning this queer phenomena, and they were of a more scientific character than those held by the ignorant Gropojyds, solar effects of a high sun, barometric differences and everything tending to come into contact with the Gropojyds.

VI

THE SPACESHIP'S RETURN

In the meanwhile, the machine men were given new duties, one of which was clearing a rocky platform on the rim of the rough pit at a position nearly across from the tall, leaning spire of rock. They could look far off. More

mountains lay to one side, while on the other side nearest the looming pinnacle, the vast depths of the low lands dwindled into purple obscurity. In vain, the machine men gazed off into this abyss and occasionally watched rather hopefully for the return of their companions.

Near at hand, surrounding the slopes of the cone, lay the high, domed huts of the Gropojyds and the fields beyond in which the machine men had recently labored. The iriji crop was nearly gone as was the unpr gathering. An unprecedented calamity of minor proportions had befallen the Gropojyds in the matter of their crops. The blight, despite all their efforts, had won out over the last few fields of iriji. At first, the machine men had been blamed for mechanical inattentions, and this blame transferred to their supposed masters, the Plikits, but when Plikits and Gropojyds were both unable to check the blight, they gave up, mollified with the lucky fact that it was only at the end of the season the blight had become unmanageable, and but a very slight percentage of the iriji crop had been damaged.

The machine men found the flat space they were clearing was to become the first foundation for several prospective lookout towers to supplement the one on top of the pinnacle. Since the Gropojyds believed the Plikits had taken to mechanical construction of great metal chambers which floated through the air and carried them and their mechanical minions on counterraids to retrieve their enslaved people, it was necessary not to be caught unaware. This knowledge of the new accomplishments by the hitherto impotent and humble Plikits was rushed and relayed to all the Gropojyd settlements along the edge of the mountain system.

The warm season was long past before the machine men had cleared four flat, stone rectangles for lookout towers. The Plikits built the towers according to the specifications of the Gropojyds which were much along the same lines as their domed huts, built of a plastic mud which hardened much like adobe. Shadows cast by the sun grew longer as the rapid-whirling world pursued its orbit around the blue sun in hourly passages of night and day. To the Plikits and Gropojyds, it seemed a long time since the last raid on the low lands had been made. It did not seem very long

to the machine men, yet a bewilderingly large number of quick days and nights had passed, and in the life phases of the accelerated world a fraction of a lifetime had slipped away. There were signs of slight aging in the faces of the Plikits. A few who had been past their maturity had died. Others of extremely youthful appearance when the machine men had arrived were now entering their prime of life.

And then one day, that for which the machine men had stolidly waited, and for which the Plikits had long since despaired, finally arrived. The spaceship appeared from the low lands, rising like a tiny dot and enlarging upon the vision of the Gropojyds stationed at the lookout posts. There ensued an excited activity which instantly apprised the alert machine men of what was to happen. At the time, all eight of them were engaged in clearing away a small rock slide inside the bowl where a weak spot in the face of the wall had tumbled down.

"They are coming!" cried the professor. "Quick! Let us go to the center of the bowl where they can see us!"

Dropping the rocks they were carrying, and while the Gropojyds were running here and there excitedly, and a number of the great brutes were rapidly climbing the tall peak to reinforce the lookout on duty, the eight Zoromes ran to the very center of the bowl, waving their metal tentacles at the spaceship. Gropojyds pursued them. They, too, were going to be imprisoned during the combat. Not forgetting their last triumph, the Gropojyds were very hopeful and confident of repeating it.

They were met with the withering blaze of the professor's heat ray, killing or disabling four before the rest were upon them. The machine men battled bravely but were overcome. The Gropojyds were hurriedly reinforced, and the Zoromes were forced in the direction of a tunnel. The professor's dangerous heat ray was put out of instant use. He had kept it secret since those in the spaceship had been forced to abandon them. A terrific wrench by a badly burned and enraged Gropojyd pulled the professor's fore tentacle from his metal body, installed heat ray and all. A leg belonging to 119M-5 was badly bent during the fray.

As the machine men were half carried and half dragged to the tunnel, the spaceship sped low into the bowl. As the ship passed beneath the tall pinnacle, a mammoth boulder came hurtling down to strike it, but this time the machine men were not caught unawares. They were speeding so fast the great rock smashed with a jarring shock a good hundred yards or more behind them. A blinding light stabbed out from the ship, and a mighty roar shook the bowl and reverberated from wall to wall in chaotic echoes as the looming spire of rock tottered and swayed perceptibly. A great shower of pulverized rock struck the Gropojyds and rattled noisily from the metal bodies of the machine men. A misty dust made the spaceship of the Zoromes a veritable phantom of the skies. A gaping hole was left in one side of the pinnacle not far above the spot where it joined the rim of the bowl. The spaceship wheeled and sped back. Several boulders rolled over the edge of the cliff far above in desperate anticipation of the spaceship's passage, but the wily 20R-654 eluded these and again that brilliant flash stabbed out at the pinnacle in passing.

The Gropojyds and their metal captives were just at the tunnel's entrance when the great spire shivered and rocked, then slowly and majestically toppled. As the machine men were raced out of sight into the comparative darkness of the tunnel, they saw that the looming tower of rock was falling into the bowl it had so long sentineled. A maddening howl from many Gropojyd throats preceded the terrible, blasting crash which roared and shook the ground so vigorously Gropojyds were sent rolling in mixed confusion upon the rocky floor or were bumped against the walls. Lesser reports thundered and rolled in the wake of the terrific shock. Rock fell from the roof of the tunnel, burying several of the Gropojyds and two of the machine men. Others lay unconscious. The remainder of the fearsome brutes shrieked in terror and confusion, still racing through the dimly lit tunnel as if to escape a pursuing, avenging monster. They came abruptly to a jumble of rocks where the ceiling of the tunnel had fallen. The passage was blocked. Back again they raced to the spot where their companions lay dead and buried with two machine men.

"Are you safe, 12W-62 and 19K-59?" the professor asked.

"Our heads are undamaged, which is the all important factor," came the mental reply from out of the fallen rock debris, "but we cannot move beneath this weight upon us."

The Gropojyds hysterically climbed over the fallen rock, bending low to squeeze through. The machine men followed of their own volition. Not more than a hundred feet beyond their buried companions they found another barrier of fallen rock.

"Buried alive! Buried alive!" the Gropojyds gibbered in fear. "Is there no way out?"

"Try the two side tunnels we passed," urged one, hopefully.

Back they raced to the nearer of the two side tunnels, eagerly yet fearfully. Several crippled and haggard Gropojyds and two Plikits met them before they had more than stepped into one of the side passages. That way, they were told, was likewise blocked. Together, they all raced into the last side passage, the machine men left behind in the terrific speed with which the Gropojyds strove to learn their fate quickly. The Plikits remained with the six Zoromes. A sobbing howl of anguish apprised them that again the Gropojyds had met with failure. They were doomed to a living burial and knew it. Cave-ins of tunnels, though rare, had happened before.

"Hurry this way!" urged the Plikits. "They will take out their rage on us! We know them only too well!"

"Where are you going?" the professor inquired.

"To a place down this other side passage which is much too narrow for them to pass through!"

The Plikits were rapidly out of sight, the machine men following as swiftly as they could. The chagrin of the Gropojyds behind them was succeeded by their surprise and anger at missing all of their captives. There followed a mad yell of discovery as the clatter of their metal feet was heard by the Gropojyds. The Plikits had gone on ahead and were nowhere in sight. They reached a pile of fallen rock and were just about to climb over when they heard the pursuing Gropojyds coming close.

"Seize rocks and give them a barragel" Professor Jameson flashed.

A smashing shower of stone met the Gropojyds full in the face as they raced down upon the machine men. 41C-98 was seized and had two tentacles yanked from his metal body by the tremendous strength of the Gropojyds, but a vigorous kick freed him and left the monster who held him rolling in pain. Held by a leg, the professor sadly missed his heat ray, flailing madly at the hulking brute with a jagged rock curled in the tip of each tentacle. The Gropojyd was fairly deluged in his own blood before he let go.

The six machine men raced on again, and turning a broad curve in the tunnel saw the two Plikits before them, peeping back over a pile of fallen rock which reached nearly to the roof of the tunnel. There was just about room enough for the machine men to scramble through and clatter down into the broader proportions of the tunnel on the other side. 41C-98, hampered with the loss of two tentacles, had not clambered up the pile of fallen rock as fast as his companions, and he was last to crawl through the opening. As he did so, the Gropojyds raced up in a mad whirl and grabbed him by his four metal legs to pull him back. On the other side, two machine men seized him by his remaining tentacles and head. Then the rest of the machine men laid hold. As more of the Gropojyds joined and reinforced the efforts of those who had first seized the escaping machine man's legs, it appeared as if the defenders were going to lose the tug of war.

VII

ENTOMBED

"Unfasten his head!" urged the professor.

With nimble tentacles, 119M-5 quickly accomplished this while the rest hung on grimly. With the coned head of 41C-98, 119M-5 slid down the pile of rock. The others released the metal body, sending the straining Gropojyds

rolling over upon one another in a heap at the foot of the rock fall. The machine men took stock of their situation.

"How much farther does this tunnel go?" the Plikits were asked.

"Alas! It is blocked up entirely but a short distance ahead!"

"Look," cried one of them, trembling. "The Gropojyds are going to try and dig through to reach us!"

Professor Jameson seized a rock and aimed it well, hurling it into the ugly face of a Gropojyd busily tearing away at the small passage near the ceiling.

"They will eat us and tear you apart!" one of the Plikits conjured up the horrible, mental picture. "They will even eat their own dead after they have been confined in this place!" He pointed to the half buried body of a Gropojyd caught beneath the rock fall. "We know them well!"

The machine men retreated back to the blocked end of the passage. A fall of rock had sealed further egress completely. They stepped across a crevice opened up in the floor of the tunnel by the terrific shock of the falling pinnacle. The professor stared down into its darkened maw, observing that it was not sufficiently broad to admit the passage of their cubed bodies.

"19K-59 and 12W-62 are fortunate to be buried," observed 119M-5. "The Gropojyds cannot reach them."

They hurried back to the cave-in where the Gropojyds were busily engaged in tearing away the jumble of fallen rock to admit their getting to the machine men and Plikits. The hole was larger. With concerted effort, the machine men seized upon chunks of rock and sent a volley of missiles at the Gropojyds who this time ducked nimbly down out of sight and continued their rapid digging, undermining the lower rim of the hole they had enlarged.

"If they get in here," said 4F-686, "there is no telling the amount of damage they may be able to do to us. Their strength is tremendous, and they might even smash our heads open."

"I have a plan," said the professor. "We must get to where they cannot reach us."

"But there is no such place," deplored 28A-155, "except

where we are now, and our security here promises to be of short duration."

"There is the crevice in the floor of the tunnel," Professor Jameson suggested.

"Much too narrow," said 119M-5. "We could never squeeze into it far enough to be out of reach of the Gropojyds. The Plikits might do it, but not us."

"Our bodies, no," the professor agreed. "But our heads, yes. Our metal heads will go far too deep into the narrower confines of the crevice for the Gropojyds to reach."

"A very good idea," enthused the head of 41C-98, which was being carried by 28A-155. "Drop me down into that crevice, and I can soon tell you."

Back they went to the crevice, standing across it and on each side. With their body lights, they inspected its interior, finding it narrowed and joined less than fifty feet below the tunnel floor. The metal, coned head of 41C-98, released, fell and rolled far down into the crevice where it lodged.

"This is all very well, but how do we get out?" demanded the head.

"Those in the spaceship will search us out."

"One of us will be left up here on the tunnel floor," said 8L-404, "one of us who shall have unfastened and dropped the head of his last companion into this crevice but will be unable to do so for himself."

"I shall be that last machine man," said the professor.

"But what of the Gropojyds?"

"Do not fear, but hurry with unfastening the heads and dropping them. The Gropojyds will soon be in here. As for myself, I have further plans."

The already frightened Plikits stood by and watched in surprise and awe the machine men busily removing the heads of their companions and dropping them into the crevice. Professor Jameson was last, and he quickly carried the headless cubes with their appendages to the far end of the tunnel and threw them against the rock fall. Then he hurried back to where the Gropojyds were industriously digging a larger passage through the mass of fallen rock. He saw it would not be long before they were through. Already, one of them wriggled desperately to push his

large bulk through, grimacing horribly at the machine men and the two Plikits. The professor noticed with satisfaction, however, that having encountered deeper digging the operations of removing the fallen rock had become more laborious and was slowing them up. Returning to the end of the passage with the two Plikits, he instructed them.

"Bury me with the fallen rock at the edge of this slide, not so much but what I can wriggle free of my own volition, yet sufficiently covered as to be effectually concealed from the Gropojyds."

In this instance, the professor, knowing the Plikits had time enough to cover over one machine man, was voluntarily following the example of 19K-59 and 12W-62, who had been caught and buried under the fall of rock. The Plikits followed the instructions of the machine man, and with their usual speed soon had him covered to his satisfaction.

"Now," he told them, "go and crawl down into the crevice as far as you can and let us hope you are beyond reach of the Gropojyds when they come."

It was not long afterwards that the great beasts tore their way into the blocked end of the tunnel and searched for the victims of their wrath and madness. They found the metal bodies of the machine men, and the professor heard a great rattling and clatter as the stupid beasts seized them. In fact, he felt their heavy tread on the litter of rock debris which concealed him. Penetrating their dull minds, the professor searched for their opinions regarding the missing heads, but the Gropojyds seemed only puzzled and regarded the absence of the heads with no particular significance. The professor heard them vent their spite on the metal bodies, several times hearing them smashed and clattered against tunnel walls, wondering how much damage was being done to them.

A horrible scream rose suddenly above the sounds of the Gropojyds and was quickly stifled. It was one of the Plikits.

"What has happened?" the professor radiated to his companions.

"One of the Plikits above us has been pulled from the crevice," replied 4F-686. "He was caught by an obstruction and could get neither way. They are now trying to seize

the other one, but he is beyond reach of their long arms."

The professor heard further eye witness accounts from the heads of his metal comrades until he heard several howling gasps and then silence.

"The Gropojyds have killed the other Plikit by hurling down rocks upon him," 119M-5 reported. "They have given up trying to reach him."

"Have they noticed you?" the professor asked.

"No. We are too far down, and it is so dark around us that if they were able to distinguish anything at all they would take us for rocks."

With the two Plikits dead and one of them eaten by the Gropojyds, the machine men commenced their long vigil until their companions from the spaceship should find them. The professor knew the Gropojyds could not very long survive in the tunnel without food, and he lay buried, waiting patiently. Meanwhile, the Gropojyds ranged the tunnel sections which were joined together. Sometimes, the professor did not hear them and knew they were in another of the tunnels. Again, they came into the dead end of the side passage where the machine men were hidden. From a perusal of their thoughts, the machine men knew their food supply was gone. The Plikit had been eaten at once, and all of the dead Gropojyds which were not buried too deeply beneath the fallen rock had been used to keep the vitality and the physical well-being of their surviving comrades replenished.

The machine men lost track of time, having no way to reckon it other than by the movements of the Gropojyds. The huge beasts fell to quarreling after their food supply became exhausted, the victor in the squabble always falling upon the vanquished with great appetite and gusto, ably assisted by his companions who had acted as disinterested spectators to the combat, disinterested in choice other than that the winner prove his superiority decisively by making a kill. Several times, the Gropojyds tried desperately to reach the dead Plikit tormenting them with their knowledge of his presence. They occasionally made further wreckage of the mechanical bodies and appendages of the Zoromes until the professor, hearing them, despaired of ever being able

to salvage as much as a single metal leg or tentacle from what was left.

The Gropojyds grew fewer, dwindling to three, these three becoming weaker and more desperate. They came to hate and distrust one another, keeping apart and ever watchful and suspicious. Finally, one of them fell, too weak to defend himself, and was promptly attacked by another who had been waiting for just such an opportunity. No sooner was his victory won, however, than the remaining Gropojyd, finding him weak and haggard from battle, seized the advantage and instantly attacked, turning down the frightened advances of the other to share his victim. For a long time, this single Gropojyd roamed the tunnels, and then finally he was heard no more.

Then, like an apparition, from out of the jumble of rocks at the foot of the sloping cave-in at the end of the side passage, rose Professor Jameson, shaking the dust from his tentacles and pushing aside the rocks from around his metal legs. Grim reminders of death, destruction and desolation lay around him. Smashed and dented metal cubes lay scattered among the large, white bones of the Gropojyds, many of these bones broken and gnawed. A second glance showed twisted metal legs, broken pieces of tentacles and the small, yellow bones of the Plikit who had been dragged forth from the crevice, killed and sacrificed to the savage appetites of his late captors.

The professor walked to the crevice and shone his body lights down inside. He found the situation as his companions had faithfully related it. Their heads were all safe, just as he had left them before the two Plikits had buried him. He conversed for a few moments with his companions of the coned heads and then set out to explore the rest of the side passage, the main tunnel and the other side passages. He found more bones of the Gropojyds and scattered bits of metal from the bodies and appendages of the machine men. He visited the rock fall under which 12W-62 and 19K-59 lay buried, finding them undamaged and wondering what had happened, being too far away to receive the mental radiations of their companions and gaining but an imperfect picture of the situation from the minds of the Gropojyds.

At one end of the main tunnel, Professor Jameson found the last Gropojyd who was still alive but scarcely able to move. He snarled horribly at the machine man who watched him a moment and then disregarded him, returning to his companions in the crevice and leaving the Gropojyd to die by himself.

"It seems long since the spaceship returned," said 41C-98. "Do you suppose any catastrophe has befallen them?"

"They may not know exactly where we are," said the professor, "but they are certain eventually to find us with the thought detectors."

And Professor Jameson proved to be right, for not long afterward a steady digging noise was heard from the direction of the main tunnel, and the professor later saw the Zoromes from the spaceship break through with mechanical excavators. Before they had broken through the rock fall, he had conversed with them, telling them all which had happened, and they told him how from the top of the rim they had located the buried machine men with the thought detectors which picked up and amplified their thoughts. He learned how the Gropojyds had been conquered, and that all the Plikits who had recently been taken captives were returned to their city of the low lands in the spaceship. Those who had been in the mountains too long to return with safety to the greater barometric pressure of the low lands were planning a mountain community of their own.

When 6W-438 and his forces broke through into the tunnel, they contrived a hook and line arrangement which brought the heads of the five machine men from the crevice safely, and then they dug out 19K-59 and 12W-62 from under the rock fall. Free of the tunnel, they looked upon a strange sight. Across the bowl lay the fallen peak, smashed and crumbled into several large pieces, one of which lay balanced across the opposite rim like a mighty see-saw. Several of the machine men were left temporarily behind in the community of the Gropojyds as the rest boarded the spaceship and headed for the city of the low lands.

"And now," said 744U-21, "our one remaining problem is

to leave this world with the assurance that the Plikits will be fully protected against any further raids from the Gropojyds in the future."

"I solved that problem while I was a captive," Professor Jameson told his metal companions. "I found the secret, first of all, why the Gropojyds descend to the low lands only at the warm seasons. It is because they eat a certain plant which grows only during the warmer weather. It is a carefully cultivated plant which they call iriji. It has a peculiar property of causing compression in their blood, and to offset this inner compression they have to seek lower levels of greater barometric pressure to keep from bursting open. Naturally, being very ignorant, they have never learned the true cause of their pilgrimages down the mountain, and look upon these internal promptings with superstition. If the iriji is destroyed, it will be impossible for the Gropojyds to descend to the low lands. This should not be difficult, for a natural menace, or blight, threatens the iriji crop each season and needs but slight nourishment and encouragement to wipe out the plant for all time. I found it very easy with the few facilities at my command to further the blight and spoil the season's crops of iriji."

"It seemed a long time we waited in that crevice," mused 4F-686, as the spaceship sped toward the low lands. "It does not seem that so little time passed, as you say it did, between your arrival in the spaceship and the time you dug through the rock fall to reach us."

"It did seem a long time to us down there," the professor said, "and the only explanation I can conceive for it is this—that we had no means by which we were able to estimate the passing of time, and in our inactive condition we unconsciously let our minds follow in the rapid tempo of the Gropojyds whose minds we constantly probed. Mentally, we were living as fast as they do, and to them the burial in the tunnel must have seemed a long time."

THE METAL MOON

THE STRANGE MOONLET

I

AMONG THE MOONLETS

The orange sun cast a dazzling glitter upon the spaceship of the Zoromes as it approached the ringed planet. Like a massive bracelet of awesome, majestic proportions, the conglomeration of tiny moonlets circled the slowly turning world.

The machine men were heading straight for the ring. From afar, the nearer side of the ring appeared solid. As they came nearer, it seemed comprised of tiny dust motes reflecting the sun's rays in various degrees of brilliance. As they raced closer, the motes grew in perspective to the proportions of pebbles and oddly shaped boulders. Like a giant ribbon, the ring lay arched across the entire sky before them, a vision of solemn beauty and celestial grandeur.

"There was a world of my own system which had rings," Professor Jameson observed.

"I recall it," 744U-21 replied. "We stopped and examined it in passing. It was later that we visited the Earth and found your rocket satellite."

"Much has befallen you since then, 21MM392," 6W-438 said, "for that was long ago."

The spaceship decelerated rapidly as the ring towered before them like a massive wall. To avoid collisions, they threaded their way cautiously among the moonlets. Many of the small bodies loomed like miniature mountains, while others ranged in size down to tiny pieces which, for the

most part, clung to their larger companions through a slight attraction of gravity. As the spaceship plumbed deeper into the slowly revolving mass, the sunlight became less brilliant, and occasional periods of darkness reigned. Lights were directed from the ship which threaded its way slowly. The darkness grew complete, although now and then a rare stab of sunlight sped like an arrow into the ring, momentarily illuminating a group of moonlets where the ever-shifting and restless sea of cosmic bodies chanced to leave an opening. In spite of their caution, the spaceship occasionally bumped one of the moonlets.

"It seems strange and unreal that these millions of pieces were once a single satellite," said 6W-438.

"This moon you speak of kept revolving closer to its parent body, until the attraction of the planet grew so great that it broke its smaller companion up into these many small pieces," the professor added. "There was a man named Roche—before my time—who drew attention to this universal law."

"What strange shapes many of these chunks possess."

"It comes from occasionally bumping one another. Most of them, you will notice, conform to a roughly spherical contour. Some of them are oblate. You will notice a marked absence of corners on any of them."

They continued onward through the myriads of moonlets, slowly picking their way and keeping to a slanting course which would carry them edgewise through the ring. Many of the Zoromes gathered scientific data with intricate detectors and other apparatus. Foremost was their analysis of the various minerals to be found in the ring.

"There is a strange metal which is yet far off but plainly registers on our detectors," 454ZQ2 reported.

"Which direction?" 744U-21 asked.

"The ship is now approaching it."

Keeping a close watch upon the detectors, they slowly felt their way along the invisible path of growing emanations.

"We are very close now. It should be here somewhere ahead of us."

"What a queer looking moonlet that one is," 119M-5

remarked, raising a tentacle to designate a bulking object ahead of them.

The machine men instantly recognized a marked difference. The contour of the moonlet departed from the usual rough, spherical appearance. The side toward them was actually flat and smooth, and at least two perfect corners were visible. The coloring of the moonlet also varied from that of its neighbors. As they came closer, 454ZQ2 verified it as the source of the metallic emanations they had picked up, 6W-438 venturing that the moonlet was a huge piece of ore.

"More than that, 6W-438," said the professor as they drifted closer. "It not only appears to be pure metal but designed by an intelligence. See how smooth and regular those two sides are."

They circled the object. Upon the moonlet's antipode an even more surprising discovery was made. A long, square arm projected from the rising bulk of the metal moonlet which they now recognized as almost a perfect cube.

"What can it be?"

The question arose almost in concert from the metal ranks of the machine men. Few ventured to answer it, however. The spaceship maneuvered carefully around the edge of the long projection, gently pushing aside a moonlet whose momentum sent it careening and bumping its nearest companions. The projection ended in a square, flat side upon which were handles and knobs.

"An entrance way!" 6W-438 said excitedly. "It is a way into the—"

Here the machine man paused, finding no mental equivalent for the unknown confronting them.

"We must try to get inside it," said the professor.

A party of five machine men, including the professor, 744U-21, 6W-438, 12W-62 and 284D-167, prepared to attempt an entrance. Temperature equalizers were hastily put over their coned, metal heads, and they were ready to emerge into space. Carrying heat rays and other emergency apparatus, they were let out into space, floating gracefully in the direction of the studded entrance to which they clung. To the surprise of them all, the door, or trap, turned back easily once they all laid hold of the trips and turned them.

In fact, it seemed almost as if the door had been thrust outward purposely from inside. 12W-62 was ready to enter at once, but the professor deterred him while he shone his body lights into the square, darkened passage. He examined it carefully.

There was another door similar to the first one, situated halfway up the corridor. They walked down the metal passage and found that the door operated on the same principle as the first. Again, they had no difficulty in opening it. Far ahead, and presumably somewhat inside the great metal cube, was set a third door. They were on their way to this when the second door clanged shut behind them. They advanced no further, sensing a possible trap. 6W-438 went back to examine the second door. He found that it opened easily and saw the mechanical device which had shut it behind them. He allowed it to close again. Satisfied, they proceeded to open the third door.

A dark chamber lay beyond. They sensed something tangible, something which moved gently past into the corridor behind them.

"A gas—or an atmosphere!" 744U-21 exclaimed. "That is why there were three doors."

"There seems to be little pressure behind it."

In the glow thrown by their body lights, they saw intricate scientific apparatus, some of it fastened, the rest of it floating free. Much of it was unquestionably wrecked. What caught the initial interest of the machine men, however, was the dome which loomed from the floor of the chamber. It was situated in the center and rose more than halfway to the ceiling. The dome was transparent, and from where they stood the machine men could see dim, misshapen things within it.

They advanced to the dome and shone lights through it. Four weird creatures lay on pallets, apparently lifeless. A strange, glistening crystal-like ice completely covered them, casting back the light into the mechanical eyes of the Zoromes. They saw that the transparent solid covered everything inside the dome and lay many inches thick on the floor of the chamber. In the absence of gravity, this latter fact puzzled the professor.

The four creatures possessed long, angular bodies which were covered with a short fur. Their lower limbs were two in number, while upon their sides the machine men counted four sets of arms, the lowest set the shortest, the others gradually increasing in size and length. Sharp, pointed noses projected grotesquely from otherwise flat faces. Other details were vague.

"There is a way in there," 12W-62 told them, pointing to a transparent door.

"How do you suppose they met their end?"

"They died peacefully, at least," said 744U-21.

It was 284D-167 who opened the transparent door and ventured inside. The others followed. The door, though fitting hermetically, did not close automatically behind them as the last two had done. 744U-21 followed. The others watched from outside.

"What is it?" the professor asked, after 744U-21 had touched the crystal.

"A frozen atmosphere, I would say. We cannot determine its components, however, without a more detailed examination."

"This must have been a spaceship after all," said 12W-62, "and when some accident befell it they died while they slept."

"It does not seem that they would all have been sleeping," the professor suggested. "And how did this ship get in among the moonlets?"

"There is no telling how long it may have drifted. Those four in there may be even older than your own brain, 21MM392."

"Do you think that we can recall them to life?"

"It may be possible."

"The gas which drifted past us when we opened the third door cannot have been the same as that which we see solidified," 6W-438 observed.

"I know. There is much which we must learn about this great cube. If this is a spaceship, it is the strangest one which we have ever found in our travels."

The five machine men eagerly examined the mechanical equipment. Puzzled, they could find no propellant mechan-

ism, although means of creating a synthetic atmosphere supply was discovered and readily understood. The more detailed their examination became, the more certain they were that the great metal cube with its long-necked entrance was not a spaceship. 744U-21 suggested that it might have been an interplanetary station maintained by creatures of this system for observation or other purposes. It had eventually drifted among the moonlets or else it had been stationed there.

One thing still troubled them. The floor was not equipped with any means of synthetic gravity.

"One of these machines now in disuse may have supplied it," 744U-21 offered.

"Look!" cried 6W-438 suddenly, waving his metal tentacles in wild excitement toward the dome. "Something is happening to the solidified atmosphere!"

In surprise, they saw the crystal substance slowly in motion, moving within itself, slowly expanding, its state changing.

"It is changing to liquid form!"

Fascinated, they watched. They saw the dripping liquid slowly disappearing, evaporating into gas.

"The temperature here is rising!" said 6W-438.

"We must have set a heating unit to working," said the professor. "At this rate, the atmosphere will soon return to its normal condition."

The change of the crystal to liquid and then to gas became more rapid. Soon, it had entirely disappeared. The four silent figures were now free of the encumbering crystal and became subject to the gentle examination and probing of the machine men.

Professor Jameson and 744U-21 looked at each other in quick surprise as they reached the same conclusion.

"These creatures are not dead as we know death!"

"Their life forces are in suspension, then. Their life is of that character which we occasionally meet with in our travels. For one thing, they are not warm-blooded."

"Call 141L-14. He is familiar with these conditions."

II

RESURRECTION

From time to time, the machine men had radiated their discoveries to those within the spaceship. Now, they called to 141L-14. With seven more of the machine men, 141L-14 entered the cube by way of the long corridor with its airlocks.

"No, they are not really dead," he said. "Their life forces have been suspended, much as we have known creatures frozen in ice to return to life when thawed out."

"Will they live again?"

"21MM392 was once dead, and his brain was made to live again," said 744U-21, "so why should we not be able to exert our art on these creatures of indefinite life suspension and return their entire bodies to normal functioning?"

"They have air, now, such as they knew, and they have heat," said 141L-14, "but there is no way of knowing how long they have remained like this. They may never return to life unaided, or it may be some time. Before attempting any aid, we should first be patient and watch to see what happens."

The suggestions of 141L-14 were acted upon, the machine men maintaining a tireless vigil. Finally, 141L-14 attempted revival by means of stimulants, mechanical stimulation of the respiratory movement and other physical processes, besides introducing nourishment intravenously and intra-muscularly. Reactions of the creatures were favorable, proving 141L-14's contention that they needed but little help.

The first signs of the reawakening were scattered, miasmic impressions on the machine men's brains, strange memories hopelessly muddled with fantastic imaginings. The machine men derived no practical information from these mental vagaries and watched for a more clarified understanding.

The creatures' minds wandered less, their mental processes

throwing off the fog of chaos. One of the creatures opened its eyes and stared blankly a moment before bringing objects into focus. Puzzlement as to his whereabouts assailed the creature first of all. A low mutter of gibberish accompanied the thought, rising to a sharp inflection. This, the machine men were unable to interpret, yet they knew the thought which prompted the words.

The creature saw them, yet he did not seem to be able to consider them coherently. He thought them figments of his imagination, realizing rather vaguely that he had slept for a long time. He seemed to realize the presence of someone by him, however, for his thoughts suggested as much.

"So you have come back for us. What is the verdict? Has the pestilence been conquered? Or has it passed and taken civilization with it?"

"We do not know," Professor Jameson radiated into the creature's mind. "Perhaps you can tell us more about it."

"Tell you more?" chattered the creature in voluble surprise and indignation. "It is for you to tell! We know nothing that has happened since we were left here on Yriid! Where are your tongues? Why do you not say something? But you did say something! I know what you said, yet I cannot recall hearing it! How strange!"

At this point, the creature raised a paw and rubbed his face, especially around his eyes, which were so deep-set as to give him a rather somber appearance. Then he stared silently at them, suddenly realizing that what he saw was no figment of his imagination but was really true.

His mind suggested madness. He looked around at his companions. Two of them were revived and were looking at the machine men in surprise. He who had come to his senses first was becoming oriented. His next remark suggested as much.

"Robots. We must have lain here many years. What kind of a world is it now? They send robots to bring us back to our own world. Are we no longer among the greatest brains of our planet, to be treated so lightly by metal proxy? And why have they not come for us before?"

He turned and spoke to his companions. A brief conversation followed. The last one was emerging from his

coma. Then he turned once more to the machine men of Zor.

"Take us home," he said. "How long have we remained inert and asleep here?"

"Perhaps for ages," 744U-21 replied. "Who knows? As for our being robots belonging to your people, you are mistaken. We shall be glad to transport you to your world when we know where it is."

Bewilderment akin to terror swept the minds of the creatures. "Who are you? Where are you from?"

"We are not robots, though we are nearly so," 744U-21 explained to them. "An organic brain directs each of our metal bodies. We are from a world far distant from your planetary system."

They stared in speechless amazement. "Then the pestilence must have conquered! Our world may be a dead world!"

"We do not know, for we have not visited any worlds in this system as yet. Our first interest was the ring of moonlets, and then we discovered your space terminal, or whatever it is."

"Moonlets? Space terminal? What do you mean? This sounds like madness!"

"Perhaps if you tell us how you came here we can help you understand things better," Professor Jameson offered. "You spoke of a pestilence and suggested that you four who were greatly advanced in education on your world were to be isolated from it until it passed. Then, someone was to return here and get you. Was that not so?"

"Why, yes—of course! We were buried on Yriid in a sealed chamber."

Flashes of understanding radiated among the Zoromes. The story was commencing to reveal itself to their practical minds.

"What is Yriid?" the professor asked. "A world other than your own?"

"We are scientists from Dwom. Yriid is the satellite of Dwom."

"How far is this moon from Dwom?" the machine man

inquired. "Give us the general characteristics of your home world."

The scientist of Dwom answered the questions promptly, adding a query of his own. "Why do you not ask me about this moon?"

"Because this is no moon any longer. Your chamber is floating in space in the dark depths of millions of moonlets encircling Dwom at less than three-quarters of the distance you stated the orbit of Yriid to be. Your description of Dwom quite accurately describes the world this world encircles."

"It—it cannot be!" one of them exclaimed. "It would mean more than a hundred thousand years since we were left here!"

"See, Reyadip!" one of the first speaker's companions addressed him. "It is as I said would happen! Yriid broke up!"

"One hundred thousand years!" breathed Reyadip. "It is wonderful we are still alive!"

"Many things could have happened to our civilization," said another of the creatures. "We may find a super-race on our world."

Reyadip shook his head. "A super-race would have found us. The pestilence must have wiped out our species. That is why no one returned for us."

"Let us go with these metal beings who have found us," said one. "They will take us back to our world."

Reyadip arose experimentally from his pallet and placed his feet on the floor. Weakness and lack of gravity caused him to lose his balance. 6W-438 leaped forward and caught him. The four scientists of Dwom were told how they had been revived after the frozen air had returned to a gaseous state, and they were warned to be careful until their condition was improved.

The machine men decided to tow the sealed chamber to Dwom. There was no air inside the spaceship suited to these creatures, for what air remained was from the last world the machine men had visited and was unbreathable. With the freeing of the air in the chamber from a solid state, the right pressure had again been reached, or nearly so.

Reyadip thought it rarefied, and so the machine men in the chamber did not leave to go aboard the spaceship, for use of the airlocks freed a portion of the atmosphere each time.

"How damaged all our apparatus is," Reyadip said, looking about the inside of the chamber. "The atmosphere plant is wrecked."

"We shall be on your world very soon," the professor assured him. "There is little chance of this air becoming too stale to breathe before then."

While the spaceship slowly guided the metal chamber out of the moonlets, much was learned from the four scientists. They were skilled in all fields of science and education, and when the pestilence had come and had promised to be of appalling proportions, the four of them had banded together in this scheme of lying dormant until it was past. Various governmental agencies had cooperated with them, wishing to spare their useful lives if it were possible. Besides Reyadip, there were Gnarst, Ebynth and Torfg.

The Agrids, as they were called, had listened in awe to the subdued bumping sounds they had heard as the spaceship drew their sealed chamber out of the ring of moonlets. They were subsequently surprised to find the trip to Dwom over so quickly, for most of the time had been spent in threading cautiously among the little moons which had once been the great satellite of Yriid.

Their first intimation of an approach to Dwom was a growing sensation of gravity. The professor issued a mental warning to 20R-654 aboard the spaceship against any twisting and turning, since the metal chamber possessed no artificial gravity.

Dwom's attraction grew stronger, and they were told that a landing would soon be effected. They were warned of a shift in gravity, and they seized hold of stationary objects before it came. The chamber was lowered to the ground. It touched with a shaking bump and rolled over on one side, then lay still.

"Now you can find out what changes your world has

undergone," said the professor. "Let a few of us precede you to see that all is well."

Machine men and Agrids made their way out of the long entrance past the airlocks. The first thing the Agrids noticed was the great ring around their planet. Exclamations flew thick and fast.

"How beautiful it is!"

"And it was once our moon!"

"You have been revolving in that ring about Dwom for a long time," said 744U-21. "There is no telling how long ago Yriid broke up."

"The sun has lost some of its heat," Reyadip observed.

"Yes, it is probable," Professor Jameson agreed, "even though you may be a bit closer to the sun than formerly."

"The vegetation has changed," said Torfg, bringing their attention to things nearer at hand. "The sward is not like that we knew, and the bushes are different—and the trees—what strange bark and leaves!"

"Where are we?" queried Reyadip, turning to the machine men. "On what part of the planet did we land?"

"Sixteen degrees north of the equator," 28A-155 replied, using the Agrids' own terminology. "We are near the eastern shore of a continent some four thousand miles across and six thousand miles long."

"Paxt," muttered Torfg. "We must be somewhere near the city of Afg."

"Let us go into the ship," the professor suggested. "Then we can course around the world, and you can see what changes time has wrought. You may be able to come to some approximation of the time which has passed since your companions isolated you from the pestilence."

The Agrids regarded the spaceship of the Zoromes in wonder and admiration. Once inside, they marveled at the scientific apparatus which they vowed surpassed that of their own period.

"We were less than a century beyond the inception of space flying. We traveled occasionally to Yriid, and a few times expeditions returned safely from our two nearest sister worlds. Mrm, the inner world, we planned to colonize."

"We plan to explore the other worlds of this sytem,"

said 744U-21, "but right now we are most interested in this world of yours."

The spaceship cruised slowly about Dwom, first high and then low. The Agrids chattered excitedly among themselves as they gazed down at the changes which time had made in the outlines of the continents. When they found their bearings, the ship was dropped sufficiently low for them to search with the telescopes. The great cities were gone.

It was 41C-98 who first saw signs of civilization. The machine man saw a small village of queer houses. Speeding along and coming nearer the ground, they picked out several more of the villages.

The Agrids became very eager to land and meet the inhabitants. Gnarst sounded a warning. "This world may be peopled by a different race, sprung up since our entombment."

"Or perhaps they are creatures from another world."

"The last seems unlikely, for their habitations do not suggest an intelligence capable of spacetravel," said 6W-438.

The spaceship came to rest not far from one of the villages. They saw no one. From on high, indistinct signs of life and movement had been perceived. The Agrids and nearly a score of the machine men left the ship and walked toward the village.

The houses were crude and suggested a barbaric civilization. Warning the Agrids that they might be attacked, the machine men surrounded them protectingly as they penetrated the queer, winding avenues of the village. Several of the machine men reported fleeting glimpses of watching eyes from the cover of houses. Presently a subdued whispering arose and surrounded them, spreading through the village like a soft, sighing breeze; then quickly it subsided.

Professor Jameson was about to issue a mental overture of friendship to the hidden inhabitants, when 6W-438 called the attention of all. "Look! Coming down that avenue over there!"

All eyes were focused in the direction the machine man indicated. What they saw were strange counterparts of the

four Agrids. Fully a dozen of the things advanced slowly, armed with long clubs. Each one also held a rough piece of stone fastened by a long cord to the club. They were dressed in strange harnesses, part metal and part leather. Iron loops, welded to their breast plates, circled their heads.

"There are your descendants!" 744U-21 told the wide-eyed Agrids. "It would seem that they are no super-race; rather, it would seem that your species has degenerated."

"There are more of them coming from the opposite direction," said 119M-5.

As the machine men and Agrids looked around, they saw the villagers advancing grimly and purposefully from all directions. As the creatures came nearer, marked differences between them and the Agrids became noticeable. Their fur was lighter in color, and they seemed shorter. Their eyes were not so deep-set as those of the Agrids, while their two lower sets of arms were stronger and more developed.

The machine men recognized that the inhabitants of the village were driven more by fear than by animosity. "Be not afraid of us," the professor radiated. "We do not come to harm you or do any damage to your village."

The moving ranks stopped instantly in consternation and perplexity at this voice which had spoken to them without sound. They saw strange thought pictures, too, which demonstrated the invincible qualities of the machine men against their clubs and whirling stones. The machine men were firmly clustered around the four Agrids, and for the moment the latter were not visible to their armored descendants.

A strange jabber of words totally unintelligible to the four Agrids issued from the mouths of the villagers. Reading the thoughts behind the words, the machine men interpreted queries regarding their origin, who they were and what they were doing in the village. As well as he could, the professor explained to them what they wanted to know, finally alluding to the four Agrids.

"We have brought to you four of your ancestors from the dim, dark past who have survived in a strange manner."

The machine men drew back to let the villagers see the Agrids. Instantly, an excited hubbub arose. The machine

men acted as interpreters for the Agrids. They learned but little of the history of their descendants, but they did learn that there was a slightly higher civilization in other parts of the world and that boats plied the ocean.

The Agrids became more hopeful. Meanwhile, they found themselves accepted as prophets and deities and were offered the best of everything. The machine men were accepted as mechanical minions who served the Agrids. As long as everything went smoothly, both machine men and Agrids were content to let matters stand.

The Agrids set to work learning the language of their descendants. They visited nearby villages and learned that all over Dwom religion was closely linked with government—in fact was a part of government. The Arnolascs, as these distant descendants of the Agrids called themselves, worshipped many deities, reminding Professor Jameson of the old Greeks of his own race. Their religion and customs were very strict, and any who opposed them in any way were promptly outlawed and banished from the communities. There were many such, they learned, who, having no rights or protection, banded together in difficult, inaccessible places to establish their own communities and escape persecution and assassination. The Agrids found the government heads strictly opposed to any progressive move which ran counter to their religion.

In the spaceship of the Zoromes, the Agrids journeyed all over the world, hailed as near-gods and prophets, finding themselves liberally exploited by the priesthood to uphold the faith of the people. They found the more advanced centers still far below their own standard of civilization.

They traveled, said little and learned much until it became quite evident to them wherever they went that the world was laboring under a severe superstitious restraint. Once they realized this, they commenced using the veneration and respect accorded them as a means for enlightenment and mild reform. They urged laxity toward those holding contrary beliefs and suggested pardons for those already outlawed. But they met resentment and determined opposition, mostly from the priesthood.

Many of the machine men were for exploring the rest of the planets. The professor elected to stay with the Agrids until the spaceship returned, and when he called for four volunteers to remain on Dwom, 6W-438, 119M-5, 29G-75 and 75J-02 were first to respond. The spaceship left the machine men and Agrids in one of the principal cities and headed sunward.

Not many days after the spaceship had left, reports commenced filtering into the Arnolasc city that the Agrids were no gods but devils. It was also said that they were minions of the outlawed, self-styled intellectuals, the Uans, who had fashioned the machine men to fight for overthrow of the government, after the morale of the people had been lowered by subtle suggestions from the Agrids. It was reported that the spaceship had not left the planet as so many gullible people believed, but had gone to bring back more machine men and spaceships from an area deep within a nearby continent of vast swamplands. These accusations were backed by an assertion that the Agrids had spread sickness behind them wherever they had gone. At first, such reports were taken as mere rumor; later, they aroused speculation and concern, especially when an epidemic broke out in the city where they were established.

"It would seem that there may be something to this theory of your spreading sickness," the professor told the Agrids. "Do you suppose that it is germs of the pestilence? You could easily have carried germs into your sealed chamber, these same germs later coming to life and activity when we brought you to Dwom."

The Agrids seized the first opportunity to examine some of the cases. They disproved part of the machine man's theory while establishing the rest.

"This malady has in truth been spread by us," said Reyadip, "but it is not the terrible pestilence. Such possibilities were guarded against scientifically. We took no active germs of the pestilence into our sealed chamber, but we evidently took other germs with us, as these cases prove. This disease has not the fatal effects of the pestilence which swept our world. In fact, the people of my time

rarely suffered at all from this malady, probably because our bodies had built up resistance against it. These people will soon recover."

Nevertheless, consternation gripped the Arnolascs. The terror was fanned into malice by the priesthood, who were envious of the fame and enthusiasm accorded the Agrids. At a public meeting, the Agrids tried to explain conditions and circumstances of the disease which had followed in their wake, but a rumbling roar of anger never quieted long enough for them to be heard.

Reyadip despaired. The few machine men were kept busy protecting the four Agrids from the violence of the mob, nor would they have succeeded had it not been for the Arnolascs' superstitious fear of the Agrids, which had not entirely worn off. It was well, as the professor remarked, that their quarters were in a round, stone tower on a bluff overlooking the city. Behind them, a dense forest stretched for many miles to the seashore. "If they plan violence, we are well situated to be warned in time. We must remain vigilant."

"What can we do against so many?" asked Gnarst. "They can even overwhelm five machine men like yourselves."

"Yes," the professor admitted. "But if the worst happens, we have mechanical wings left us by the spaceships. We can fly with you to a spot of refuge in the forest."

The Agrids remained disappointed and despondent. Their hopes of a super-race had been dashed completely.

One day, not long after the ineffectual address of the Agrids, three Arnolascs came to the stone tower on the bluff. They came, they said, as agents for those who had been banished and dwelt on the continent of the swamplands.

Word had reached the communities of the Uans in the depths of the great morass about the coming of the Agrids and their mechanical aides. The Uans of the volcanic city of Pteth, more learned and progressive than the Arnolascs of true belief, were interested in the four creatures who claimed that they were ancients. Word had reached them of the attempted teachings of the Agrids, and it had so pleased the outlaws to hear that the Agrids had risen to

their defense that they were offering them a welcome to their city, wishing to confer with them and learn of the past and many other things.

III

THE ATTACK ON PTETH

"We have suspected a glorious past in far-gone days, for we found many hints by digging and finding old ruins," one of the outlaws told them. "We have even found petrified bones, and I must say that you four appear somewhat like the plastic reconstructions they have inspired us to fashion from them. We have believed that we may have declined from a super-race, for from time to time are born individuals who show extreme advancement from the usual types. Generally, one of three things happens to them. If they rise to the front, assert themselves and follow the lines of truth and logic, they are banished as outlaws. If they remain quiet and discreet and do not betray any radical tendencies, submitting to the bigotry of state religion and custom, they are unmolested. If they are unscrupulous as well as ambitious and intelligent, they sometimes become government heads or religious dignitaries, receiving a part of the confiscated goods and property of those banished to outlawry."

Agrids, machine men and the three Uans from Pteth conversed together for a long time. The Uans were intensely interested in the machine men and how they had rescued the four Agrids from the ring which had once been the satellite Yriid. Professor Jameson learned that the sinking continent of the swamplands was comparatively near, lying just across the straits from the forest behind them. Pteth lay inland. Other cities and villages of the Uans lay farther from the coast, but Pteth was the nearest and one of the largest of the outlawed communities.

"You must be amazingly old," the Agrids were told. "Our scientists estimate that Yriid broke up as long as sixty thousand years ago."

The Agrids were anxious to leave for Pteth, but the

machine men urged them to wait until the spaceship returned, arguing that they were such prominent figures in the eyes of the Arnolascs that they would never be allowed unhindered passage to the land of the Uans. Reyadip regretfully recognized the wisdom of this advice. Meanwhile, two of the three Uans set out for their return to Pteth, while the other remained in the city as a spy.

The Agrids, like all organic creatures, had periods of sleep and, according to the usual routine of civilizations the universe over, did their sleeping during the planetary periods of darkness. The machine men never slept. Mental lassitude or deep introspection was their nearest approach to sleep.

It proved well for the Agrids that the machine men did not sleep, and perhaps for the machine men themselves. The attack which the professor had feared soon came, but not the way he had expected. Instead of rising against them in a howling mob, attackers came in a small party, by night and by stealth from the dense forest to the rear of the tower. Whatever their intentions may have been toward the almost invincible Zoromes, their design upon the Agrids was plainly assassination.

Somehow or other, they contrived to get inside the tower despite the protection of locks and bars. There were ten or more of the assassins, and they were inside the tower before the machine men and Agrids were aware of their presence.

The first intimation that they were there reached 75J-02, who became troubled by vague mental radiations unlike those of the Agrids. Prompt investigation was none too soon.

The marauders wielded curved daggers shaped for decapitation. Torfg had a close call as he was awakened by the clattering din of the running machine men. One of the assassins made a quick stab at him which was partly blocked by 6W-438, who instantly crushed the Arnolasc in the embrace of his metal tentacles.

Most of the others met similar fates, but a few escaped. One of them carried a bar of metal and slashed desperately at 75J-02 when attacked. There were a few nicks, dents and scratches on the machine man's body, but that was all. Examination of the dead Arnolasc revealed several individuals wearing the insignia of the priesthood.

"More trouble will come of this," said Reyadip. "None of them should have escaped."

Reyadip was right, and the trouble came with the dawn. Several officials came to the tower, and accused the four Agrids of murder. This, together with their spreading of a malign epidemic, called for the forfeit of their lives. They were to be given a hearing, and the evidence was to be weighed, but they could expect no mercy.

All the entrances to the round tower were locked and barred, and the machine men hastily donned the mechanical wings left them when 744U-21 had departed with the spaceship. Word of their arrest had evidently spread through the city, for thousands of the Arnolasc were hurrying up the bluff, and the city streets were swarming with them, eager to see what would happen when those who called themselves ancients were taken into custody.

The machine men were none too soon in fastening on the mechanical wings, for as they hurried to the roof of the tower they heard the city officials smashing their way inside the tower on the ground floor.

With the exception of 6W-438, each machine man carried an Agrid in his flight. 6W-438 stayed momentarily to fight off several Arnolasc emerging upon the roof. One he knocked over the roof's edge into the milling throng beneath, forcing the others to give way before his flailing tentacles. One of them leaped upon him as he took off to join his winging comrades. More of the Arnolasc swarmed upon the roof. Professor Jameson, carrying Reyadip, turned back to his aid, but 6W-438 won clear. The Arnolasc still clung to him, hacking frantically with a knife, finally shivering the nicked blade into several pieces which fell sparkling amid the surging populace beneath.

Missiles commenced to fly among the machine men carrying the Agrids, and they soared higher. 6W-438 dropped the Arnolasc and flew to join them, his victim catapulting to the ground. The machine men considered themselves temporarily safe, for the Arnolasc knew nothing of aircraft.

Over the forest they headed in the general direction of the sea, leaving the city far behind. For a long time, they could see the tower on the bluff, and then that too melted

into a horizon of haze and obscurity. The four Agrids, frightened at first, gradually became calmer.

Passing above a village, they were surprised by a volley of missiles. One of them struck the flying apparatus of 29G-75. 6W-438 quickly flew to his aid and took the Agrid, giving the machine man more power to recover. After several ineffectual attempts, 29G-75 managed to rise and fly even with his companions once more. Another volley flew by them, a large rock ricocheting off the metal body of the professor.

"The elastic guns," said Torfg, recalling the stone throwing machines of the Arnolascs. "They have relayed messages from the city with notes from their pipes."

"How far are we from the coast?" the professor asked.

Reyadip computed a distance of approximately fifty miles.

"Let us fly across the straits to Pteth. We shall not be safe in the forest if they are determined to follow us."

The suggestion was agreed upon, and they kept on until they saw the open sea, carefully skirting all communities they passed. Reaching the coast, they struck out toward the sea. A large seaport town lay to their left, and Reyadip drew their attention to several ships which were leaving port. He expressed the opinion that they were being pursued.

They were well out of sight of land when 29G-75 again had trouble with his damaged flying apparatus. He continually lost altitude. Suddenly he lost all control and dove into the sea. Under the circumstances, there was nothing his companions could do for him. He sank to the bottom and reported an estimated depth of a hundred and fifty feet or more.

"Remain there until the spaceship returns," said the professor.

There was no cause for alarm, the machine men assured the Agrids, for machine men had remained under water for long periods before this. They flew onward.

The coast of the sinking continent appeared as a purple line on the horizon. It was low and swampy; rank vegetation marked the coastline, growing up out of the water. Numerous bays and inlets cut into the log bogs of the interior. A stream wound and twisted away into the distance.

For many long miles there was little to look upon but vegetation and water, and then the terrain grew firmer and a little higher. There were many lakes. After this, the morass began once more. Reyadip expressed his opinion that what they had passed was in effect an island of solid ground.

They gained altitude in order to locate Pteth, but the Agrids soon complained of the cold, and so they went no higher. Leaving 119M-5 and 6W-438 with a triple burden between them, Professor Jameson flew alone on high. Far off in the interior, he spied a slight rise in the surface of the marsh. Returning to his companions, he carried Reyadip again, and they continued on their way. Soon the mound came in sight. It had been barely perceptible to the professor, but now as they came closer it broadened into vast proportions. A city lay inside high walls.

From that distance, they could see tiny figures running excitedly along the walls. Something long and glittering was turned in their direction. They learned later that it was a telescope.

Pteth lay upon a lava foundation. Most of the houses in the city were built of the same material. The larger buildings were built of stone hauled from across the straits by boat. A narrow, winding stream, the same one they had seen near the coast, passed through the swamp.

They flew above the city, circling it once and then dropping to what appeared to be a public square. They were recognized and heartily welcomed. All about them they saw marks of progress foreign to the Arnolasc cities they had visited, this in spite of the fact that these outlaws had less to work with and were surrounded by adverse conditions. The fugitives told them of the boats they had seen leaving the seaport city across the straits. The Uans did not seem alarmed. They calmly went about making preparations for a siege.

"They have tried taking Pteth before but have always been repulsed. Their greatest enemy is the swampland. They soon become sick and many of them die," said one of the Uan spokesmen.

Scouts were sent downstream. Meanwhile, the four Agrids were given medicinal preparations to protect them against the diseases of the swamps. The machine men examined

the defenses of Pteth and found that the outlawed intellectuals had mastered a rather effective explosive. It was used mostly in grenades, although there were a few cylinders similar to crude cannon which were used but rarely, because they eventually burst or backfired, killing their operators. The Uans marveled at the heat ray installed in the professor's fore tentacle.

Three days later the scouts returned and reported that a large flotilla of boats was coming up the stream in single file. They were loaded with armored soldiers from the continent across the straits. From the shelter of the bogs, the scouts had seen many large elastic guns. Each soldier was armed with cutlery of several types, and each one carried a flame thrower.

Inquiring as to the nature of the flame throwers, the professor learned that the Arnolasc were experts at throwing large, heavy capsules of oil specially prepared to burst into flames on contact with the air. The Uans had first invented this trick, but they found the grenades more effective. Nevertheless, to be struck with one of the capsules generally meant a flaming death.

"Their advantage is their huge numbers. If we can throw back their early attacks successfully, we have a good chance. Reinforcements will join us from our strongholds deeper inland. We could retreat to them, but we do not want Pteth to fall. It is very important to us. When the swamp sickness overcomes them, we shall hold the advantage."

Scouts came in two days later to report that the Arnolasc were moving up on Pteth overland, dragging and carrying their elastic guns.

"They could be waylaid with devastating effects," the professor suggested.

"But we would lose some of our numbers, too, and we cannot afford to let them find the city inadequately defended."

The Arnolasc came into sight and surrounded the city. They demanded its surrender. The Uans refused, nor did they show any signs of acquiescence when it was cautiously suggested that the Agrids and the machine men be the price of peace.

The next move of the Arnolascs was to move closer and set their elastic guns into place. Powerful strands of rubber were stretched back and cocked by scores of the creatures. A boulder was inserted, aimed and let go, the missile hurtling among the houses and citizenry with crushing effect. Although there were few casualties, considerable damage was done.

The Uans retaliated to this first offensive move with a barrage of grenades accurately thrown at a number of Arnolascs who were sneaking up with flame balls. These created fearful havoc, killing so many that few of the flame balls were thrown and these were ineffectual. Most of the Arnolasc were ignorant of the grenades and became demoralized until their leaders took them in hand. The elastic guns were quickly drawn out of range of the grenades and continued to hurl heavy stones into the city.

"Have you any mechanical means of throwing the grenades?" 6W-438 asked.

"Yes—we have elastic guns of various types, but we cannot use the grenades, for the siege may be a long one. We are using them only at close range."

The Uans were right; the siege promised to be a long one. Again and again the Arnolascs rushed the walls and were repulsed. The grenades were always effectual in repelling the enemy, but were becoming scarce. The flame balls were thrown into the city from time to time, sometimes at random but more often at the Uans on the walls during a charge. The machine men saw them strike individuals who became living funeral pyres.

Dead Arnolascs lay mangled and torn amid shattered vegetation outside the city. Creatures of the swamp slunk up out of the slime at night to feed in the fitful glow of the night torches, often dragging their victims, or fragments of them, down into the muck out of sight.

The four machine men did excellent work as sentinels. Not only were they sleepless, tireless and eternally vigilant, but they searched out any unusual mental activity of approaching forces. They had no fear of the flame bombs. Several times they were struck, and the oil flamed all over their metal bodies, yet they remained uninjured. One of

the elastic guns picked 119M-5 off the wall one day, damaging two metal tentacles, but the machine man climbed back up again undaunted. The Arnolasc's cry of enthusiasm died half-uttered.

Reinforcements of Arnolasc's constantly refilled the positions of those slain. Never before, so the Uans said, had a siege been so long or so bitterly contested as this one. Swamp sickness finally broke out among the Arnolasc's, but the cases were fewer and shorter than ever before. An antidote had evidently been discovered.

The allies the Uans had expected from the communities further inland did not come. The professor flew to the nearest village to find out the cause. A large force of Arnolasc's waited outside the walls, holding back their assault, yet ready to prevent reinforcements leaving for Pteth. The professor returned to the besieged city and reported the conditions.

"If we can only hold them off until the spaceship returns, there will be no question as to the outcome," said 6W-438.

A few reinforcements did come from the farther communities not patrolled by Arnolasc's. They gained access to Pteth by night under escort of the machine men. The latter shot down many of the Arnolasc's with their ray guns which were effectual only at close range. The professor often wondered about 29G-75 at the bottom of the straits but knew that he must be safe and trying to be patient.

The supply of grenades grew so low that they were used only in the most desperate crises. Hand-to-hand combats became common. In these, the machine men worked terrible havoc, flying above the heads of the Arnolasc's and wielding their ray guns with devastating effect, or fighting on the ground where they were not prominent targets for the elastic guns.

One of the enemy gunners disabled the mechanism of 119M-5, and they nearly carried the machine man off a prisoner. The other Zoromes and Uans fought hard and rescued him, robbing the Arnolasc's of a great moral victory.

More bitter fighting followed. It was feared that the city would fall, so one night the machine men under cover of

darkness carried the Agrids to Ropth, another city of the Uans farther inland.

The next day, reinforcements came to strengthen the Arnolascs. Knowing the state of affairs in Pteth, they made a desperate, wholesale charge upon the city, coming over the walls in an overwhelming rush which could not be repelled.

Outnumbered twenty to one, the Uans were subdued along with the machine men. Both 119M-5 and 6W-438 were disabled in the fighting, and 75J-02 and the professor were soon captured in spite of the terrific cost of life to the Arnolascs. They never had a chance to put on their mechanical wings, the charge had come so unexpectedly.

Although the Arnolascs searched everywhere, the Agrids were not to be found, and even when threatened with torture the Uans refused to tell where they were. Realizing the futility of further secrecy, Professor Jameson spared his organic friends by telling the Arnolascs that the four Agrids were safe in another city of the Uans. He warned them, too, of what would happen to them when the spaceship returned, especially if any machine man were harmed.

The Arnolascs, flushed with victory, ignorantly confident of their might and divine right, expressed their contempt and curiosity both at once by dismantling the machine men. The tentacles and legs were taken off; then they discovered how to unfasten the heads from the bodies. The heads lay helpless and saw from many eyes the patient and finally successful efforts of the Arnolascs to get the cubes apart and make junk of the inner mechanisms.

They feared what would happen when the conquerors should start on the heads. More than ever, the machine men hoped for the coming of the spaceship.

That night, the four heads were thrilled and startled by a clear, mental call from outside the walls of Pteth. At first, they thought that it might be the return of the spaceship, but they were even more astonished when they learned that it was 29G-75 whom they had left at the bottom of the straits. His story was quickly told in reply to their concerted query.

"One of the Arnolascs' ships lowered anchor near me. I

held to the anchor and was pulled up with it. I clung to the ship beneath the water level and was brought into port. I came upstream holding to the bottom of one of their small boats. From the minds of Arnolascs, I have learned of all that has happened."

"And you are uninjured?"

"All except my mechanical wings, and you knew about them."

"Get us out of the city," Professor Jameson instructed him. "We are now but a collection of heads. They have torn our bodies to pieces. At present, they have tired of the sport, but it is in their minds to disassemble our heads next."

The thought was well timed. The Arnolascs came, seven in number, and thoughtfully looked at the coned heads, regarding the shuttered eyes with curiosity. One of the creatures promptly poked out one of 75J-02's mechanical eyes with a metal rod, looking for a purchase with which to tear off the outer covering of the head. Another hurled 6W-438's head to the floor so hard that his brain was stunned.

"Hurry, 29G-75!" Professor Jameson radiated as an Arnolasc turned his head over speculatively, first raising and then lowering the eye shutters. "They are tampering with our heads!"

"Guide me! I am coming!"

Another of the Arnolascs entered with an iron which he jabbed into an eye socket of 6W-438, who had not yet regained consciousness and was unaware of his peril. A dull clatter of metal sounded against lava pavement, and into the room burst 29G-75 his ray gun spurting quick death among the Arnolascs, cutting short several raucous screams.

Hastily, he gathered up the four heads and raced out of the building, bowling over two more of the Arnolascs who came running in answer to the cries of alarm. Straight for the city wall he rushed. Behind followed cries of consternation and warning. Advice was hurled to those blocking 29G-75's passage. Metal tentacles and a flaming ray gun disposed of them, and 29G-75 was up a set of steps and over the wall.

He raced for the bogs, and not until they were beyond pursuit and at the bottom of a deep pool of water did he stop. Meanwhile, 6W-438 recovered consciousness and learned of his close call.

Many days passed before the gladdening radiations of machine men of Zor broke in upon their mental conversation. The spaceship had returned. 744U-21 had learned of all that had happened in the Arnolasc city. The machine men had then come to Pteth and had been told of the flight of a machine man carrying four heads. From on high in the spaceship, they had scoured the surrounding swamp-lands with a thought amplifier, finally locating the five machine men.

The spaceship landed in the bog, crushing down vegetation both great and small. Out of the pool strode 29G-75, his tentacles curled carefully about the four heads of his metal brethren. In the spaceship, the heads of the four machine men were fastened onto new bodies which were equipped with metal legs and tentacles. Repairs and replacements were made to their mechanical eyes, and they were soon as good as new.

Returning to Pteth, the machine men ordered the Arnolasc out of the city and back to their own continent. When the conquerors refused, the machine men loosed such a tremendous burst of power upon their encampments in the swamp that they immediately yielded.

Having restored Pteth, they next found the Agrids and came back to Pteth. A general council was held at which 744U-21 set forth a plan to the Agrids and their allies, the Uans.

"Why not colonize the nearby world of Mrrn? There you can live as you wish. Some day, you may be able to return here and guide this world to a better way of living. We shall be glad to move you there in as many trips as it may require of our spaceship. We have explored Mrrn, and it is a wonderful world, well suited to all your living requirements."

The Agrids and Uans were not long in accepting the offer. Both envisioned a near-Utopia such as the Agrids had

described as having existed prior to their entombment during the pestilence.

"I wonder," the professor said when all had been transported to their new planet, "what new wonders wait for us in the next star system."

"As long as you are able to appreciate wonders," 744U-21 told him, "there will never be an end to them. The cosmos is a treasure house, my friend. And like a true man of Zor, I think that you will never grow weary of its delights—not till the stars grow cold, and darkness writes an end to the universe."

"And that," Professor Jameson assented humorously, "will be a long time from now."

DOOMSDAY ON AJIAT

I

HERALDS OF DOOM

"A planet or planetoid just off our course, 41C-98 reports," said 744U-21 to the professor. "We are now heading that way to discover what it may be. 41C-98 reports several peculiarities. For one thing, the sunshine strikes very dull against it, and for its apparent bulk our proximity detectors show a surprising lack of density."

As they moved nearer the mysterious body, they discovered that it was neither planet nor asteroid, nor did it move on an orbit. On the contrary, it pursued a course directly at right angles to an orbit. It was heading sunward.

The character of the celestial wanderer and its strange lack of density became understood when the spaceship of Zor approached close enough to reveal it as a meteoric swarm consisting of dust and cosmic debris. Many of the chunks were several miles in diameter. The professor's quick estimate placed the diameter of the swarm at seven thousand miles.

Rapid observations and computations were made. Growing suspicions of the machine men were verified. The mass was heading into the sun at a speed of several miles per second.

"You know what that means," said the professor, turning to those about him.

"Yes—a nova—an exploding star!"

"I never saw but one at close range during my entire existence as a machine man," said 6W-438.

"They are not unusual," 744U-21 observed. "Almost every star some time or another goes through this phase. We see them often from afar, but they happen so quickly and without any warning that this is a rare coincidence that we should enter a system and find conditions preparatory to a nova. This meteoric mass will surely cause one when it strikes the sun."

"But I have understood that novas are not always caused by large bodies or meteor swarms colliding with a star," said the professor. "Popular theory supports a belief that often an internal solar disruption causes a star to explode."

"Such a cause as you mention generally promotes a greater disturbance, especially if it originates deep within the solar body. Contact with a meteoric swarm, as this case promises to be, rarely affects much more than the surface gases of a sun."

"Even so," observed 6W-438, "the cataclysm will be large enough to wipe out life on every world of this system and change the planetary surfaces."

"A terrific wave of heat will spread outward from the sun with the speed of the light which carries it. For the nearer planets, it will mean but a matter of a few minutes. Possibly a day or so later, tremendous waves of gases will sweep in the wake of the blinding, searing heat. They will be sufficiently tangible to slow the speed of the planets perceptibly upon their orbits. Terrific planetary disruptions will follow in the form of earthquakes and volcanic eruptions, and entire oceans will turn to steam and bury each world in a dense cloud blanket. Temporarily, the nova will outshine every star in its neighborhood and will loom visible countless light years distant.

"It will mean doomsday for all life in this system even though the sun returns once more to its normal condition within the next ten or twenty years."

"It will be well to check our figures," cautioned 6W-438. "We must plan not to be such close observers that the nova will reach us."

At the rate the meteoric mass was traveling sunward,

Professor Jameson, as was his usual habit, figured that nearly twenty-three of his Earthly days must elapse before the swarm of cosmic debris reached the sun.

Their first step was to examine all the planets and find what, if any, life they supported. They had already passed a few of the outer worlds and had found them apparently lifeless. The spaceship now approached another world, a planet so large that their proximity detectors remained oblivious to all else even while they were still far off.

"It is one of the larger worlds which we must avoid," Professor Jameson stated. "The gravity there is so strong we could move around only with difficulty and a super-expenditure of energy, and even if we landed safely, our spaceship would find it hard to leave."

"We shall make our observations entirely by telescope, then," answered 6W-438.

Glasses were trained upon the colossal world as the spaceship sped close to the giant world in a gradual curve to the sunward side. From afar, they had recognized the fact that the planet possessed an atmosphere. Observations confirmed the strange coloring of the planet as vegetation. Where the machine men found vegetation, they invariably found animal life as well. The topography of the huge world loomed nearer, so much nearer that 744U-21 cautioned 20R-654 not to navigate closer.

"I am not," came the startling announcement. "I am trying to get clear of the planet's grip. There is a slight drift of the spaceship, which I am having trouble counteracting."

The looming orb grew larger, swelling in diameter and obscuring a greater portion of the sky beyond. The difficulties of 20R-654 were becoming increased. Alarm spread among the machine men. The intense gravitation held their ship and was threatening to draw it down with a smashing blow.

"We are starting to fall! The ship is accelerating its descent!"

"Turn!" cried the professor. "Turn away and give it all the power we have!"

The course of the spaceship had been parallel to the planet's orbit. 20R-654 now turned the ship directly away from the looming world and unleashed a tremendous burst

of power. Instruments showed a slackening of their descent, yet their fall continued.

"Something is wrong with the resistors!" 20R-654 explained. "That is why the ship came so much closer to the planet than I had intended!"

"We are still falling but not so fast as before!"

"At full repulsion, too!"

"Yes—we are too close, and the gravity is so great! Without the strength of the resistors we can only hope to come down as lightly as possible!"

The professor knew this latter statement to be nothing but hope. Their fall was rapid enough to smash them all to bits of wreckage when the spaceship crashed. And their precious brains would be scattered among the ruins.

The great world swelled on their vision, its proportions so vast that it filled the sky before them. Mountainous country reached giant fingers to receive them. On the horizon, the topography was obscured by cloud masses drifting in the great, dense sea of atmosphere. Already, they were able to feel the mighty attraction of the planet's gravity upon their metal bodies.

"Keep the reverse charges going until the last minute—until we strike!"

"The unusual density of the atmosphere may help slow our descent!"

This, they knew, was a long chance. The density of the atmospheric lower levels were commensurate with the planet's strong gravity.

A sobbing wail arose from outside the ship, swelling into a roar of many waterfalls. The spaceship throbbed and trembled, and every machine man realized that they had penetrated into the atmosphere at a tremendous speed. Anxiously, they consulted their instruments. Their mad fall was checked but slightly, and they realized their doom, for in the hundred miles or more left them, there was no possible chance of breaking their speed to a safe maximum even with the increasing density of the atmosphere to help them.

It was in the professor's mind that a few of them might survive the crash—but to what purpose? What would there

be left for a few machine men on a giant world with an irreparably wrecked spaceship and dead companions? Mechanically crippled, they would await the coming of the nova with the end it would bring. Such an outlook was even more dismal than direct annihilation.

A few of the machine men stared down from the falling ship at the fast approaching destruction, yet they were comparatively calm. Here was none of the terrified hysteria characteristic of organic creatures. Most of them had lived many lifetimes compared to their original existence.

Down they swept to inevitable doom, their reverse charges beating helplessly against the awful drag of the planet's bulk. Professor Jameson, engrossed in gloomy introspection, was suddenly swept off his feet and crashed against 744U-21 and 6W-438, who fell with him against the wall and into a corner. For a moment, they believed that the crash had come, but those who had been looking down at the giant world knew better.

There remained but a few miles between the ship and the surface. Machine men were sent tumbling in every direction. The gravity had changed suddenly from the floor of the ship to one side. The ship had turned over. Evidently 20R-654 had lost control. Their last hope, the continued expulsion charges from the ship, was gone!

Slowly, the gravity again changed to still another side of the ship, rolling them along into tangled piles. Expecting it at any moment, to the machine men it seemed that the crash was infinitely delayed. When it came, Professor Jameson felt himself hurled with terrific force against the opposite wall, and his consciousness left him in a bright glare of inner light as his head struck the wall.

His first thought on regaining consciousness was surprise that he had done so. Was he the only one left? There must have been others, a few at least. Active thought waves probed his brain, and he knew that he was not alone in having survived.

A clattering and scraping of metal reached him as a machine man came limping and stumbling over several quiet companions. It was 41C-98. Above him, the professor could see a side wall of the spaceship.

"Come, 21MM392, you do not seem badly damaged other than having bent a leg. Arise."

"How bad are things? How many of us are alive?"

"More than we ever expected. I suffered only a few mechanical injuries. There are many lying about still unconscious. I received calls from others in the different parts of the ship, who are helpless to move. Even with a well-functioning body, it is hard to move against the strong gravity of this world."

The professor rose slowly to his feet and realized the truth of the statement. With difficulty, he stepped from the tangle of metal bodies surrounding him. It required several times more generated energy from his mechanical body than he had ever been forced to use to walk on a planet.

He wondered how 744U-21, 6W-438 and others with him when the crash came had fared. He probed their mental faculties and found them not dead but only quiescent. Mental radiations reached him from other parts of the ship, and with 41C-98 he went to investigate, proceeding with an effort.

"We should be equipped with super-powered bodies for this world," the professor told 41C-98.

In other chambers of the ship, their surprise was succeeded by wonder. Instead of twisted walls and warped wreckage, they found only signs of a severe fall. As fast as they could move, the machine men, joined by other bewildered Zoromes, went outside the ship and examined the hull.

They had crashed through a deep tangle of vegetation. Several seams in the hull gaped open and appeared to be the greatest damage done the ship in its fall. At first, they were inclined to believe that the fall through the vast tangle of vegetation had saved them, yet somehow this explanation did not seem adequate.

Not until 20R-654 came to his senses did they learn the truth.

"I saw that we were going to crash and destroy both the spaceship and ourselves in spite of the full reverse charges. So at the last moment, while we were still several miles above the surface, I shut off the reverse charges and

let loose a side charge which turned us sideways to the surface.

"Then I released charges on our side facing the surface and once more loosed our reverse charges, so that we fell on a long slant which used up much of the speed of our fall. We were lucky to strike this great mass of vegetation where so many giant creepers intertangle. Otherwise, fewer of us would be left."

More of the machine men returned to their senses. The others were examined and found to be suffering from mental shock from which they would eventually recover. The casualties were the first ones to occur in a long time—and there were two. In a compartment next to the ruptured hull were found 250Z-42 and 4F-686, their heads battered.

"We are saved but temporarily from a fate such as theirs, said the professor gravely, "for unless we can get the ship repaired within the time left us before the meteoric mass strikes the sun, we shall be annihilated with everything else on the face of this world when the sun explodes and the nova spreads swiftly throughout this system of planets."

"How can we ever leave here—even if the necessary repairs are made in time?" asked 119M-5. "We are unable to escape the power of this world's gravitation from a distance, so how are we to get free now that we are upon its surface?"

"Our gravitational resistors were faulty and were overcome and broken down by the mighty strain of this planet's pull," 20R-654 explained. "They must be reconditioned and besides repairing the hull, new parts must be made which will give us a greater lifting power when we take off. Starting from a dead stop on this giant world will require tremendous forces we have never previously required because we have never visited planets of this size."

II

CAUGHT BY THE GIANTS

The machine men lost no time in exploring the region where they had come down. Moving at great expense of energy, they radiated in a circle from the great tangle of vegetation until one of them found a break in the forest.

A level expanse stretched away to mountains that loomed in the background. Tiny specks flew high in the sky. These puzzled the machine men until they saw one of them drop low above the forest and veer toward the fallen spaceship in curiosity.

It was an enormous bird with an animal-like snout. Four legs and the wing tips ended in talons.

"What monsters!" exclaimed 744U-21. "The bird is fully half as long as our spaceship from one wing tip to the other!"

"Forms of life would have a tendency to run in size here," Professor Jameson remarked. "Creatures on this planet must of necessity be uncommonly strong, too."

They came to refer to the giant world as Ajiat, expressing the mental thought of the spoken word they had known in their organic lifetimes back on Zor. The word referred to anything huge or colossal.

With specially designed apparatus they carried for just such emergencies, the machine men quickly located and commenced mining the various ores and minerals they required in repairing the ship. When helium was discovered in large quantities, the professor was seized with an inspiration.

"Let us discover more about this world now that we are on it. From on high, we can look over a great deal of the surrounding country."

"But how shall we get up there?"

"The helium." Professor Jameson voiced his hidden thought. "We can make a balloon and rise on its lifting power."

For observation purposes, a metal globe was quickly fashioned, the basket of the balloon made of light metal

framework and covered with wood from the surrounding forest. Firmly anchored to the ground with metal hawsers, the globe was filled with helium. The basket carried four machine men with their equipment. With him, Professor Jameson took 6W-438, 12W-62 and 29G-75.

"From what we know of the atmosphere, the amount of helium in the globe should carry us four miles or higher."

"The birds will probably attack you," warned 119M-5.

"We expect as much. It is why we have three power guns installed."

Once the hawsers were loosed, they shot off the ground like an arrow. Not until their ascent became slowed did the professor and his companions cast out the large stones they carried for ballast.

One of the great birds dropped down to meet them and was blasted from the sky. Another flew croaking from their path in alarm. They were nearly six miles above the ground before the balloon stopped rising.

With powerful glasses, they examined the terrain for several hundred miles in every direction except toward the mountains. A pall of cloudy mist hung among the peaks. In the opposite direction, their horizon was far-flung due to the enormous size of the planet.

With their scientific apparatus, they gathered data which they were unable to obtain from the ground and had been too involved and disinterested to notice during their perilous descent.

A bevy of huge birds came to investigate, interrupting their observations to circle, growl and chatter at them. One of the winged monstrosities made a purposeful lunge at the metal ball above their heads, and they blew him to fragments with rapid and well-directed fire. Another met the fate of the first, before the others winged away in screaming anger and alarm in the direction of the mountains.

"Do you think we could deal with them if they attack us in large numbers?" 12W-62 queried.

"Not if they attacked us in a mass," the professor replied. "But we can descend by freeing some of the helium if they become too numerous or troublesome."

A sudden gust of air swayed the basket. The breeze had

freshened, and they found that they had been drifting toward the mountains.

Like stately spires, the mountain peaks loomed before and above them. Those in the background were lost in a gray fog which had crept among them since the machine men had risen in their balloon.

Hundreds of the great birds could be seen darting and wheeling above the mountainside. As the balloon was carried nearer by the rising wind, they spread on the wing and flapped about the strange invader, voicing their weird cries and veering menacingly about the metal globe and basket. Several of them attacked and were destroyed.

The others became a bit cautious, yet they never abandoned their gliding vigil. They, too, finally swept down upon the balloon. More of the birds came swarming to take their place, and the machine men soon found themselves busy protecting their skycraft.

"They probably have their nests in the mountains close by," said the professor, "and they suspect us. That is why they have grown more ferocious and daring since we neared the mountains."

The wind was quickening. More of the great birds came to replace each one killed. One came so close that a wing brushed the basket, knocking the machine men off their feet. They were finding it difficult to defend the balloon against so many of them. They were in danger of being wrecked!

Dark clouds had settled over the mountains—which were now so near that the machine men could distinctly see objects such as trees and rocks. The wind had risen to a gale, and they were being carried on it.

"We are rising!" 6W-438 exclaimed. "The wind is carrying us above the mountains and into that approaching storm area!"

"Let out part of the helium!"

"We cannot do that now," the professor told them. "The force of the wind would dash us against the mountainside!"

A dull flush of pink lit the drifting depths of the cloud masses momentarily, and the terrific roar which followed

shook the balloon and made the metal globe hum with strange music.

With the advent of the storm, the birds gave up the attack and winged off to their lofty retreats in screeching alarm.

The wind continued to carry the balloon at a great speed, and soon they were over the mountains and into the dense, angry masses of clouds. Then they were buffeted by cross winds and freak air currents, falling, to be lifted up once again and tossed around like a leaf.

Roaring crashes of thunder threatened to split the sky apart, and great blades of lightning stabbed through the clouds. The storm grew worse, and the machine men entangled themselves in the hawsers holding the metal ball to the basket, to keep from being tossed out by the storm's fury. The basket was threatening to part from the metal globe that supported it.

The winds wrenched and tore at them, hurling gusts of rain like spray—fine and hard. Lightning flashed dangerously near, and the farther they were swept into the storm area, the blacker it grew. Had it not been for the lightning which played almost constantly, it would have seemed like night.

The four machine men lost all sense of direction as they were whirled and thrown viciously about. The basket finally broke away from the ball of helium, leaving them clinging to the strong wire hawsers hanging from the globe.

Here they swung and clashed against each other and against the metal ball, slowly gathering the slack in the hawsers about their metal bodies and creeping closer to the globe which was whirled and tossed more freely since it had lost its restraining basket.

To the machine men, it seemed that the storm raged for hours. The first intimation of its cessation came with a lessening of the gloom and fewer shafts of lightning.

"I am near a valve," 29G-75 reported. "Shall we release some of our helium and come down?"

"As soon as we see where we are."

"We shall soon come down whether we choose or not,"

said 12W-62. "There is a slow leak in the globe not far from me."

When the clouds lifted, the machine men found themselves on the other side of the mountain. More mountains loomed in the distance. Below them stretched a level plain. They were descending slowly. As more helium escaped, their descent became faster, yet they landed safely.

"We must not get too far from the mountain," the professor said. "If we cannot find some way back over it, we must wait until 744U-21 sends us help."

"We may stay and see the nova," said 6W-438 grimly. "It will be a wonderful sight."

"A better way to die than those who were killed when our spaceship crashed. Doomsday on Ajiat will usher in a beautiful morning of flaming brilliance."

"Followed by a gloomy night of desolation and death."

The machine men walked slowly back in the direction of the mountain. Night fell. Still they kept on their way.

Their progress was forced. They knew that their mechanical parts would never stand the strain of climbing up the mountain. Their energies would soon be exhausted by the strain, parts would wear out, and they could neither be refueled nor repaired in the absence of the spaceship. They could only remain in a conspicuous and advantageous position near the mountain, waiting for the help they knew 744U-21 would send if they could be found.

Through the night, fire suddenly lit the sky ahead of them. There was first a dull, soft glow. This grew to towering proportions in a single, leaping flame. The fire was no farther than half a mile ahead of them, and soon they were able to distinguish black, shadowy forms which passed between them and the fire.

The professor called a halt. Several times they saw large fire brands carried. From the size of these, and the height at which they were carried, and from what they were able to see of the black shadows, the machine men knew the creatures to be veritable giants.

"Quite in keeping with this world," Professor Jameson observed. "It goes without saying that they are unusually strong. We shall do well to remain undiscovered."

With the coming of morning, the fears of the professor were justified. From afar, the machine men could see more distinctly the lofty, bulking figures which had been etched in silhouette against the campfires of the night before.

The creatures moved with large, easy bounds at several times the best speed the machine men had been able to attain on the worlds much smaller than Ajiat. They covered the ground with such amazing swiftness that the machine men were scarcely aware of their danger before several colossal forms grew upon their vision and suddenly they found themselves surrounded.

The things towered fully fifty feet in the air. That was the professor's first impression. His second one conveyed the fact that they were of little intelligence. They stood on legs which resembled a small forest of tree trunks suddenly grown up about the four Zoromes. Two in number, these legs terminated in three long claws spread equidistant on tough, layered pads.

Jaws armed with long fangs featured the physiognomy of the things, while most curious were the eyes which projected on short, thick pedicles and were over-arched and protected by a rough, bony protuberance.

The professor was suddenly seized and lifted close to one of the terrifying faces for an inquisitive inspection!

The creature sniffed at him with flat, distended nostrils. Huge fingers, seven in number, clutched him tightly. He saw that the thing had two arms and that their hairless bodies were roughly criss-crossed with deep lines.

Another interesting feature next claimed his attention. A web of elastic membrane extended halfway down each arm to the body. A muttering gabble issued from these gargantuans of Ajiat as they examined the machine men.

"Do not act alive," the professor advised, "and they may become disinterested in us."

Although subtracting from the interest of the great brutes, this plan did not prevent their seizure. One of the things emitted a bellowing roar, which the machine men found themselves at a loss to properly interpret. The creature turned and dashed away in the direction from which the machine men had come.

Far off, the huge beast had seen the gleaming, metal ball which had contained the helium. The others waited patiently, gently pulling at the legs and tentacles of the strange, metal contraptions they had found, until he returned with it.

Then they all set out at whirlwind speed to join the main body, setting up a cloud of dust behind them and passing by the black, smoking embers of last night's fire.

With the rest, they made their way to the mountain, climbing up to a plateau. Cliffs loomed on two sides, and in tunnels and rocky defiles splitting into the side of the mountain, these creatures made their homes.

III

A RACE WITH THE NOVA

The machine men were given over for inspection by hundreds of the great creatures which they had automatically designated as Ajirs. Tiring of the inspection, the brutes handed them back to their original owners.

Professor Jameson was carried into a cavern and unceremoniously thrown on a rocky ledge with a strange collection of objects which had evidently caught the fancy of the Ajir.

There were bright bits of fused metal, evidently of volcanic origin, and odd-shaped bones littered the ledge. Most curious of all was an entire skeleton about twice the professor's size. As soon as the cavern's owner went out and left him alone, he fell to examining it. The skeleton was entire, each bone loosely interlocking with another so that it was impossible to remove one of them, except by force. The skeleton had been that of a four-legged animal.

The professor found that his companions had met with fates similar to his own. They communicated with one another and decided that for the present it was best to bide their time—never letting the Ajirs know that they were living creatures—and watch for the first good chance to escape.

In the several days that followed, the machine men learned many things about their captors and the world on which they lived.

The Ajirs were partly vegetarians. They sometimes set traps for the great birds which came down from the mountain heights. The Ajirs voiced a syllable in reference to the birds which the machine men interpreted as Quar, and from time to time on they referred to the birds collectively as Quari.

The Ajirs possessed hardly any language at all, and their minds were so simple and elementary that the machine men rarely took the trouble to trace their thoughts.

When they were left alone, the machine men looked out upon many things scurrying back to their proper places when their owners approached the cave.

Once, the professor was not quick enough, and he lay still on the floor. The Ajir picked him up and placed him on the ledge, thinking, as the professor had expected he would, that the machine man had fallen off the ledge.

6W-438 was caught out on the plateau once. One of the Ajirs accused another of theft, and a terrific battle ensued between the two.

Meanwhile, the anxiety of the machine men grew. The days before the nova was expected were becoming fewer, and still they found no means of escape. 12W-62 argued that escape meant little unless they were found and taken back to the spaceship.

The Ajirs continued the routine of their simple yet turbulent lives, blissfully ignorant of the impending doom to all life on Ajiat and the sister worlds of the system. They had little time to live, but they were living it ignorantly and happily.

It was the hope of all four Zoromes that another helium ship would be sent out by their companions and that the mental detectors would find them. Unless they escaped in time, there would be a battle with the Ajirs, but the machine men doubted the ability of the fearsome monsters to survive a barrage of the power guns.

More days passed, and still no help reached them as they remained prisoners of the Ajirs. The machine men were now rarely handled by their captors—the novelty having worn off.

They watched everything that went on, and they saw parties of the monsters come and go. Once there was a battle with a raiding party from another village.

At another time, the monotony was relieved by an unusually large bevy of Quari that flew down from their mountain aeries, drawn by the meat of the baited snares laid by the Ajirs. The monsters rushed out to beat them to death with great clubs as several of them were trapped and fought viciously to escape.

The large numbers of the Quari stayed and fought loyally with their snared brethren until the latter broke free or else fell exhausted by their efforts and by the blows from the Ajirs. Several of the great brutes were severely injured by the Quari, and bled deeply from gashes inflicted by teeth and talons. One of them died as the price for the four Quari which were taken.

Out of this exciting episode, which all four machine men watched from their various coverts, Professor Jameson conceived not only a plan of escape but a possibility, as well, of returning near the neighborhood of the spaceship. The machine men heard his plan and waited for night to fall.

"We must hide among the snares and attach ourselves to one of the Quari when they come for the bait. We shall be carried up into the mountains and perhaps part way down the other slope. As soon as darkness falls, let us creep out and meet by the traps."

"But suppose the bird is trapped?"

"Then I shall free it with the heat in my fore tentacle," Professor Jameson replied. "We can use the lines from the snares to fasten ourselves to the bird's legs."

"We may be shaken off or torn away."

"Possibly, but we must run the risks involved. Time grows too short. We must get back to the spaceship!"

During the night, after all was quiet, the machine men crept from their caves and met on the plateau. There was a tendency for their metal feet to create noise against the rock, and they found it necessary to move slowly as well as cautiously. Their situation would be a precarious one if the Ajirs awakened to find their metal possessions suddenly come to life!

On one side of the plateau, large hunks of meat loomed about the machine men like boulders. The birds would come at dawn.

The machine men waited as the stars swung across the sky and satellites of Ajiat came and went. Dawn came. With the first, faint flush of light upon the tallest peaks, the Quari commenced to circle and fly down from their heights.

Sounds of stirring and awakening Ajirs reached the machine men. They were glad that the snares were away from the caves and near the precipice. The bait was so large as to afford them easy concealment.

With the coming of dawn and activity among the Ajirs, the professor burned several lines from the snares to be used in fastening their metal bodies to one of the Quari. Previously, he had not dared risk the glare of light produced in the darkness for fear a waking Ajir might see it.

With mingled excitement and relief, the four machine men saw several black specks from on high swoop lower. The birds circled above the tempting morsels. The machine men remained quiet so as not to excite their suspicions. They settled, and the voices of the Ajirs who had also watched their coming were hushed.

One great bird settled to rest by a chunk of bait which sheltered three of the Zoromes. They were instantly joined by 12W-62, and all four fastened themselves about the legs of the Quari.

The bird jumped a bit in alarm but did not abandon the chunk of bait. The machine men had freed this particular piece of bait, among others, from the snares, and as the bird seized it, and was not caught, a subdued cry of disappointment arose from the watching Ajirs.

Other birds were caught and battled to get free. The one to which the machine men clung pecked at them ineffectually a few times, and seized upon the bait once more as onrushing Ajirs came with clubs lifted.

The bird flapped its wings, and with cries of surprise the Ajirs saw and recognized the four metal things they had found. They stared at them, entangled about the legs of the slowly rising bird.

A swishing blow of the foremost brute just grazed a talon of the bird and left the wind of its passage upon 29G-75. Up they rose, swifter, as the broad wings of the Quar belabored the air.

They soared higher, the plateau with its fighting Ajirs and Quari dwindling away into obscurity. They were soon among the peaks and flying above them. The machine men wondered when the bird would light. It was like riding upon the landing gear of a mighty airplane.

The bird was carrying the chunk of meat to its nest, and they were glad for every mile that the bird was covering in the direction of the opposite mountainside. Yet, they hoped that its nest was not on the face of an inaccessible cliff.

Soon, the other slope of the mountain loomed into view, and they enthused at the familiar panorama beyond. Professor Jameson could see, far off, the territory of forest into which the spaceship had crashed.

Would the bird take them closer to that spot? It was too much to hope for, he knew. Chance, on choosing this particular Quar, had taken them far already in the right direction. Even as the professor turned these thoughts over in his mind, the bird headed for a rocky crag.

There was no single nest here, but a continuous series of pits and hollows formed on branches lined with grasses and other materials. There were young birds in many of these—while others were empty. A few adults had already come back with food in the way of small animals and smaller birds.

The Quar headed for one of the empty hollows and swooped gently to rest. That the bird had felt harassed in its flight over the mountain, by the four machine men, was plainly evident as the bird set down its piece of meat and bit viciously at them, sharp teeth grating and sliding against their metal bodies.

A tentacle of 12W-62 became wedged between two teeth, and the machine man disentangled himself with difficulty. The professor and 6W-438 were wrenched from their self-made bonds as the Quar screeched, in rage. Talons freed the two more encumbrances from the bird's legs.

Meanwhile, as the Quar continued in its efforts to bite the professor and 12W-62, 29G-75 freed himself and made a discovery.

"There are openings in the bottom of the nest where we can climb through!"

He was soon down out of reach of the Quar, and he waited for his companions to get free. 6W-438 was the first to join him. An application of the professor's heat ray caused the screeching Quar to loose him and 12W-62 long enough for them to slide down through the tangle of tree branches.

The four machine men found themselves in a maze of dead branches through which they threaded their way with difficulty, often finding the way before them too impenetrable and closely woven for passage.

The professor now and then had to use his heat ray.

They struck the rock foundation of the continuous nest thirty feet down, and they followed a devious route to the edge of the crag. They found a long, steep descent, dangerous and treacherous.

Luckily, none of the Quari returned to attack them until they were safely at the bottom of the looming crag.

"It is a long way down the mountain and then to the spaceship," said the professor, "but we must try and make it in what little time we have left."

"If nothing detains us, it will be enough, I believe."

From what they knew of Ajiat's rotation—they had all made separate computations while prisoners of the Ajirs—they had come to the same conclusion regarding the time left before the sun exploded.

Now, there were only three of Ajiat's rotations left before the meteoric mass struck the sun!

All that day, they kept moving down the mountain, and though they were going downhill, they nevertheless felt the effects of the strong gravity. They occasionally reached ledges or precipices which had to be avoided.

Once, 29G-75 fell over one of these ledges, and although the fall was a relatively short one for a machine man to sustain—the mighty attraction of Ajiat drew him down so forcefully that he bent a leg in under him in his fall.

All day long, at intervals, the Quari came to bother them, generally desisting when they found that they were not edible. At night, although they used their body lights, their progress slowed somewhat.

Dawn came, and they increased their pace once more. Untiring, they knew no cessation until a vital part wore out. This, the professor and his companions constantly feared.

Again, the sharp eyes of the Quari saw them from on high and came to harass them again. Sometimes the professor managed to drive them off with his heat ray. The machine men also struck them with lashing tentacles, but they were so large that this had little effect on them.

Shortly after noon, disaster stalked them. Earlier fears were realized. The leg which 29G-75 had bent in his fall finally wore so badly that it became useless. This slowed their descent of the mountain. Up to this point, the professor had figured themselves well ahead of the impending, solar catastrophe.

Night fell again. They kept on, assisting the slightly unbalanced 29G-75 over difficult stretches.

Then, without warning, something went wrong with the inner workings of 12W-62's metal cube so that he suffered lapses of control. He kept on going when he should have stopped, and sometimes he stopped entirely and seemed to have no ability to move again. These periods of inactivity, brief at first, became prolonged. The machine men knew the symptoms and were not surprised when the inevitable happened.

The mechanism of 12W-62 went entirely dead! The excessive requirements of Ajiat had exhausted his energy which could only be recharged at the spaceship. There was only one thing to do, which they accomplished with as little loss of time as possible.

They removed the head of 12W-62 from his useless body and carried it with them. 29G-75 was quickly outfitted with one of the metal legs, and they carried the other three with them in case of emergency.

The race against time tightened. Their slight advantage had been lost. Professor Jameson kept the doubts in his mind hidden from his companions.

They were nearly to the foot of the mountain, and the distance from there to the spaceship was well within a day's walk. They gained level ground shortly before dawn.

They had covered less than a mile of distance when 6W-438 fell over suddenly and could not rise. More time was lost in removing his head.

As dawn broke, Professor Jameson collapsed, and even as 29G-75 stooped to help him and ascertain the extent of his trouble, he, too, lost his ability to move!

He stood quiet and useless on his four metal legs above the fallen body of the professor. Each of the two machine men carried the head of a companion.

"This looks to be the end," said 6W-438. "We still have today. Shortly after dark, if our calculations are not wrong, the nova will take place."

The sky above them grew brighter. Idle and impassive, they watched the birds commencing to fly far up the side of the nearby mountain. The sun, that dangerous furnace which was destined to explode before another full rotation of Ajiat, crept over the horizon. Doom shone upon the machine men.

Somewhere not far from that flaming, incandescent mass, the vast conglomeration of meteoric fragments sped like a racing powder train on a grim errand to purge all the worlds of that system of life, spreading an all-destroying heat wave to the outermost realms of the farthest orbit with the speed of light.

A small swarm of birds caught their attention. The Quari had evidently sighted them and were descending to investigate.

"This time they will find no resistance," said the professor.

"Do you think they will carry us away?"

"It is doubtful—when they find that we are not good to eat."

The birds were acting strangely, as if they were fighting over something among themselves. Their manner of descent was strange too. The machine men had never seen them come down so directly before. Generally, they flew down in long, swinging loops. This time, their turns were shorter and took less distance.

Not until they were within a few hundred feet from the ground did the machine men find the reason for their strange maneuvers. They saw a gleaming ovoid of metal which had previously been hidden by the Quari who were attacking it.

The machine men now saw the birds disappearing from time to time, and burned fragments of them came floating down. The help for which they had despaired had come at last!

With a sudden barrage, which caused great havoc among the Quari and sent the survivors winging away, the metal sky craft descended the remaining distance.

There was no attached basket, but a gondola of metal was built into the bottom of the globe. Propellers and steering gear were also visible. Out of the gondola raced 47X-09 and 22K-501.

"You are found, finally!" cried 47X-09. "And none too soon, either!"

"Shortly before dawn came, we saw your body lights shining near the foot of the mountain," 22K-501 told them as they were gathered up and taken aboard the gondola. "We were far off and high in the sky. We lost track of you for a while when it grew light, and then we had to fight off the birds. It was during their attack that we again located you with the mind detectors."

"Tell me about the spaceship," the professor implored. "Is it all right and ready for flight?"

"That we hope. It will call for a tremendous repulsion to free it of Ajiat's powerful grip. 20R-654 and 744U-21 are not entirely satisfied with the super-resistors which have been built, and so they have enlisted another strong ally to help the ship on its start."

"The helium!"

"Yes, 21MM392," 47X-09 vindicated the professor's inspiration. "The spaceship is not only filled to capacity with it, but several tanks have been built around the ship and are filled, ready for our flight. Of course, it will be useless after we once pass the atmosphere, but it is only for initial momentum."

IV

THIRTEEN MINUTES

They were soon back to the spaceship, and the search was at an end. For many days, two airships had searched both sides of the mountain and beyond. Vegetation had been cleared all around the ship for a distance of a hundred yards.

The spaceship was entirely surrounded with a network of metal hawsers which secured it to the ground against the mighty pull of the helium.

Entrance was gained to the ship by means of a helium lock

With the return of the four machine men, no further time was lost. They were to make one supreme effort. Success or failure hung in the balance. Failure meant a flaming death when the nova struck Ajiat in its swelling glare.

"Every one of us must be securely fastened to a part of the ship," 744U-21 told them. "Our rise will be very sudden."

The fateful moment arrived. Several machine men made a last minute inspection of the hawsers holding the ship. By a specially arranged device, they were to be cast off simultaneously. When all was ready, the hawsers were loosed.

Like a shot out of a gun, the spaceship darted skyward, accelerating rapidly as the helium sought a natural level aided by the power releases of the spaceship. The climb was so rapid as to leave the machine men dizzy.

Eight Zoromes sat securely fastened near the ship's controls, and the first one who recovered his mental balance forced the super-resistors into action.

Night, with its flaming stars, replaced daylight, yet the noonday sun still shone upon them. They had cleared the atmosphere and were in space—but were far from being free of Ajiat. Their battle with the planet's mighty attraction had just begun.

They were forced to accept one discouraging fact with fatalism. They were heading off Ajiat straight for the sun

which was shortly to explode! To have waited for Ajiat to rotate would have lost for them more precious time.

In space, they still maintained the speed of their initial rise, yet they realized that their speed must be increased if they were to win free of the giant world.

In suspense, they watched the speed gauges and waited. 20R-654 gave the ship every advantage he had learned in his long career of space navigation.

Their speed gradually increased, yet dangerously slow in acceleration even though they were winning free. The nova would spread with the speed of light and catch them in their battle against the strong gravity of Ajiat! In free space, the flight of the spaceship exceeded that of light several times over, but within the grip of Ajiat their speed was appallingly small. They were gaining more speed and were now sure of escaping Ajiat, but if the computations were correct they knew they would not escape the nova.

They were heading straight for the sun and dared not wheel in another direction until they were free of Ajiat's attraction.

The remaining hours fled. Minutes were left.

The machine men knew that a respite of thirteen minutes would be granted them from the time the explosion took place on the sun until the bright, hot flare of light reached them. The flaming gases to follow would reach Ajiat about a day and a half later.

They kept onward until it was agreed that with the little time left them they might turn at an angle of forty-five degrees from their course, then gradually turn this angle into a curve away from both the sun and the orbital course of Ajiat. They were speeding upon this curve when Professor Jameson announced that the meteoric mass they had passed in space before coming to Ajiat was probably, at that moment, hurling its provocative bulk into the sun.

"We shall not see the nova until it is upon us," he said, "for it travels with the speed of light. That is what adds to the uncertainty of our calculations, for there is just a possibility that a smaller body in this system, of which we know so little, might have bent the course or slowed the speed of the meteoric mass. Unless such a long chance has

occurred, we have only thirteen minutes before the nova reaches us."

In the estimated time left, they reached the end of their curve and straightened out on a tangent from the sun and Ajiat. They were rapidly approaching the speed of light and safety when the ship was suddenly enveloped by a blinding glare.

"The nova!"

"It has overtaken us!"

Nothing could be seen outside but that awful brilliance. The sides of the ship grew hot. A terrific explosion rocked the ship in its flight and threw the machine men staggering against each other. One of the attached helium tanks had overheated and burst. Another report jarred the ship and was followed by several more concussions.

"Eject the helium from the ship!" 744U-21 directed. "We must have a vacuum!"

The order was quickly executed, and the helium spurted from the vents opened for its release. The hull of the spaceship grew hotter. That side facing the sun turned a lurid crimson.

The speed of the ship picked up rapidly as the malign power of Ajiat grew less. Soon, they were in free space, yet the hull of the ship grew hotter, and the terrible light which had swallowed them remained intense.

The speed of the ship crept up to the speed of light, then passed and exceeded it. At that rate, the machine men hoped to outrace the dazzling hell which had closed upon them.

The sunward side of the ship waxed white hot, and metal plates were rapidly fastened over this danger zone, the plates becoming red hot in turn.

There also existed a vague fear among many that they were not heading directly out of the nova. The shock of the exploding helium tanks had made the proximity detectors perform queer antics. Meanwhile, their speed increased.

The spaceship suddenly shot out of the nova and into the darkness of space.

"We have outsped the nova!" Professor Jameson exclaimed. "Its light has not yet reached this far. We are looking at

the sun and at Ajiat as they were just before the nova took place."

Nor did the machine men again see the nova until they were far beyond the doomed system of planets and the estimated limits of the nova's spread.

Each planet, when overtaken, glowed brilliantly. The sun swelled and grew so large that at that far distance they could not bear to look upon it except with veiled lenses.

"The nova is now reaching a point where it overtook us in the spaceship," said the professor.

They watched until they saw the nova reach its maximum proportions. A hotter and more compact globe of gases was spreading gradually from the sun, and the machine men lingered in the vicinity and closely approached the outermost limits of the mammoth spectacle until they saw the inner planets reached by the spreading gases. These, they knew, were in the state of volcanic eruption, their oceans turning to dense, vaporous envelopes.

The light had ended all life in the system, and now the slower moving gases were completing the destruction. They saw smaller satellites of the planets explode into myriad fragments, their lesser bulk lacking the resistance of larger companions. The spectacle was grand—yet terrible.

"Millions of light years away, this astronomic catastrophe will be visible," Professor Jameson philosophized, "and millions of years from now people on the planets which will witness it shall look upon a new star swelling into sudden brilliance for a brief period, and they will wonder."

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the planet of monsters



When a sun goes nova, the tremendous explosion of its awesome energies destroys all life on the planets surrounding it. So when the Zoromes discovered that the sun of Ajiat would burst into nova in just a few days, they determined to explore the planet and warn any friendly life-forms that might exist there.

But instead of friendship the Zoromes met only savagery, as the brutish inhabitants of this heavy-gravity world attacked their exploring parties. Huge creatures of the air and ground threw themselves at the machine men, and the beasts' power was so great that it overwhelmed even the Zoromes.

Professor Jameson and his comrades found themselves imprisoned on a planet which faced fiery destruction at any minute!