

# The **Stanislaw Lem** Invincible



**The Stanisław Lem**  
**Invincible**

*A Continuum Book*  
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# The Invincible

# The Black Rain

The *Invincible* moved across the outermost quadrant of the Lyre Constellation. The heavy cruiser was propelled through space by photon drive. It was the largest ship at the disposal of the space fleet based in this section of the universe.

The ship's complement numbered eighty-three men, all of them presently asleep inside the hibernation tunnel. The flight distance was sufficiently short that it had not been necessary to resort to full hibernation; the men were simply kept in deep sleep, body temperature regulated so as never to fall below 50°F. Within the cruiser's control center only the automats carried on their work.

Dead center in the direction finder hung the disk of a sun not much hotter than an ordinary red dwarf star. The moment the sun filled half the screen the space-drive automatically cut off. For a while dead silence reigned throughout the ship. The air conditioning system and the computers functioned noiselessly. The slight vibration ceased when the photon stream no longer emerged from the spacecraft's stern. This stream had been like an infinitely long sword, sheathed in darkness, thrusting the cruiser ahead through the vastness of space. The *Invincible* still coasted along just

under the speed of light; rigid, deaf and seemingly without any life aboard.

Tiny lights on the instrument panel reflected the reddish glow of the distant sun that loomed on the central videoscreen. Now the magnetic tapes began to move. Programed coded strips crept slowly into the intake slots of a series of instruments. Sparks flew from the transformers; and the current flooded into the supply network, accompanied by a faint hum that was not heard by any living thing. Electromotors overcame the resistance of long dried-out lubricating oil and started humming. Their low roar soon changed into a high-pitched moaning sound. Cadmium rods were pushed outwards by the auxiliary reactors; magnetic pumps squeezed liquid natrium into the cooling coils; a mild tremor ran through the ship's stern. Faint rattling noises came from inside the hull as if swarms of tiny animals were busily scurrying about, scratching the metal walls with their sharp little claws. This was the sign that the repair robots had started out on their rounds, checking the solidity of the braces of the ship's framework; making sure that the hull had not been damaged anywhere and that all seams were still welded tight. The entire ship came to life, filled with myriad noises and activities. Only the crew had not yet awakened.

Finally the last automat was fed the proper coded strip and began to send signals to the hibernation center. Antihibernation gas was injected into the cold air. Warm air streamed through the gratings in the floor, up towards the long rows of the sleeping cots.

The sleeping men, however, appeared reluctant to wake up. Slowly they began to move their arms with feeble jerks, trying to ward off the nightmares and feverish fantasies that invaded the void of their icy slumber. Finally the first man opened his eyes. The ship had been fully prepared for this moment. For the past few minutes bright daylight had chased the dark shadows that filled the long corridors, the elevator shafts, the cabins, the control center, the workrooms, and the airlocks. And while the hibernation chamber resounded with the sighing and moaning of the drowsy men, the spaceship began its first braking maneuver, as if it were too impatient to await the complete awakening of the crew. Sheaves of fire emanated from the jets at the craft's nose. A violent shock disrupted the velocity of the cruiser that had constantly traveled at the speed of light. The tremendous counterforces produced by the forward jets tried to crush the *Invincible* whose stationary mass of eighteen thousand tons had been multiplied by its gigantic initial velocity. Everything that had not been nailed down tight began to move; lifeless objects seemed to come alive. Hermetically sealed maps bounced about on their rollers in the map room. In the galleys dishes rattled, the backs of the empty foam-rubber chairs began to shake, safety belts and wall ropes swung like pendulums in the long corridors of the decks. All the sounds of clinking glass, tin and synthetic products combined; the noise spread like a wave throughout the heavy cruiser. The hibernation center was filled with a din of voices. Following a brief



transitory slumber the men now returned to the world of reality after having spent the past seven months in a state of limbo.

The spaceship kept losing speed. Red clouds shrouded the planet, obliterating the stars in the sky. An ocean became visible, reflecting the sun's rays as though it were a convex mirror. Now the craft glided over a brownish continent dotted with craters. The crew, however, saw none of this; they were at their posts. A cloud passed through the path of the braking ray. A sudden white glimmer appeared as if quicksilver had exploded. The cloud disintegrated and vanished. For a moment the howling of the propulsion drive grew intense. The reddish disk down below became flat: the planet had turned into an expanse of land. Sickleshaped dunes stood out, whipped by a strong wind. Strands of lava radiated from a nearby crater like the spokes of a wheel, reflecting the fiery glow of the rocket jets, and almost blotting out the sunlight.

“Central axis—full power! Static drive!”

The needle advanced slowly toward the next sector of the gauge; the landing maneuver proceeded according to plan. The spaceship hovered like a fire-spewing volcano balanced on its head. Half a mile below lay the scarred surface of the planet, covered by sandy ridges of rock.

“Central axis—full power! Brake static drive!”

Now the spot was already clearly to be seen where the braking ray hit the ground. A cloud of red sand rose from the flat surface. Violet bolts of lightning flashed, apparently without any sound, for

the thunder was drowned out by the roaring gases. Gradually the potential difference evened out and the lightning disappeared. The spaceship descended steadily without any vibrations; like a mountain of steel held taut by invisible ropes.

“Central axis—half power! Small static drive!”

Steaming clouds of sand swelled up like ocean waves and sped outward in concentric circles. At the epicenter where the bunched braking ray had struck full force from a short distance away, neither steam nor sand had been left. The red, blistering mirror had changed into a lake of molten silicates which finally had evaporated in a column of shattering explosions. The primitive rock of the planet, bare as fleshless bones, turned soft.

“Cut down nuclear drive!”

The glowing blue of the atomic fire died down. A stream of diborane sprayed at a slant from the jet openings. Suddenly a ghostly green flooded the desert, crater walls and clouds. The basalt rocks would no longer remain in a molten state, just where the broad stem of the *Invincible* was supposed to touch down.

“Reactors zero power. Land with cold drive!”

The men’s hearts began to beat faster. They looked at the instruments. Their sweaty hands grasped levers. This last command meant there would be no turning back now. Soon they would be able to step down on terra firma; even if it was only the sand of a barren planet. Nevertheless they would see the sun rise and set again, see a horizon and clouds, and feel the wind.

“Landing dead center at nadir!”

A continuous moan filled the ship: the turbines extruded the fuel in a downward direction. A cone-shaped green column of fire connected the *Invincible* to the rocky steaming ground. Sand clouds obscured the periscopes located on the middle decks. Only the radar screens in the control center showed the constantly changing outlines of the surrounding landscape which rapidly disappeared under the full fury of the raging typhoon.

“Stop at touchdown!”

The colossal descending rocket compressed the fiery column inch by inch. Rebellious flames swirled directly beneath the ship’s stern. Long tongues licked out from this green fiery hell into the quivering clouds of sand. The space between the burned rock and the *Invincible* narrowed down to a tiny gap, a glowing green line.

“Zero, zero! Cut all power!”

The rocket had come to rest on the ground. The chief engineer kept a firm grasp on both levers of the emergency starter in case the rock might suddenly cave in. They waited; the seconds crept by slowly, painfully. For a while the commander observed the plumb line, but the tiny silvery lamp did not show the slightest deviation to either side.

They were silent The nozzles of the jets that only a short time ago had glowed white with incandescent heat began to contract while cooling off. This was accompanied by a characteristic sound not unlike a hoarse groan. Little by little the reddish dust clouds that had been hurled into the air several hundred yards high began to drift towards the ground. The spaceship’s blunt nose emerged

first, then the rump, blackened by atmospheric friction matching the color of the old basalt rocks. But the red sand still whirled around the ship's stem, which now stood firmly on the ground as if welded to the planet's surface. The *Invincible* seemed to have become a part of this planet, seemed to have rotated along with it sluggishly for many centuries under the violet sky where bright stars now could be seen, growing dim only in the vicinity of the red sun.

“Normal procedure?”

The astrogator looked up from the log where he had just jotted down the exact time of their touchdown next to the name of the planet: Regis III.

“No, Rohan. We'll start with the third step routine.”

Rohan tried to hide his surprise.

“Fine,” he replied with the note of familiarity that Horpach occasionally tolerated in their conversations. “However, I'd rather not tell the crew myself.”

Seemingly ignoring Rohan's remark, the astrogator took his officer by the arm and steered him over to the videoscreen.

Gazing through the stereoptic, multicolored screen of the electron transformer as if it were a window eighteen storeys high opening onto the outside, they saw a true image of the landscape surrounding their landing site.

The force of the landing jet stream had hurled the sand outward and piled it up in a ring of dunes surmounting a shallow hollow. They noticed the jagged rocky rim of a crater some three miles

away, its western edge blending into the horizon. Impenetrable dark shadows hung below its steep slopes toward the east. The ridges of wide lava streams pushed through the sand like rivers of reddish-black congealed blood. A bright star in the sky was visible at the upper rim of the videoscreen.

The cataclysm, brought about by the arrival of the *Invincible*, had gradually died down. Now the desert wind—a violent air mass constantly moving from the planet’s equatorial zones toward its poles—was already driving sandy tongues underneath the ship’s stern, as if patiently trying to heal the wound that the fiery jets had torn open.

The astrogator switched on the network of the outside microphones. The distant sound of malicious howling merged with the nearby rustling of sand gusts as they scoured the steely hull of the ship. For a moment the eerie, grating noise filled the high-ceilinged room of the control center. Horpach switched off the mikes and silence returned.

“Well, that’s what it looks like,” he said slowly. “But the *Condor* never returned home from here, Rohan.”

Rohan clenched his teeth. Better not enter into an argument with his commander. Though they had flown together many parsecs, they had never become friends. Maybe the generation gap was too wide, or the dangers they had overcome together had not been sufficiently severe. This man, whose hair was almost as white as the suit he wore, showed no consideration now for his crew.

Nearly one hundred men waited silently at their posts. Behind them lay the tremendous strain of the approaching maneuver, those three hundred hours needed to brake the kinetic energy that was stored in every atom of the *Invincible*, to swing the ship into the proper orbit and to bring it in for the landing. Almost one hundred men who had not heard the rustling of the wind for many months, who had learned to hate the emptiness of space in the manner of those who have become too familiar with it. But the commander certainly did not take this into consideration now. Slowly he walked across the control center, grasped the back of his chair and growled: "We don't know what that is out there, Rohan." And suddenly he snapped, "Well, what are you waiting for!"

Rohan hurried over to the panel and switched on the intercom. His voice betrayed his inner resentment as he shouted, "Attention, all hands! Attention! Landing maneuver completed. Terrestrial procedure, third step routine. Deck number eight—get the energorobots ready! Deck number nine—start the protective screen reactors! All protection personnel to proceed to their stations! The rest of the crew to remain at their usual posts! These are commander's orders, men!"

As he bellowed these commands into the intercom speaker he kept his eye on the green eye of the amplifier, which oscillated according to the intensity of his voice. Suddenly he seemed to see inside the flickering light the perspiring faces of the men who were turned toward the loudspeakers. He knew the expression on those

faces was changing from amazement to cold fury. Now that they had understood, they would start cursing.

“Terrestrial procedure, third step routine started, Astrogator,” he said without looking at the old man. The old man glanced at Rohan and a slight smile showed unexpectedly around the corners of his mouth.

“That’s just for the beginning, Rohan. You should know that. We’ll probably go for long walks when the sun is setting over the horizon. Who knows...”

He took a thin, long book from a small built-in cupboard at the far end of the wall. He opened it and placed it on the instrument panel that was studded with buttons and levers. He asked: “Have you read this, Rohan?”

“Yes.”

“The last signal registered by the seventh hyper-relay station reached the base just a year ago.”

“I know the message by heart, ‘COMPLETED LANDING ON REGIS III. DESERT PLANET OF TYPE SUBDELTA 92. LANDING PARTY FOLLOWING TERRESTRIAL PROCEDURE, SECOND STEP ROUTINE. LEAVING FROM THE EQUATORIAL ZONE OF THE EVANA CONTINENT.’ ”

“That’s right. But this was not the last signal.”

“Yes, I know, Astrogator. Forty hours later another message was received by the same hyper-relay station. This time apparently in Morse code. The message did not make any sense at all, jumbled up words. And then several times odd noises. Haertel said it sounded like someone was pulling a cat’s tail.”

“Right,” mumbled the astrogator, but he was obviously no longer listening. He stood in front of the videoscreen. Near the lower rim the scissor-like supports of the ramp could be seen. Energo-robots glided down the ramp at equidistant intervals. Each weighed thirty tons of heavy machinery protected by a fireproof armor made of silicon. As they slid towards the ground, each opened and raised its helmet. They left the ramp; soon they were sinking deep into the sand. Still they made good progress, working their way through the dune that the wind had already blown around the *Invincible*. One after the other they turned to the right or the left. Ten minutes later the entire ship was surrounded by a chain of metal turtles. The moment each robot had reached its place it started burrowing down into the sand. Soon they disappeared in the sand except for the glittering domes of their Dirac emitters that peered out from the red dunes of the dunes, forming the evenly spaced links of one huge circular chain.

Suddenly the steel floor of the control center began to vibrate. The men could feel it distinctly through the thick padding of foam rubber that covered the floor. An almost imperceptible tremor flashed through their bodies, and for a moment they noticed a quivering in the muscles of their jaws. Everything around them grew hazy. The phenomenon lasted no more than half a second. Once again all grew silent around them, interrupted only by the distant hum of starting motors that rose up from the lower decks. Then everything came back into focus again. The desert, the dark red rocky hillsides, the slowly creeping sandy waves showed up in



sharp outlines on the videoscreen. All seemed as it had been before—but now an invisible field of energy formed a protective dome around the *Invincible*, cutting off access to the spaceship.

Now metal crabs made their appearance on the ramp. They descended slowly, their antennae twirling like the arms of a windmill. These flat info-robots were considerably larger than the field emitters, and walked on curved metallic stilts that projected on either side. The metal arthropods soon bogged down in the deep sand; with reluctance, they extricated their extremities in order to take their places inside the spaces next to each link formed by the chain of the energo-robots.

While all protective measures began to function, tiny control lamps lit up against the dull background of the central panel. The dials of the instruments that counted incoming impulses were suffused by a greenish glow, becoming dozens of luminous green cat's eyes that stared at the two men. The needles on all the dials pointed to zero. Nothing attempted to break through the invisible wall of their energy field. One needle only kept steadily moving upwards: an illuminated arrow rose up on the energy distributor gauge, advancing beyond the Gigawatt lines.

"I'm going down to get something to eat. Get started with the stereotype, Rohan." Horpach's voice sounded very tired as he turned away from the videoscreen.

"Remote control?"

"Not necessarily. You can send somebody out. Or even go yourself, if you want to," said Horpach as he was opening the door

and leaving the room. For one more moment Rohan could see the old man's profile inside the dimly lit elevator as it started to go down. He looked at the field gauge. Zero. We should really begin with the photogrammetry, he thought to himself. Circle the planet and photograph it systematically. Perhaps something might be found that way. Much better than relying only on visual observations. After all, a continent isn't the same thing as an ocean, where one sailor in the crow's nest will do the trick. But photogrammetry would take about one month. Too long.

The elevator had returned. Rohan got in and descended to the sixth deck. A crowd had gathered on the big platform in front of the airlock. The men no longer had any business being there; the dinner gong had been sounded for almost fifteen minutes steadily.

The men stepped aside to let Rohan pass.

"Jordan and Blank, come along for a stereotype investigation."

"Full protective gear, Navigator?"

"No. Just the oxygen tanks. And a robot. Let's take an Arctane. He won't get stuck in that damned sand." Rohan turned to the men standing around. "Well, what are you still doing here? Lost your appetite?"

"We'd like to see what it's like outside, Navigator."

"Why can't we go ashore?"

"Just for a few minutes—"

They all spoke at once.

"Steady, steady, men. Don't lose your cool now. We'll all soon be going sightseeing. For the time being it's terrestrial procedure,

third step routine.”

The men left reluctantly.

In the meantime a robot had arrived from the ship's hold. It stepped off the freight lift. It was at least a head taller than the men. Jordan and Blank returned on an electrocart bringing some oxygen tanks with them. Rohan stood leaning against the railing of the corridor. Now that the spacecraft rested on its stern the corridor had turned into a vertical shaft reaching down all the way to the first engine room. Above and below him were the many storeys of the rocket; somewhere in the depths the conveyor belts ran quietly. He could hear faint smacking sounds coming from the hydraulic system. Cool air blew up the shaft from forty yards below where the air conditioning plant inside the engine room had cleansed the fouled atmosphere.

The personnel at the airlock opened the door for them. Rohan made a routine check: the straps were tight; the mask fitted properly. Jordan and Blank entered behind him, followed by the robot. The steel floor resounded under the metal monster's weighty steps. A piercing, constant hissing sound came from the air that was sucked inside the interior of the ship. The outside hatch sprung open, and they could see the engine ramp four storeys below. A small elevator was already waiting for them. (It had been released from inside the hull the moment they had entered the airlock.) The elevator shaft consisted of a wire network which stretched all the way down, touching the rim of the sand dunes. The elevator cage had no walls, and the men could feel the air, but it was hardly

cooler than inside the *Invincible*. As they stepped onto the waiting platform, the magnetic brakes were released. From a height of eleven storeys up, the four glided down gently, passing the various sections of the ship's hull on the way. Rohan inspected the walls mechanically. You rarely get a chance to look at a spaceship so closely from the outside, he thought to himself. That rocket had a pretty rough time, all these years. Must have been hit by some meteors ... looks as if the armored plate has corroded in spots here; no longer looks shiny...

The elevator reached its destination and came to a complete standstill on top of the soft sand dune. The men jumped out, sinking knee-deep into the shifting sand. The robot waddled ahead with firm strides, like a giant duck. It had been outfitted with absurd-looking monstrous flat feet, reminiscent of snowshoes, for just this purpose. Rohan ordered the robot to stop. Then he and his men examined the outer rim of the jet openings around the stern, approaching as closely as possible.

"They could stand a good cleaning. Need to be ground and polished again," he remarked to his companions.

As they crept out from under the ship's stern, he noticed the gigantic shadow cast by the *Invincible* ahead of them, a dark road stretched straight out across the sand dunes, bathed in the light of the setting sun. A strange calm emanated from the monotonously even sandy waves. Blue shadows gathered in the ridges while rosy twilight played on the crests. This warm, delicate pink reminded him of the pastel hues he had seen in picture books as a child. Such

incredibly soft colors. His eyes wandered across the dunes, detecting ever new variations of this yellowish-pink glow. Farther away the colors deepened to a rich red interspersed with sickle-shaped black shadows. Far off in the distance where the dunes nestled at the foot of bare, threatening volcanic rocks, the warm colors faded into a uniform yellowish gray.

While Rohan stood gazing at the landscape, his men carried out their routine measurements. They worked at a deliberate pace, mechanically employing the skills they had acquired over so many years. They filled small containers with samples of the atmosphere, the soil, the rocks. They tested the radioactivity of the ground with the help of a probe manipulated by the Arctane robot.

Rohan paid no heed to what his men were doing. The oxygen mask covered only his nose and mouth, while his eyes and the rest of his head were exposed to the air. He had removed his protective helmet, and could feel the wind ruffling his hair. Tiny grains of sand were blown against his face and clung to the skin, tickling where they penetrated the gap between the mask and his cheeks. Heavy gusts of wind pulled at the loose trousers of his protective suit. The huge, bloated sun disk was dipping down close to the horizon; it was possible to look straight into the dark red ball for a moment or two. The wind whistled with long drawn-out sighs. Since the energy field around the ship permitted free passage of gases, Rohan could not make out where its invisible wall rose up from the sand.

The gigantic area that stretched endlessly out before him seemed totally devoid of life, as if no living being had ever set foot on it. Could this be the same planet that had devoured a spaceship as immense as their own? A heavy cruiser with a crew of one hundred men, a mighty experienced sailor of the void, capable of developing energies of several million kilowatts within the fraction of a second which could be transformed into protective screens impenetrable by any matter; energies which might be bunched into destructive rays with the soaring temperatures of a burning star, that would change mountain ranges to dust and ashes, or dry out entire oceans. Yet the *Condor* had disappeared from this very same planet without a trace. How was it possible to explain the fact that a huge steel structure, built on earth, the fruit of a highly developed technology that had already flourished for centuries, could simply vanish in this red and gray desert without so much as even sending an S O S?

This is what the whole continent looks like, he thought. He remembered the view from above: crater after crater with their serrated rims. The only noticeable movement came from floating cloud banks that dragged their shadows across the endless desert dunes.

“Any radioactivity?” he asked without turning around.

“Zero, zero, two,” replied Jordan while slowly getting off his knees. His face looked flushed, his eyes shiny. The mask distorted his voice.

That's negligible, Rohan thought. That couldn't have done anything to the *Condor's* crew. Besides, they'd know better than to commit any gross negligence. Even if they hadn't carried out the routine stereotype examination, the automatic controls would have sounded the alarm,

"Atmosphere?"

"Nitrogen seventy-eight per cent, argon two per cent, carbon dioxide zero, methane four per cent, the rest is oxygen."

"Oxygen sixteen per cent? Are you sure?"

"Absolutely sure."

"Any radioactivity in the air?"

"Practically none."

That much oxygen. Strange. Rohan was surprised. He stepped over to the robot who held out a cassette containing all the figures for Rohan's inspection.

Maybe they tried to go without oxygen tanks. He dismissed the thought as absurd. Occasionally a crew member would take off his mask against orders and die of poisoning. Maybe one or two men, but no more than that.

"Are you through with everything?" he wanted to know.

"Yes."

"Then get back to the ship."

"How about you, Navigator?"

"I'll stay a while longer. Just go back now, all of you!" He grew impatient in his desire to be alone. Blank swung the strap over his shoulder. The strap held all the containers together that now

dangled down his back. Jordan handed the probe to the robot. The men waded clumsily through the deep sand, the Arctane waddling behind them like a man in disguise.

Rohan walked some distance until he could see the broad openings of the energy-field emitters sticking out of the sand. In a sudden surge of childish mischief he grabbed a handful of sand and threw it against the spot where the invisible wall was supposed to be. Not that he needed any confirmation; he just obeyed a playful impulse. The sand arched through the air, then trickled down in a straight line as if it had hit an invisible glass vault. Rohan's fingers were itching to tear off his mask. How well he knew that sensation: spit out the plastimouthpiece, jerk loose the safety straps, then pump his chest full of air, sucking it deeply into his lungs...

I'm getting emotional, he thought, as he slowly made his way back to the ship. The elevator was waiting for him, empty, the platform nestled softly in the sand. Within a few minutes the wind had already deposited a fine layer of dust upon the entire structure.

In the main corridor of the fifth deck he glanced at the information panel. The commander was in the forward cabin. He made his way up there.

"To sum it up, it's quite idyllic out there," was Horpach's comment after listening to the navigator's report. "No radioactivity, no spores, fungi, viruses ... nothing except this oxygen. Be sure you have some cultures made of those samples."



“That’s already being taken care of in the lab. Perhaps life has developed on some other continent of this planet.” Rohan’s voice lacked conviction.

“I’d rather doubt that. Not too much solar irradiation beyond the equatorial zone. Didn’t you notice how thick the polar icecaps seemed to be? They must be some five to six miles deep. More likely we’d find life in the ocean. Maybe some algae or seaweeds. I wonder why no living forms ever left the water and adapted to dry land?”

“We’ll have to take a closer look at that ocean,” said Rohan.

“It’s too soon to ask our people for definite data; but the planet seems to be quite old. It must have been around for a good billion years. Even the sun must once have seen better days. Lost all its lustre. It’s almost a red dwarf star. Puzzling that there is no life on land. Perhaps some special evolutionary characteristic that cannot exist outside of water ... that would explain the presence of oxygen, but not the mysterious disappearance of the *Condor*.”

“Maybe there are aquatic life forms down on the ocean bed, some kind of hidden civilization at the bottom of the sea,” ventured Rohan.

The two men examined a huge map of the planet. It had been drawn in Mercator projection about a century earlier, according to the data obtained by automatic probes. The map was inexact, showing only the outlines of the most important continents and oceans, the approximate extent of the polar caps and the largest craters. A red dot marked their landing site, below the eighth

parallel of the northern latitude. Horpach swept aside the map impatiently,

“How can you believe such nonsense!” he snapped at the navigator. “Tressor was just as smart as we are. He would never have capitulated to a bunch of fish from the ocean. Besides, let’s assume any intelligent life had evolved in the sea, it would surely have established a foothold on dry land. They could always have used protective suits filled with ocean water. Rubbish. Total nonsense,” he grumbled, not because Rohan’s suggestion was entirely without any merit. His thoughts had already raced ahead to something else.

“We’ll stay here for a while,” he concluded. He touched the lower rim of the map, which rolled up with a softly rustling noise, then disappeared on one of the horizontal shelves of the big map case. “We’ll just wait and see.”

“And if nothing happens?” Rohan inquired cautiously. “Won’t we start looking for them?”

“Be reasonable, Rohan! Such a—” The astrogator tried to find a suitable phrase. But the right word would not come. He replaced it by a disdainful wave of his right hand.

“This planet is as big as Mars. How can we possibly send out search parties for them? How can we hope to find the *Condor*?”

“The soil does contain a lot of iron,” Rohan admitted reluctantly. An analysis of the soil had indeed shown a considerable admixture of iron oxides, so that ferro-induction values would be useless under these circumstances. Rohan did not

know what else to say. He was quite convinced that the Commander would find a solution somehow. After all, they could not return home empty-handed. He gazed at Horpach's heavy eyebrows with their white bristling hairs, and he waited.

"To be frank with you, I'm not so sure that these forty-eight hours we are supposed to wait will help us in any way; but these are the regulations we have to obey," suddenly confessed the astrogator. "Sit down, Rohan! You bother my conscience. This Regis III is the most idiotic place in the universe. Sheer idiocy to have sent the *Condor* here in the first place. I can't imagine why they did it. But that's neither here nor there. We just have to face the facts of the situation."

Horpach fell silent. He was in a bad mood, which usually made him quite talkative and liable to become almost confidential. This was fraught with danger, though, for he might cut short such brief periods of intimacy with some nasty remark.

"Let's come to the point. We must act; we can't wait. All right then. Place several photographic probes into orbit around the equator. Make sure the orbit will be circular and not too far out. Let's say about forty miles."

"But that would still be inside the ionosphere," objected Rohan. "They'd burn up after a few times around the globe."

"So what? Let them burn up! As long as they get in a lot of photos. I'd even suggest not going beyond thirty-five miles. They'll probably burn up after the tenth orbit. But we can't send them any higher than that and still get usable shots. Do you have any idea

what a rocket looks like seen from sixty miles altitude, even with the best tele-lens? The head of a pin would be as big as a huge mountain next to it. Start right away... Rohan!"

The navigator was halfway out of the door when he turned to see Horpach throw a paper on the table. It was the report with the results of the routine stereotype analysis.

"What is that supposed to mean? What kind of lunacy is that? Who made out that report?"

"The automatic analyzer. What's the matter?" asked Rohan making an effort to suppress the anger that was slowly rising in him. Now he's got to get on my back, he thought walking forward with deliberate slowness.

"Read that! Here, you see!"

"Methane: four per cent," Rohan read out loud. "Four per cent!" he exclaimed in a startled voice.

"Four per cent methane, that's what it says here. And sixteen per cent oxygen. Do you realize what that means? An explosive mixture. Can you explain why the whole atmosphere didn't explode when we landed with diborane as a propellant?"

"Incredible—I can't understand it," stammered Rohan. He hurried over to the control panel, pushed the button of the suction tube which would deliver a sample of the outside atmosphere. While Horpach paced the floor impatiently in ominous silence, Rohan intently observed the analyzers.

"Well, any change?"

“No, the same analysis as before: methane four per cent, oxygen sixteen per cent,” replied Rohan. Although he failed to understand this result, he experienced a certain satisfaction in the knowledge that the astrogator could not put the blame on him.

“Let me see that, will you,” urged Horpach. “Methane: four per cent. Damn it, you’re right. All right, then. Put the probes into orbit and then come over to the small lab. What do we have our experts for? Let them rack their brains a bit.”

Rohan took the elevator down, called two rocket experts to join him in the small briefing area, where he gave them the astrogator’s orders. Then he returned to the second storey. Here were the laboratories and cabins of the experts. He passed several narrow doors, each marked by a name plate bearing nothing but initials: Ch. I., Ch. Ph., Ch. T., Ch. B. The door of the small lab stood wide open. He could hear the monotonous voices of the experts. Now and then they were interrupted by the astrogator’s deep bass. Rohan stopped at the threshold. All the “chiefs” were assembled in this room: the engineers, biologists, physicists, physicians, and the technologists from the engine room. The astrogator sat at the farthest end next to the portable computer. Moderon, holding his swarthy hands folded in front of him, was speaking. “I’m no gas expert. In any event, we are not dealing here with ordinary methane. The energy of the chemical bonds is different, even if it is only a difference of one-hundredth. It will react with oxygen only in the presence of some catalytic agent, and then only with great difficulty.”

“Where does this methane come from?” inquired Horpach, twiddling his thumbs.

“Its carbon is of organic origin, of course. There is not much of it, but beyond any doubt—”

“Are there any isotopes? How old are they? How old is this methane?”

“Anywhere from 2 to 15 million years.”

“You certainly left yourself a nice amount of leeway!”

“We only had half an hour. I can’t tell you any more than that.”

“Quastler! What’s the origin of this methane, what do you think?”

“I don’t know.”

Horpach’s glance made the round of his experts. He looked close to losing his temper; but suddenly he smiled.

“Gentlemen! After all, you are the experts. We have been working together for quite some time now. Let me have your opinion now, please. What do you suggest we should do, where shall we begin?”

No one was willing to answer, except for the biologist Joppe, one of the few who were not afraid of the astrogator. He gazed calmly at the commander: “This is not an ordinary planet of the class Subdelta 92. Otherwise the *Condor* would never have vanished. Since they also had experts on board, neither any better nor any worse than we have here, we can safely assume that their knowledge was insufficient to prevent the catastrophe. This leaves us with the only possible solution: We must continue to proceed

with the third step routine and examine the mainland and the oceans of Regis III. To begin with, I'd suggest collecting some core samples for geological analysis. At the same time we should obtain various water specimens from the ocean. Anything else would be speculation, a luxury we cannot permit ourselves in our present situation."

"Very well." Horpach pressed his lips together into a thin line. "No problem getting core samples of the ground within the energy field. Dr. Norwik can take care of that task." The chief geologist nodded his consent. "As far as the ocean is concerned—what's the distance from here to the shore, Rohan?"

"About 120 miles," answered the navigator. He was not in the least surprised that the commander was aware of his presence, although he could not possibly see him.

"That's a bit too far. But anyhow, take as many people along as you think you'll need. Fitzpatrick, one of the oceanographers, a few marine biologists, and six energo-robots from the reserve stock. Drive to the shore. Work only inside the protective energy screen. No joy rides on the ocean, no diving attempts. Be careful with the energo-robots, we don't have any to spare. Got it? Well, you can go ahead then. Wait, one more thing: is the atmosphere suitable for breathing?"

The physicians consulted each other in a barely audible whisper.

"Essentially, yes," Stormont answered finally. His voice did not sound very convincing.

“What do you mean, ‘essentially’? Is the air breathable or not?”

“The high percentage of methane will eventually have some effect on the men. As soon as their blood reaches saturation point, we can expect certain disturbances in the brain. They’ll become unconscious within one hour of exposure, or perhaps it’ll take several hours.”

“How about using a methane absorber?”

“Not practical. We would need too many—you’d have to change them constantly. Besides, the oxygen content of the air is too low. I’m in favor of taking along oxygen tanks.”

“How about you others? Do you agree?”

Witte and Eldjarn nodded their consent.

Horpach rose from his chair. “That’s it, then. Let’s get started. Rohan! What’s the matter with the probes?”

“They are ready for takeoff. May I put them into orbit before we leave on our expedition?”

“Yes.”

Rohan turned away and soon left the noise of the laboratory behind him. The sun was setting as he reached the control center. The serrated contours of a crater stood out starkly against the horizon, its peaks unnaturally clear against the red-rimmed violet and purple of the sun. The sky was more densely star-studded and seemed to loom more vastly in this part of the galaxy than elsewhere. The major constellations began to sink lower and lower toward the planet’s surface, soon merging with the dark shadows of the desert.



Rohan called the satellite launching pad via intercom. They were announcing the start of the first pair of photo satellites, to be followed by additional launchings within the hour. In another twenty-four hours the *Invincible's* crew could expect to receive a detailed photographic survey of the entire equatorial zone.

Rohan sat down in front of the control panel. No one would ever have gotten him to admit that he felt the same thrill at the light effects whenever a satellite was put into orbit. First the control lamps of the booster rocket would flare up with red, white and blue lights. Then the starter automat would begin countdown. As soon as its ticking ceased, a slight tremor would shake the entire ship's body. At the same time a bright phosphorescence would illuminate the desert that until that moment had lain like a dark shadow on the videoscreen.

A low rumble spread throughout the whole cruiser, down to the lowest decks, as the tiny projectile shot out of the ramp at the ship's nose. The *Invincible* was bathed in a sea of flaming light. The booster rocket fled skyward, its glow a feeble flicker on the slopes of the dunes, which soon were covered by darkness again. Now—the rocket could no longer be heard—the instrument panel was racked by a sudden feverish trembling. The oval-shaped ballistic control lights flashed out of the dark, and were welcomed with friendly encouraging nodding by the shimmering lights of the remote control steering, like bits of mother-of-pearl. Then colorful signals lit up like a Christmas tree: they indicated that the burnt-out rocket stages had been jettisoned. Finally the rainbow effect

created by the constant flickering and shimmering was blotted out by a stark white rectangle. This was the sign that the satellite had reached its orbit. In the center of this glittering white area a small gray island emerged, gradually condensing its vague outlines to form the number 67, the altitude at which the satellite was circling the planet.

Rohan quickly checked out the orbital parameters, but perigee and apogee were close to the values calculated beforehand. There was nothing else for him to do here. He compared the time aboard the *Invincible*, 18:00, with current local time: it was now 23:00. For a brief moment he closed his eyes; he looked forward to this excursion to the seashore, for he preferred working on his own. He felt hungry and tired. Rohan deliberated whether he should take a pep pill, but then decided to have a real meal. As he rose from his seat he realized how exhausted he actually felt. The momentary shock caused by this discovery gave him a new burst of strength. Rohan took the elevator down to the mess hall. His crew was already there waiting for him: the two drivers of the air-cushioned hover trucks. He was fond of the one named Jarg, because of his pleasant disposition. There were also the oceanographer Fitzpatrick and his two colleagues Broza and Koechlin. They were just finishing supper as Rohan ordered some hot soup and helped himself to bread and a few bottles of nonalcoholic beer which he took from an automatic dispenser built in the wall. He placed everything on a tray and walked over to the dining table. At this

moment a slight tremor shook the floor. The *Invincible* had launched another satellite.

The commander had not been in favor of any nocturnal expeditions. Shortly before sunrise, at 5:00 A.M. local time, they started out on the journey. They employed the usual precautionary measures, advancing in the painfully slow marching order that was generally known as the “funeral procession.” A group of energo-robots led the way while others brought up the rear. They had erected an ellipsoid force field for the protection of the entire group, for the all-purpose vehicles, the cross-country jeeps containing radar and radio installations, the mobile kitchen, the trailer with airtight living quarters, and the small carriage on caterpillar tracks on which their laser beam sender had been mounted.

Rohan and his three experts climbed into the energo-robot at the front of the train. It was a rather tight squeeze, but this way they had at least the illusion of a relatively normal ride. The entire train moved at the speed of the slowest vehicles—the energo-robots—which did not contribute to the men’s comfort. The caterpillar tracks groaned and crunched through the sand. The turbo engines maintained a steady hum, reminding Rohan of a huge swarm of persistent flies. Cool air blew from the air conditioning duct that opened directly behind their seats. The energo-robot rocked back and forth like a big sloop making its way through heavy seas. After a while the black needle of the *Invincible* sank below the horizon.

For some time they drove across the monotonous desert while the sun rose, blood red and cold.

The landscape changed. There was no longer so much sand. Instead rocky shelves rose at a slant from the ground. Many detours were necessary. Conversation was impossible because of the noisy engines and the oxygen masks covering their faces. Conscientiously the men scanned the horizon, again and again finding the same picture: huge rock piles and big chunks of well-weathered stones. Finally the ground began to slope downwards. At the bottom of a basin-shaped valley they discovered a small brook with a narrow trickle of water that glittered in the red light of the dawn. Both banks were lined with wide deposits of round, polished stones, indicating that the brook occasionally must carry considerable amounts of water.

They halted briefly and examined the water. It was limpid but rather hard, and contained ferric oxide and tiny traces of sulphide.

They continued their march at a faster pace than before, since the caterpillar tracks could make better headway on the rocky ground. To the west rose low rocky cliffs. The last vehicle maintained communication with the *Invincible*. The radar antennae kept turning; the observers sat in front of their radar screens, constantly adjusting their headsets and chewing grains of energy concentrate. Once in a while a stone was flung out from beneath the turbo-drive vehicles as if by a tiny tornado, propelling it high up the stony slopes. Then their way was blocked by softly arching hills. Without slowing down they picked up a few rock samples.

Fitzpatrick called out to Rohan that the gravel-like soil might be of organic origin.

Finally, as they sighted the blue-black surface of the ocean, they also found some limestone formations. They drove toward the shore. The ground was now covered with small, flat stones over which the vehicles proceeded noisily. The hot vapors from the motors, the screeching of the caterpillar chains, the hum of the engines were all instantly stifled as they halted suddenly about one hundred yards offshore. The green-gray ocean stretched out ahead of them, looking no different than the Atlantic Ocean on Earth.

Now a rather complicated maneuver had to be executed: the energo-robot in front of the column had to advance deep into the water in order to maintain the protective energy screen above the whole group. The machine was made watertight, then it rolled into the waves, steered by remote control from another robot. The first robot sank slowly deeper and deeper, disappearing underneath the surface, and could be seen only dimly as a dark spot. Then, obeying a radio signal, the immersed colossus pushed its Dirac emitter above the surface of the water. As soon as the energy field had become stabilized, arching an invisible hemisphere over a part of both the shore and the ocean in front of it, the men could start their examinations.

The salinity of this ocean was slightly less than that of terrestrial sea water, but the results of the analysis were anything but sensational. Two hours later they knew little more than before, so they steered two television probes far out over the ocean,

observing their paths on television sets. Not until the probes had disappeared on the horizon did the crew receive signals that were of any interest to them. Some living organisms inhabited the ocean; they resembled fish. As the probes approached, the creatures scattered with enormous speed, seeking shelter in the depths of the ocean. Sonic depth finders located the first sign of organic life on Regis 150 yards below the surface of the ocean.

Broza insisted on catching one of the fish. The probes pursued the shadows as they flitted about in the darkness of the ocean, shooting electrical charges at them. But the fish were incredibly agile; it took many misses before finally one of the creatures was stunned and could be grabbed by hooks lowered from the probes. The crew recalled the probe immediately to shore.

In the meantime, Koechlin and Fitzpatrick had guided another probe over the ocean, collecting samples of fibers that were drifting in the deeper layers of the sea. The men believed them to be a type of local algae. Finally they sent the probe all the way down to the ocean floor, which at this point reached a depth of 250 yards. Down below were strong currents that made remote-control steering rather difficult. The probe was constantly pushed off course and collided all the time with the rock heaps on the ground. With great effort some of the stones could finally be rolled over. Just as Koechlin had suspected, a whole colony of tiny cilia-covered creatures had been hiding underneath the shelter of the big stones.

After the two probes had safely returned to their base, the biologists began their task. In the meantime a hut had been erected where they could take off the bothersome respirator masks. Rohan, Jarg and the five other men ate their first hot meal that day.

For the rest of the day they were busy collecting mineral specimens, examining the radioactivity of the ocean floor, measuring the amount of insulation and carrying out the manifold tasks that were irksome yet had to be performed with accuracy if they wanted to obtain reliable results.

By dusk everything that they had set out to do had been achieved. Rohan felt a sense of accomplishment as he stepped to the microphone to answer Horpach's call from the *Invincible*. He reported that the ocean was full of living organisms, all of which avoided coming anywhere close to the shore regions. Nothing unusual had been detected when they had dissected the one fish they had caught. The evolution of life on Regis III must have been going on for approximately several hundred million years. They had also discovered considerable amounts of green algae; this should account for the presence of the oxygen in the atmosphere. There was the same division of observed organic forms as on Earth and other planets, namely into flora and fauna. Also the skeletal structure of the vertebrates seemed to be typical. However, one organ had been found in the fish specimen for which no corresponding terrestrial structure was known to the examining biologists. This seemed to be a special organ of sense that reacted strongly to minute variations in a magnetic field.

Horpach ordered the crew to return immediately to the spacecraft. He closed the conversation by reporting an important item of news: they had apparently succeeded in discovering the place where the lost *Condor* had landed.

Despite the violent protests on the part of the biologists (who insisted they would need at least several weeks to complete their investigations), Rohan had the huts dismantled. The engines started and the column began its way back in a northwesterly direction. Rohan was unable to give any further details to his crew, who were eager to learn more about the *Condor*. He was certain, however, that it was advisable to hurry back, for he assumed that the commander would give out new assignments that most likely would supply them with more rewarding answers. Of course, the first step would consist of a thorough examination of the area where the *Condor* was supposed to have landed. Rohan drove as fast as the engines would permit. Their return trip was accompanied by a hellish noise as the caterpillar tracks rattled rapidly over the gravel ground, crunching and cracking and spewing out the stones in their path.

At the onset of darkness they switched on their big headlights; before their eyes the flickering light cones drew from the darkness huge, shapeless, apparently mobile silhouettes—which turned out to be nothing but big boulders, the last remaining remnants of an eroded mountain chain.

Several times they were forced to stop before some deep rifts in the basalt that had to be cautiously circumnavigated.



It was long past midnight when they finally sighted the body of the *Invincible*, shimmering in the distance like a festively illuminated metal tower. A great deal of activity was going on within the area of the energy field. Rows of vehicles were moving about, provisions and fuel were unloaded; groups of men were crowded below the ramp, which was lit up as bright as daylight by the huge Jupiter lamps. From a distance the returning men could hear the noise generated by the workers, busily scurrying about like so many ants in a bustling ant-heap. Now blue signal lights began to blink to indicate the spot where they could re-enter the energy screen. One after another, the vehicles of the returning expedition rolled into the protective hemisphere.

Hardly had Rohan jumped off his truck when he hailed one of the passing men, whom he recognized as Blank. Rohan asked him what else had been found out about the *Condor*. But Blank had not even heard anything about the presumed discovery of the lost spaceship. There were only a few additional bits of information he could supply to Rohan. Before the satellites had burned up in the lower layers of the atmosphere they had managed to make some eleven thousand photographs. These had been transmitted and received by radio signals, which in their turn had been transferred onto specially prepared plates that were now in the cartographical cabin.

Rohan did not wish to waste any time. He ordered the cartographer Erett to come to his own cabin. While standing under a hot shower, Rohan quizzed Erett. He wanted to hear what had

occurred on board the *Invincible* while he had been out on his expedition to the ocean shore. Erett was one of those who had carefully examined the incoming satellite photos for any trace of the vanished *Condor*. He had been one of thirty men who had searched for this tiny grain of steel in the vast ocean of sand. Their group of experts had consisted of several planetologists, cartographers, radar observers and all pilots aboard the *Invincible*. For more than twenty-four hours they had alternately sifted through the incoming material and then noted down the coordinates of any suspicious spot on the planet. Unfortunately the commander's report to Rohan had turned out to be incorrect: what they had believed to be the spaceship was nothing but an unusually tall rocky spire whose shadow had looked remarkably like that of a rocket. Thus the *Condor's* fate remained in the dark as before.

Rohan wanted to report directly to the commander but he had already retired for the night, so Rohan went to his own cabin. Despite his exhaustion he could not fall asleep for a long time. Shortly after he awoke the next morning, he received a request from the astrogator via Ballmin, chief of the planetologists, to dispatch his entire material to the main laboratory. By ten o'clock Rohan felt so hungry—he had not yet had breakfast—that he took the elevator down to the mess hall for the radar observers. He was just drinking his coffee when Erett stormed in, rushing straight to Rohan's table.

“Did you find the *Condor*?” Rohan asked when he saw the cartographer’s excited face.

“No, but we’ve detected something much bigger. Come along right away, please. The astrogator is waiting for you.”

It seemed as if the glassed-in cylinder literally inched its way up the elevator shaft. Nobody spoke to them when they arrived at the quiet darkened cabin. The humming of the relays could be heard and the automatic developer spat out shiny moist photos; but no one paid any attention. Two technicians were just pulling a projector out from behind a hinged door in the wall. Just before the technician switched off the light, Rohan managed to locate the white-haired cranium of the astrogator amid all the other heads. The next moment a silvery shimmering screen descended from the ceiling. Tense breathing was the only audible sound. Rohan got as close to the screen as possible. The rather fuzzy image (unfortunately only a black-and-white photo) showed a bare high plateau, surrounded by an irregular ring of small craters, jutting out from the landscape. On one side this tableland fell away steeply, as if sliced off by a giant knife. That was the shoreline, for the rest of the picture was filled by the even black expanse of the ocean. At some distance from this precipice Rohan noticed a mosaic of indistinct shapes that lay partially obscured under some low clouds and their shadows. No doubt about it, this peculiar structure with its blurry outlines could not be mistaken for any geological formation.

It's a city, thought Rohan with excitement. The room was silent as the technician tried in vain to get the picture into a sharper focus.

"Were there any disturbances during transmission?" the astrogator's calm voice broke through.

"No," replied Ballmin out of the dark. "We had good transmission, but this shot was one of the last of the third group of satellites. Eight minutes after it had been launched, it no longer reacted to our signals. This photo was probably taken after the objectives had already been damaged by the rapidly rising temperature."

"The camera was at a distance of roughly forty miles from the center of this structure," interjected another voice, that Rohan recognized. It was Malte, one of the most talented planetologists.

"I'd be inclined to put the distance rather at some thirty to thirty-five miles. Will you look at this, please?" The astrogator's body obscured part of the screen. He took a transparent stencil with many circles and placed it over the various craters in the visible part of the screen.

"These are definitely larger than those of the earlier shots. But it doesn't matter, either way you look at it..." he added without completing his sentence.

They all knew what he had meant to say: soon they would be able to judge for themselves whether the satellite cameras had been properly focused. For a few moments they regarded the image on the screen. Rohan was no longer certain whether this

was a city or the ruins of one. That these geometrically regular structures must have been abandoned for quite some time could be concluded from the pencil-thin wavy shadows of the dunes which encircled them. Some of these constructions had been almost totally covered by the sand. The geometrical order of the ruins was divided into two uneven parts by a zigzag line which grew wider as it stretched further inland. This tectonic fissure cut several of the large “buildings” in half. One of these had toppled over and formed a bridge across the chasm.

“Lights, please,” sounded the astrogator’s voice. As bright lamps illuminated the cabin he glanced over to the clock on the wall.

“We’ll leave in two hours.”

Dissatisfied comments greeted this announcement. The loudest protests came from the assistants to the chief geologist; they had already drilled 200 yards down into the ground to obtain soil and rock specimens. With a slight wave of his hand Horpach indicated that he wished no further discussion.

“All machines are to return on board ship. Make safe any material obtained so far. Continue examining the photos and carry on with all necessary analyses. Where is Rohan? Oh, there you are. Did you hear what I said? Everyone to be ready for takeoff in two hours!”

The men loaded the machines into the *Invincible*’s hold. They worked fast but with systematic precision. Rohan turned a deaf ear to Ballmin’s pleas for just fifteen minutes more to finish drilling for his last core sample.

“You have all heard the commander’s orders; now get a move on,” he shouted, urging the men to greater speed as they drove their big cranes toward the ditches and drilling holes. Drilling equipment, provisional turnstiles and fuel drums disappeared quickly in the open hatches leading to the ship’s storerooms. Soon the upturned ground was the only sign left of all their activities. Then Rohan and Westergarde, the substitute chief engineer, made one final inspection of the now deserted working places outside the spacecraft. After having taken care of this last precautionary measure, the two men quickly embarked.

A great commotion then sprang up in the sandy dunes around the ship, caused by the energo-robots obeying the radio signal to return to their craft. Quickly waddling along in single file they soon reached their home base.

Now the ramp and the vertical elevator shaft were pulled inside. For another instant nothing moved: the lull before a storm.

Then the metallic whistling of the air sounded its noisy protest as it was squeezed through the jets. A storm broke loose. Around the nose of the *Invincible* greenish dust clouds performed a mad dance. Their pale glow seemed to ooze out until it blended with the red light of the sun.

Deafening thunder shook the desert around the ship. Amidst the echoes reverberating from the nearby rock walls the spaceship ascended slowly but with growing speed and soon disappeared in the violet skies above. All that remained of the landing area was a

circle burnt into the rocky ground, glazed-over dunes and vapor trails high up in the sky.

When the last trace of the rocket's presence, a whitish haze, had been absorbed by the atmosphere, when the wandering sandy waves gradually began to cover up the naked rock of the ground, at the same time filling in the deserted digging spaces—only then, much later, did a dark cloud gather in the west. Hovering low above the earth it pushed close, grew, encircled the landing area with a threatening arm. There it remained, motionless.

As the sun was about to set, a black rain fell on the desert.

## In The Ruins

The *Invincible* landed at a carefully selected spot almost four miles from the northern periphery of the “city,” which could be clearly seen from inside the control center. The impression of dealing here with some artificial constructions became even stronger now than before, when the men had carefully scanned the photos made by the satellites. The structures were angular, usually broader at the bottom than at the upper end. They came in various sizes and stretched over many miles, sometimes with a metallic sheen, sometimes simply black. But even the strongest field glasses would not reveal any details. Most of the buildings seemed to be perforated like a sieve.

This time the tinny clanking of the cooling jets had scarcely died down when the *Invincible* put out the ramp and the elevator shaft, and surrounded itself with the protective chain of energo-robots. But there were some additional precautionary measures. Exactly opposite the “city,” which could not be seen from the ground as it lay hidden by some low hills, a convoy was formed. An energy dome arched over the convoy that consisted of five cross-country jeeps and a mobile antimatter mortar. It was about



twice the size of the vehicles and resembled an apocalyptic bug with bluish glittering wing cases.

Rohan was the commander of this operational troop. He stood upright in the turret hatch of the first vehicle awaiting the signal that would allow them free passage through the force field. Two info-robots had been positioned on nearby hillocks; there they began shooting off a series of long-burning green flares. This clearly marked the path; the small column started to roll. Rohan's car was at the head of the troop.

The engines hummed with their deep bass voices; the heavy balloon tires spewed up fountains of sand. Two hundred yards ahead flew a scouter robot, skimming close to the ground. The robot looked like a flat saucer with rapidly vibrating antennae. These vibrations created an air current which shot hissing into the ridges of the dunes. One could almost believe the flying robot had set the dunes aflame with an invisible fire. The swirling dust cloud lingered in the still air, marking with a puffy reddish line the direction taken by the expedition.

The shadows of the machines grew longer; it was shortly before sunset. The column was forced to make a detour around a small crater that was almost filled with sand. Twenty minutes later the troop reached the edge of the ruins.

They broke formation. Three unmanned vehicles left the train and placed blue lights as a sign that a localized force field had been erected. The two manned cars rolled forward under the protection of the mobile energy dome. Fifty yards behind them the

giant antimatter mortar followed, stalking along on its curved telescopic legs.

On one occasion they had to stop. Just as they crossed a thicket resembling torn metal ropes and wires, one of the robots' legs got stuck in the sand and it was in danger of sinking down into an invisible crevice. But two Arctanes simultaneously jumped off Rohan's vehicle and helped the colossus out of the tight spot. Then the column continued on its way.

What they had called the "city" in reality bore no resemblance to any terrestrial settlement. Dark massifs, anchored in unknown depths, jutted out from the sand of the wandering dunes. With their spiny, brush-like surfaces, these structures looked unlike anything ever before seen by man. The undefinable formations reached a height of several storeys. They had neither windows nor doors, nor even any walls. Some looked like closely woven nets, folded into many layers, penetrating each other in countless places. Wherever they joined there occurred a thickening of the matter. Others reminded the men of complicated spatial arabesques such as might be formed by multilayered honeycombs or sieves with three- or five-cornered openings. Each larger structural unit and every visible facet revealed a certain regularity, not as uniform as that in a crystal, but nevertheless arranged in a certain rhythm. Yet the rhythm was frequently broken by traces of destructive forces. Still others consisted of tightly intergrown branches with curiously angular shapes. These twigs, however, did not branch out as they did on trees and bushes back home on

Earth, but rather formed part of an arch; elsewhere two spiraling twigs wound in opposite directions.

In other places the men saw constructions that leaned at an angle as if they were the supporting girders of a drawbridge. The prevailing winds from the north had deposited sand on all horizontal structural surfaces and wherever the ground fell away with a gentle slope. From a distance, several ruins produced the effect of stocky pyramids whose tops had been lopped off. But up close it became evident that the apparently smooth surface really consisted of a system of many-forked bars and poles, ending in sharp points, forming such an impenetrable tangle in certain places that even the sand got caught in it.

Rohan thought that he could make out cube-like and pyramid-shaped remnants of rocks supporting a dried-out, dead vegetation. Even this impression dwindled the closer he came: despite the chaotic destruction a certain regular pattern was still evident that was alien to any organic lifeforms. These were no genuine massive ruins. It was possible to peer inside through the many chinks in the metal thicket. And yet they were not hollow, for they were entirely filled by this impenetrable growth. Above everything hung the breath of deadly loneliness and isolation.

Rohan thought of the antimatter mortar, but even the use of force would produce no real results, for here was nothing to be invaded. The storm swept stinging clouds of dust through the tall bastions. The even mosaic of the black apertures was filled with sand that trickled down in a steady stream to build up steep cones

at the foot of the honeycombs. This dry sound of the trickling sand never left them during the foray into the ruins. But there was nothing but utter silence from the whirling antennae, the Geiger counters, the supersonic microphones and the radiation dosimeters. The crunching of sand under wheels and the howling of the starting motors were the only noise to be heard as the colonnade changed direction. The troop now swerved off to one side and soon disappeared in the deep cool shade of the gigantic constructions, After a while they came out again into the bright light that lay scarlet red on the sand.

Finally they arrived at the tectonic fissure. It was a crevice one hundred yards wide, its depth unfathomable: it had not yet been filled in by the sand that was constantly swept down from the edges by violent gusts of wind.

They stopped, and Rohan sent the flying scouter robot across the chasm. He followed the robot's progress on his television screen, observing whatever the tele-lenses were registering. But there was always the same familiar sight. Rohan recalled the scouter one hour later. As soon as it had returned to the troop, he had a brief consultation with Ballmin and the physicist Gralew who were traveling with him in his vehicle. They decided to take a closer look at some of the ruins.

At first they tried to measure the depth of the sand layer which covered the "streets" of the dead "city." They used supersonic probes: a rather wearisome procedure, as it turned out, for the various test results conflicted with each other. Probably this was

due to some decrystallization process that had occurred inside the rocky ground as it was torn apart by an earthquake. This was a possible explanation for the origin of the chasm. The depth of the sandy stratum covering the gigantic basin within this sector seemed to vary from seven to twelve yards.

They changed direction again, now turning to the east, toward the seashore. After following a zigzag course for about seven miles through the black ruins that became gradually lower and then finally completely disappeared in the sand, the expedition reached bare rocky ground. They came to a halt on top of a cliff that was so high above the sea that they could hear the breakers only as a weak murmur far below. The coast line was a barren chain of rocks that looked unnaturally smooth, almost polished. Toward the north the shore rose to form a line of mountain peaks that plunged abruptly into the ocean like a petrified waterfall.

They had left the “city” behind them. Now its silhouette stood out black against the reddish horizon. Rohan called the *Invincible* to report what few findings they had managed to get. Then the group turned around, driving back to the interior of the field of ruins. The men were careful to observe all precautionary measures, driving under the shelter of their energy screen.

On the way back one of the energo-robots enlarged the area of its force field—probably because of some tiny directional error—and its edge brushed against the overhang of a pointed “building.” However, the antimatter mortar was connected to the output meter of the force field and had been instructed for automatic

annihilation of any hostile attackers. The mortar apparently interpreted the sudden surge of energy as evidence that something was trying to penetrate the protective dome, and bombarded the ruin. The entire top part of the arched structure—it was as tall as the Empire State Building—lost its dirty gray color and began to glow, turning into a dazzling bright shape. A few seconds later it exploded into a fiery metallic rain. Fortunately not a drop could reach the men in their vehicles, for the incandescent shower slid off the invisible vault of the energy wall. The metallic spray turned into vapor before it could even touch the ground.

The radiation level shot up while the mortar carried out the annihilation of the structure. The Geiger counters automatically gave an alarm signal. Rohan was cursing loudly and threatened to tear apart the man who had programmed the instruments. It took quite a while to cancel the alarm instructions and explain the whole affair to the *Invincible*, who had inquired with concern what had caused these fireworks.

“All we know so far is that we are dealing here with some kind of metal. Probably some alloy of steel, tungsten and nickel,” said Bellamin, who had taken advantage of the general confusion to make a spectrum analysis of the flames.

“Any idea how old it might be?” asked Rohan as he brushed the fine sand off his face and hands.

“No. But this stuff is damn old. Damn old,” he repeated.

“We should examine it more thoroughly. And I’m not going to ask the Old Man for permission, either,” added Rohan with sudden

determination.

They had left behind the molten metal lump that had been part of the spiry ruins. It had turned into a solid body that hung like a broken wing over the path they had taken. Now they stopped in front of a complicated object consisting of several arms that came together at the center. A gap opened up in the force-field marked by two light signals. They approached the strange object. Seen at close range, it presented a scene of confusion. The façade of the building was formed by sheets overgrown with metallic tufts. These slabs were supported from the inside by pillars as thick as tree trunks. There was still some kind of order at the outside surface. The men peered inside, illuminating the tangle with the help of powerful searchlights. Utter chaos was created as the forest of poles branched out in all directions, gathering in thick knots from which metallic twigs sprouted in every direction. It reminded the men of a huge wire tangle made up of cables twisting in millions of different fashions. They tested the structure for electric currents, traces of polarization, magnetism and finally for radioactivity; but they failed to detect anything.

The green light flares that marked the entrance into the tangled area were flickering in the wind. Air masses blew through the steely thicket, got caught inside and whistled eerie chants.

“I wish I could figure out what this damned jungle is supposed to be!” complained Rohan as he rubbed the sand off his sweaty skin. He was standing next to Ballmin on top of the flying scouter robot. A low railing before them rose several yards above the

“street,” a sandy triangular dune between two converging ruins. Way down below they could see their vehicles and the men, like a set of miniature toys. They were craning their necks to gaze up at Rohan and Ballmin.

The scouter robot floated along. Now they passed over an uneven, torn area full of sharp, jagged metal peaks that were occasionally covered by triangular plates. These plates were arranged in an irregular fashion, jutting out at various angles, sometimes bent aside, sometimes turned upwards. This permitted occasional glances into the dark interior. Yet the tangle of rods, intersections and honeycombed walls was so dense that the sun’s rays could not penetrate to the bottom. Even the bright cones of their searchlights were swallowed up by the gloomy abyss.

“Tell me, Ballmin, what is that damned jungle supposed to be?” asked Rohan once more. He was furious. He had kept rubbing the sand off his face and now his forehead was reddened, his skin smarted, his eyes were burning. On top of it all he would shortly have to make his next report to the crew back at the spacecraft. He had no idea how he could describe what they had encountered here.

“I’m not a clairvoyant,” replied the scientist. “I’m not even an archeologist. Not that an archeologist could tell you a great deal here either. It seems to me—” Suddenly he fell silent.

“Go on. Finish what you were going to say.”

“This doesn’t look like any dwelling or the destroyed houses of any humanoid creatures. Do you see what I mean? The only thing I



could compare it to would be a machine of some kind.”

“A machine? What type of a machine? A computer, maybe?”

“What gives you that idea?” countered the planetologist laconically. The robot made a left turn. It was flying close to the metal poles which were jutting out from the bent slabs. Several times the robot almost touched the crazy black network.

“No, no electric circuits to be seen. Or did you notice any switches? Insulators? Anything that might be part of an electronic brain?”

“Maybe they weren’t fireproof. There could have been a fire here. After all, this is nothing but ruins,” replied Rohan. But his voice lacked conviction.

“Who knows? Maybe you’re right,” admitted Ballmin unexpectedly.

“But what should I tell the astrogator?”

“Why don’t you let him see for himself and transmit the whole deal here by television?”

“That can’t have been a city,” said Rohan, suddenly summarizing his thoughts about what he had seen here.

“Most likely not,” agreed Ballmin. “At least not the kind of city we know. Nothing that corresponds to our notion of what a city should be like. No human beings, nothing resembling us could have dwelled here. And since the life forms we found in the ocean here were similar to those back home on Earth, it would be logical to assume the same thing for any living organisms on the mainland.”

“Yes, I keep racking my brains. None of the biologists will commit himself to make a statement. What do you think about that?”

“They don’t want to talk about it, because it simply seems too improbable, as if something had prevented life from becoming established on land; as if the aquatic creatures had never been permitted to leave the water.”

“There might have been some reason for that—a nearby supernova explosion, for example. The Zeta of the Lyre constellation is known to have been a nova several million years ago. Organic life on the continents may have been annihilated by radiation, while life survived in the deeper regions of the ocean.”

“If there had ever been radiation, we would still be able to find traces of it, but there is practically no radioactivity in the soil of this part of the galaxy. Aside from the fact that evolution would have moved ahead during the several million years since. You wouldn’t expect any vertebrates on land, of course, but the more primitive forms should be present. Didn’t you notice the total absence of any life forms in the littoral zone?”

“Yes, I did. But what does that mean?”

“A great deal. Life usually originates in the shore regions of the oceans, and migrates to deeper waters only afterwards. It can’t have been any different here. Only something must have chased it away from the edge of the sea. Something must be preventing it from going on land.”

“What basis do you have for your conclusions?”

“The fact that the fish were frightened by our probes. On all the other planets I have known, animals were never afraid of machines. They are not afraid of things they have never seen before.”

“Do you mean to say the fish have seen some probes before ours?”

“I couldn’t tell you what they have encountered. But why else would they need a magnetic detector sense?”

“I really wouldn’t know, damn it!” grumbled Rohan. He regarded the tom metal garlands and leaned over the railing. The bent ends of the black metal rods trembled slightly in the robot’s slipstream. Ballmin used long pliers to pinch off some wires sticking out from a tunnel-shaped opening.

“Let me tell you,” he continued, “there could never have been very high temperatures around here; otherwise you would find traces of oxidation on these metal surfaces. So much for your hypothesis about a fire having caused this destruction.”

“Any hypotheses would fail the test here,” muttered Rohan. “You know, I just can’t see the connection between this maze and the fact that the *Condor* has vanished somewhere on this planet. Everything is dead here.”

“That can’t always have been the case.”

“Maybe it was alive a thousand years ago, but not just a few years back. There is nothing else for us to do here. Let’s return to the convoy down there.”

They did not exchange another word until the robot landed in front of the green signal lights, Rohan ordered the technician to let the television cameras roll and transmit a report to the *Invincible*.

He and the scientists withdrew to the cabin of the lead vehicle. They released additional oxygen into the air supply of the tiny room, then they ate and drank coffee from their thermos bottles. The white light of the overhead fluorescent lamp felt pleasant to Rohan's eyes after the red daylight of this planet. Ballmin spat into a paper napkin; it was some sand that had insinuated its way into the mouthpiece of his breathing mask and gritted between his teeth.

"That reminds me of something," said Gralew unexpectedly, as he screwed down the top of his thermos bottle. His thick black hair glistened in the light of the fluorescent lamp. "I'll tell you about it, but don't take it too seriously."

"If it reminds you of anything at all, that means something," replied Rohan with his mouth full. "Shoot!"

"It's nothing special, really, I heard a story a long time ago, almost a fairy tale, about the inhabitants of the Lyre constellation."

"Why a fairy tale? They did exist. Achramian even published a treatise about it," remarked Rohan. A small bulb began to flicker behind them on the dashboard, a sign that contact had been established with the *Invincible*.

"Yes. Payne suspected some of the inhabitants may have succeeded in saving themselves in time. I'm not so sure that he is

right there. They must have all perished when the nova exploded.”

“That took place sixteen light years from this planet,” said Gralew. “I don’t know the book. But I did hear somewhere that these people tried to escape. They presumably sent spaceships to all the planets of the other stars in their vicinity. They were well acquainted with the principle of space flight close to the speed of light.”

“And then?”

“That’s all I heard. Sixteen light years is not such an enormous distance. Why shouldn’t one of their spaceships have landed here?”

“Then you think they might still be somewhere around?”

“I couldn’t say. I was just reminded of them when I saw these ruins. They might have been their buildings, who knows?”

“What did they look like?” asked Rohan. “Did they resemble us?”

“According to Achramian, they did,” replied Ballmin. “But that is just another hypothesis. Practically no trace of them has survived, not even as much as from our own Pithecanthropus.”

“Strange.”

“Not at all. Their planet submerged for thousands of years in the chromosphere of the nova. Sometimes its surface temperature exceeded ten thousand degrees. Even the rocky foundation of the planetary crust underwent a complete metamorphosis. No trace remained of the oceans. The entire planet was thoroughly cooked. Just think of it, ten thousand years in the middle of the fires of a nova!”

“Then you really think it’s conceivable that some of these people might have survived here on Regis III? But why should they hide? And where could they be?”

“Perhaps they’ve died since then. I don’t know the answers. I simply voiced what crossed my mind when I saw these ruins.”

The men fell silent. Suddenly an alarm signal flared up on the dashboard.

Rohan jumped up and grabbed the headphones.

“Rohan here. What did you say? Oh, it’s you! Yes! Yes! I’m listening! All right, we’ll return at once!”

His face had turned pale. He turned to the rest and said: “Group II has found the *Condor*. About 180 miles from here.”

# The Condor

From a distance the rocket looked like a leaning tower. This impression was strengthened by the sand massed around it. Since the wind came from the west the sand wall had piled up much higher than in the east. Several tractors near the rocket had been almost totally buried by the sand. Even the antimatter mortar had been put out of action. It stood there with its hood raised, half filled with sand. But one could still see the jet openings at the ship's nose which rested in an unobstructed depression in the ground. One had only to remove a thin layer of sand in order to reach the objects that lay strewn around the ramp.

The group stopped at the edge of the western dune wall. The vehicles they had brought along from the *Invincible* already ringed the area in a wide circle and the bunched rays of the emitters formed a protective energy screen. The men had left their transport vehicles and the info-robots about one hundred yards from the spot where the sand wall encircled *Condor's* base. Now the men looked down onto the ridge of the dune.

The ramp was suspended about five yards above the ground, as if it had been suddenly stopped in midair while it was lowered

downwards. The elevator, however, was untouched and its open door beckoned the men to enter. Nearby oxygen bottles stuck out from the sand. Their aluminum sheaths glistened brightly as if somebody had left them lying there just a few minutes earlier. Several steps further on, a blue object rested gleaming on the sandy ground. It was a plastic container, as they noticed on closer inspection. Everywhere inside the hollow around the foot of the spaceship was scattered a vast quantity of all kinds of things: cans of food, some full, some empty; theodolites, cameras, tripods, canisters, some still intact, others badly damaged.

As if someone had thrown the whole mess helter skelter out of the rocket, thought Rohan, and looked up at the darkened hole through which the crew would usually leave or enter the spaceship. The hatch was halfway open.

The small flying scouter robot that accompanied deVries' expedition had found the dead spaceship quite by accident. DeVries had not tried to enter the *Condor*, but had immediately informed Horpach of his discovery. It had been decided that Rohan's group would be the one to uncover the mystery that shrouded the *Invincible's* sister ship. Now the technicians came running from their engines, lugging their toolboxes with them.

Rohan noticed something round on the ground, thinly covered by sand. With his foot he scraped away the fine sand, assuming he would dig up a small globe. Not suspecting anything, he kept on raking until he brought to daylight a pale yellow vault-like form. He recoiled rapidly, stifling a startled outcry. Alarmed, his



companions turned around, looking at him. He held a human skull in his hand.

They found more bones and even a complete skeleton in a spacesuit. Between the dropping jaw and the upper teeth stuck the mouthpiece of the oxygen apparatus. The manometer had stopped at 46 atmospheres. Jarg knelt down and slowly turned the valve. The gas escaped with a hissing noise. Because of the dry desert air no trace of rust had formed on the metal parts of the reduction valve; it worked easily.

They entered the elevator but pushed the buttons in vain: there was no electrical current. It would be quite difficult to climb up the scaffolding of the elevator shaft and Rohan began deliberating whether to send up some of the men in a flying saucer robot. But in the meantime two men of the crew had already started their upward climb; they had secured themselves to each other by ropes as if they were mountain climbers. The rest of the group silently watched their ascent.

The *Condor*, a spacecruiser of the same class as the *Invincible*, had been built a few years earlier; externally, the two crafts could not be distinguished. The men were silent. Although none of them expressed the thought out loud, they all would have preferred to find the wreckage of a crash or even the aftermath of a nuclear explosion. They were all shaken by the sight of this ship in the sand, listing lifelessly to one side as if the ground had given way under the weight of the support pillars of the stern. There the

apparently undamaged craft leaned in the midst of a confusion of objects and human bones; the men shuddered.

In the meantime the climbers had reached the entrance hatch, opened it fully and quickly disappeared from view. They remained there for a long while. Rohan was growing restless, when suddenly the elevator jerked upward for about one yard and then descended smoothly to the ground. At the same time the figure of one of the technicians became visible in the open door, beckoning to them to get in.

There were four of them going up in the elevator: Rohan, Ballmin, the biologist Hagerup and Kralik, one of the technicians. Out of habit, Rohan examined the mighty, rounded body of the ship that was gliding by behind the moving elevator. He was numbed with fear for the first time this day. The armored plates had been scratched and pitted by some incredibly hard tool. The marks were not especially deep, but so close together all over that the entire hull seemed to be dotted with smallpox scars.

Rohan seized Ballmin's arm but he had already become aware of this strange phenomenon. Both men tried to get a good look at the nicks and indentations. They were quite small, as if they had been chiseled out with a fine instrument. But Rohan knew for a fact that there was no chisel capable of piercing the cruiser's hull for even the fraction of a millimeter. The titanium-molybdenum skin was of such hardness that it could be affected only by chemical corrosives. Before he could come to any conclusion about this

problem, the elevator had reached its destination. They entered the airlock.

The interior of the ship was lit up. The technicians had already switched on the auxiliary generators powered by compressed air. The dustlike sand had accumulated in a heavy layer only at the threshold where the wind had driven it through the open hatch door. But there was none in the corridors. They proceeded to the third floor and found clean and neat, brightly lit rooms. Here and there they saw an oxygen mask, a plastic plate, a book or part of some protective suit. But farther down, the cartographers' cabins, the mess halls, the dormitories, the radar rooms, all the main corridors and side passages, were in a state of indescribable disarray.

The worst was the command center. Not one single dial of the many instruments, clocks and screens had remained in one piece. Those disks had been made of a tough shatterproof glass that now covered tables, chairs, wires, plugs and sockets in the form of a fine silvery powder. Next door, in the library, were heaps of microfilms, partially unrolled and twisted into wild tangles and coils. Torn books, broken sliderules, compasses, shattered spectrosopes had been wildly thrown all over the floor. There were stacks of Cameron's big star catalogs shredded to pieces. Somebody must have vented special fury on these thick volumes; they had ripped out the heavy, stiff folio-size pages in big bundles. The impression was one of frenzied rage combined with unbelievable patience.

Inside the club room and in the neighboring auditorium, the passages had been blocked by heaps of clothing and leather pieces cut from the upholstered seats of the chairs. According to one of the technicians, it looked as if the place had been invaded by a herd of rampaging apes.

The men were speechless at this senseless destruction. They went from deck to deck: in a small cabin, lying arched over in a heap near the wall, they found the corpse of a man clad in a dirty shirt and linen trousers. Now he was covered by a ground sheet that the technician who had been the first to enter the room had thrown over him. The dead man was mummified.

Rohan was one of the last to leave the *Condor*. He felt dizzy. Nausea overcame him in spurts and it took all his will power to fight off the recurring attacks. He felt as if he had just awakened from some incredibly horrible dream. But one look at the men's faces told him that the whole thing had been real.

They sent brief radio messages to the *Invincible*. Part of their expedition remained on board the *Condor* to restore some measure of order. But before they began this gigantic task, Rohan arranged to have each room photographed and carefully described.

Together with Ballmin and Gaarb, one of the biophysicists, Rohan started on the way back. Jarg was driving. His broad and usually smiling face seemed now to have shrunk, bearing a grim expression. He was driving rather recklessly, quite unlike his customary highly disciplined self. The heavy vehicle, weighing several tons, was raked by sudden jolts and hobbled across the

dunes, throwing out sandy fountains on either side. One of the energo-robots moved ahead of them at an even pace, shielding the men in the truck with its energy field. All were silent, each man busy with his own thoughts.

Rohan was almost afraid to face the astrogator; he did not know what to tell him. He had kept to himself one of the discoveries he had made, one which seemed particularly incomprehensible and insane, and thus chilling. In one of the bathrooms on the eighth floor he had found *several soap bars pierced with tooth marks*. Famine? There had certainly been no dearth of food on board the *Condor*. The storerooms were filled with all kinds of provisions. Even the milk in the freezer rooms had not spoiled.

About midway they received radio signals from a small vehicle with a robot drive. It came toward them, raising a heavy dust cloud that followed them like a dirty umbrella. Rohan's car braked; the other vehicle also came to a halt. Two men were in it: Magdow, a middle-aged technician, and Sax, the neurophysiologist. Rohan switched off the energy screen. This way it was possible to communicate with each other by shouting back and forth.

After Rohan's departure they had discovered the frozen body of a man lying in the hibernator of the *Condor*. They thought they might be able to bring the man back to life, and Sax had brought the necessary instruments from the *Invincible*. Rohan decided to go along, justifying this sudden change of plans by saying that Sax was traveling without an energy field. The truth was, however,

that he dreaded the confrontation with Horpach; he was glad to have an excuse for postponing this unpleasant task. Rohan's group turned around and chased back, raising big dust clouds.

There was a great deal of activity around the *Condor*. Various objects were still dug up from the dunes. Off to one side was a row of corpses, now neatly hidden under white sheets. More than twenty dead bodies had been found. The ramp was in working order, the power supply had been completely restored.

The approaching convoy had been detected by the men at the *Condor*, for the dust cloud was visible from quite a distance. A passage into the inside of the energy dome had been readied for them. There they were greeted by a physician, Dr. Nygren, who had refused to examine the man from the hibernator without some professional assistance.

Rohan availed himself of the privilege of acting here as the commander's deputy; he accompanied the two physicians aboard. The wreckage that blocked the entrance into the hibernator had since been cleared away. The thermometers registered zero degrees Fahrenheit. The two doctors exchanged meaningful glances. Rohan understood enough about hibernation to realize that this temperature was too high for a reversible death, and on the other hand, too low for hypothermal sleep. There was no indication that this man had been intended to survive his stay in the hibernator. He had most likely stumbled inside by accident—another riddle, just as nonsensical as everything else that had happened on board the *Condor*. And indeed, as soon as they had changed into

thermoprotective suits, turned the handwheel to “open” and lifted up the heavy trapdoor, they saw, stretched out on the floor, face downwards, the body of a man in his underwear. Rohan helped the physicians carry the frozen man to a small upholstered table with three overhead lamps that supplied light without casting shadows. It was not a proper operating table but merely a kind of stretcher for small manipulations that were sometimes carried out inside the hibernator.

Rohan hesitated before looking at the man’s face; he had been acquainted with many members of the *Condor’s* crew.

But this man was a stranger to him. If his limbs had not been so icy cold and stiff, one could have believed that he was simply asleep. His lids were closed. Thanks to the dry, hermetically sealed room, his skin had not lost its natural color, although he looked quite pale. His subcutaneous tissues, however, abounded with tiny ice crystals. Once again the two physicians communicated with each other by meaningful glances. They laid out their instruments.

Rohan sat down on one of the empty, freshly made up cots that were arranged in two long rows. Everything here was in perfect order. Several times he heard the clicking of some instruments, the whispered consultation between the two medical men. Finally Sax stepped back from the stretcher and said: “There’s nothing else we can do here.”

“You mean he’s dead,” said Rohan. It was not so much a question he posed as a conclusion he drew, the only possible interpretation of the doctor’s words.

Nygren had switched on the air conditioning system in the meantime. It was not long before warm air began to stream into the room. Rohan rose from the cot in order to leave the hibernator when he noticed the physician returning to the stretcher. He picked up a small black satchel off the floor, opened it and pulled out that apparatus about which Rohan had heard so much but which he had never seen until now. With slow, almost pedantic movements, Sax began to untangle the cords whose ends had flat electrodes attached to them. He placed six electrodes against the dead man's skull and fastened them with an elastic band. Then he crouched down and pulled three pairs of headphones out of the satchel. He put on one of these and kept testing the buttons of the machine inside a plastic case. His eyes were closed, his face bore an expression of deepest concentration. Suddenly he frowned, bent over further and stopped fiddling with the button. He quickly removed the earphones from his head.

“Dr. Nygren—” he said in a strange voice. His colleague seized the earphones in turn.

“What is it?” whispered Rohan with trembling lips.

This apparatus was referred to by the space crews as the “corpse-spy.” With it one could “auscultate the brain” of recently deceased persons, or those dead in whom decay had not yet set in, or a body like this one that had been preserved by very low temperatures. Long after death had occurred one could ascertain what the last conscious thoughts and emotions had been.



The apparatus sent electrical impulses into the brain; there they followed the path of least resistance, moving along those nerve tendrils that had formed one functional entity during the preagonal phase. The results were never too reliable, but it was said to have obtained extraordinarily significant data on many occasions. In cases like the present one use of the “corpse-spy” was clearly indicated.

Rohan somehow suspected that the neurologist had never really counted on reviving the dead man, but had only come to listen and find out the secrets buried in his frozen brain. Rohan stood without moving, aware of the dull beating of his heart and the dryness in his mouth, as Sax handed him the second set of earphones. Had this gesture not been so simple, so matter of fact, he would not have dared put on the headphones. But he felt encouraged by the steady gaze of Dr. Sax who squatted before the set as he slowly turned the amplifier button.

At first he heard nothing but the humming of the current. He felt relieved, for he did not really want to hear more. Without realizing it on a conscious level, he wanted nothing more than that the dead man’s brain remain silent.

Sax straightened up and adjusted Rohan’s headphones. Rohan saw something emerge from the white light that fell on the wall of the cabin: a gray light, dimmed as if by ashes, floating vaguely somewhere at an undeterminable distance. Without knowing why, he tightly squeezed his eyelids together.

Suddenly he could perceive clearly what it was he had just seen. It looked like one of the corridors inside the *Condor*; there were pipes running along the ceiling. The passage was totally blocked by human bodies that seemed to move. But it was only the image that was waving to and fro. The people were half-naked; shreds of clothing barely covered them. Their skin was unnaturally white and was sprinkled with dark spots like some kind of a rash. Perhaps these spots were not on the skin but were rather a peculiar visual phenomenon, for they were scattered everywhere: tiny black dots on the floor and the walls. The entire image seemed to fluctuate like a blurred photograph taken through a deep layer of flowing water. The picture seemed to stretch, then contracted again, billowing and swaying.

Terrified, Rohan forced his eyes open. The image faded away and vanished; only a shadow remained in the brightly lit room.

Sax began to make some adjustments on the apparatus and Rohan heard, coming from inside him, a faint whisper: "...ala ... ama ... lala ... ala ... ma ... mama..." Nothing else. Suddenly weird noises came from the earphones: caterwauling, tweeting and crowing; high-pitched sounds that repeated over and over again like some crazy hiccup or some wild horrible laughter, or tortured electronic circuits.

Sax rolled up the cords and put them back in his bag. Nygren took a sheet and threw it over the dead man, covering up his body and face. The man's mouth had been tightly shut but now his lips parted slightly, giving his face an enormously surprised expression.

It must be the heat, thought Rohan; it had become quite warm inside the hibernator, or at least it felt warm to him. He perspired heavily, the water trickled down his back. He was glad to see the face disappear under the white sheet.

“What is it? Why don’t you say anything?” Rohan called out.

Sax tightened the straps around the plastic case, then stepped closer to Rohan. “Pull yourself together, Navigator!”

Rohan narrowed his eyelids and clenched his fists. But it did not help. In such moments he would fly into a violent rage, which he could suppress only with great difficulty.

“Sorry,” he stammered. “But what did that *mean*?”

Sax unzipped his protective suit. The bulky garment slid to the ground; nothing remained now of his portly figure. Once again he was the same gaunt, stoop-shouldered man with the narrow chest and delicate hands.

“I don’t know any more than you do,” he answered. “Maybe even less.”

Rohan felt lost; he did not understand any longer, but he seized upon the neurologist’s last words.

“What do you mean, less?”

“Because I just arrived. I haven’t seen anything besides this corpse. But you’ve been here all day. Doesn’t this image suggest anything to you?”

“No. Those—they were moving. Were they still alive then? What were those little black spots all over them?”

“They weren’t moving. That was an optical illusion. These engrams are registered on the brain like a photographic still. And sometimes it happens that several images are present, like in a multiple exposure. But this was not the case here.”

“But those spots? Are they also an optical illusion?”

“I don’t know. Anything is possible. But I don’t think so. What would you say, Nygren?”

Nygren had already peeled off his protective suit.

“I don’t know either. I’m not sure whether they were artifacts or not. There weren’t any on the ceiling, were there?”

“The black spots? No. They only covered the dead bodies and the floor. And some of them were on the walls—”

“If that had been a second projection, they would have been all over the image,” said Nygren. “But you can never be sure with engrams. So much is purely due to chance.”

“And that voice? That—babbling?” Rohan searched desperately for an answer.

“One word was perfectly clear: ‘*Mama.*’ Did you hear it?”

“Yes, I did. But there was something else. ‘*Ala ... lala.*’ That was repeated over and over again.”

“Yes, but only because I made a systematic examination of the entire occipital lobe,” said Sax. “In other words, the area that controls acoustic memory,” he explained for Rohan’s benefit, “That’s what’s so unusual here.”

“Those words?”

“No. Not those words. A dying man might think of anything. If he had been thinking of his mother, those words would have been quite normal. But his auditory memory bank was absolutely empty. Do you understand?”

“No, I’m afraid I don’t. What do you mean by empty?”

“As a rule we cannot obtain any useful results when we search the occipital lobe,” explained Nygren. “Too many engrams there, too many stored words. It’s as if you would attempt to read one hundred books simultaneously. Sheer chaos. But this one,” he glanced over in the direction of the elongated shape under the white sheet, “he had nothing in it. No words, only those couple of syllables.”

“Yes, you are right. I have examined everything thoroughly from the sensory speech center to the *sulcus Rolandi*,” said Sax, “And the same syllables kept recurring. These were the only phonemes that have been left in there.”

“And what happened to the rest?”

“There aren’t any others.” Sax seemed to lose patience. He jerked the heavy apparatus violently upwards and off the floor, making the leather handle squeak. “They aren’t there and that’s all there is to it. Don’t ask me what happened to all the other words. This man must have totally lost his acoustical memory bank.”

“But how about the image?”

“That’s something entirely different. This he saw. He did not even have to understand what he perceived. Just like a camera

that does not comprehend but still registers whatever object you aim it at, I have no idea whether he understood it or not.”

“Could you help me with this, please, Nygren?” The two physicians carried their gear out of the hibernator, and the door fell shut behind them.

Rohan was alone in the room. He felt so desperate that he stepped over to the table, flung back the white sheet, unbuttoned the dead man’s shirt and carefully examined his chest. He trembled when he touched the body, for the skin had become supple again. As the tissues were thawing out, a general relaxation of all the muscles had taken place. The head, which until now had been propped up in an unnatural position, had sunk down limply. Now it seemed indeed as if he were sleeping. Rohan searched the body for evidence of some mysterious epidemic, some kind of poisoning or insect bites, but he could find nothing. Two fingers of the left hand spread apart and a small, gaping wound became visible. A few drops of blood began to ooze out of the torn flesh, and began to drip on the white foam rubber cover of the table. That was more than Rohan could stand. He did not even bother to pull the sheet back over the corpse; he ran out of the cabin, pushed aside the men who stood in his way and rushed toward the main exit as if he were being pursued. He was stopped by Jarg in the airlock, who helped him strap on the oxygen gear and pushed the mouthpiece between Rohan’s lips.

“You didn’t find anything, Navigator?”

“No, Jarge. Nothing, nothing at all.”

He was unaware of the others beside him as he descended in the elevator. Outside the motors howled. The storm had grown stronger; sand clouds whizzed past and pelted the rough surface of the *Condor's* hull.

Suddenly Rohan remembered something. He walked over to the stem, raised himself on his toes and palpated the thick metal. The armored plate felt like rock, old weathered rock, dotted with hard nodules. Over near the transporters he noticed the tall figure of engineer Ganong, but he did not even try to ask him what he might think of that strange phenomenon. The engineer would know no more than he did himself: namely, nothing. Absolutely nothing.

He rode back in the largest vehicle, together with a dozen other men. From his seat in the far corner of the cabin, he heard their voices as if from a great distance. Turner brought up the question of poisoning, but he was shouted down.

“Poisoned? With what? All the filters are in top shape, the water supply untouched, oxygen tanks all full, an abundance of food...”

“Did you see what the man looked like that we found in the navigation room?” asked Blank. “I used to know him. But I would never have recognized him if I hadn’t seen his signet ring.”

Nobody answered. Back at the *Invincible* Rohan went directly to Horpach, who had been kept up to date on everything via television and the oral reports of the group that had returned earlier. They had also brought along with them several hundred

photos. Unconsciously, Rohan was relieved that he did not have to describe to the commander what he had seen.

The astrogator gave him a piercing glance and rose from the table where a large map of the area was spread out and partially covered by stacks of photographs. They were alone in the large command center.

“Pull yourself together, Rohan,” he said. “I can sympathize with the way you feel right now, but we need cold reason, a clear head, no emotions. We’ll get to the bottom of this damned story.”

“But they had every imaginable safety device: energo-robots, laser beam protectors and particle throwers. The big antimatter mortar is right there in front of the ship. They had all the same things to protect themselves that we do,” said Rohan in a toneless voice. He slumped down into a chair. “Forgive me.”

The astrogator took a bottle of cognac from a small cupboard.

“An old home remedy. Sometimes it does a lot of good. Drink that, Rohan. A long time ago people used this on battle fields.”

Rohan took the drink and swallowed it in one gulp.

“I checked the counters of all the energy aggregates,” he said in a reproachful tone. “The crew was never attacked. They never fired a single shot. They simply, simply—”

“Went stark raving mad,” completed the unruffled commander.

“If only we could be sure of that! But how could that happen?”

“Did you see the log book?”

“No. Gaarb took it along with him. Do you have it here now?”



“Yes, I do. There’s the date of landing and only four entries, concerning the ruins, the same ones you men examined, and—the flies.”

“What flies?”

“I don’t know. This is the exact text here...”

He picked up the open book from the table.

“ ‘No sign of any life on land. Composition of the air...’ Then the result of the air analysis follows. But then—here it is: ‘At 18:40, the second armored patrol unit returned from the ruins. They encountered a local sandstorm with strong activity of atmospheric electrical discharges. Could restore communication by radio despite these disturbances. The patrol reports large swarms of tiny flies...’ ”

The astrogator put down the book.

“And what else? Why don’t you go on?”

“That’s all there is. This is the end of the last entry.”

“And there’s nothing after that?”

“You had better look at the rest of this yourself.”

He pushed the log book over to Rohan. The page was covered with illegible scrawls. Rohan inspected the crazy doodling with amazement.

“This one here looks like a *B*,” he said softly.

“Yes. And this one like a *G*, a capital *G*. As if a small child had tried to write this. Don’t you agree?”

Rohan was silent. He still clutched the empty glass in his hand; he had forgotten to put it down on the table. He was thinking of

the ambitions he had harbored until recently, of his dream to himself become commander of the *Invincible* some day. Now he was grateful that he did not have to decide what the future fate of this expedition should be.

“Please summon the leaders of the specialist groups. Rohan, wake up, will you!”

“I’m sorry. A conference, Astrogator?”

“Yes. Have them all come to the library.”

Fifteen minutes later they were all assembled in the large square room with the brightly decorated walls and endless rows of books and microfilms. The fact that this room was decorated exactly like the library of the *Condor* was unsettling. No matter which wall or corner he looked at, he could not banish the images of insanity that had been etched in his brain.

They had all taken their usual seats. The biologist, the physician, the planetologist, the electronic engineer, the communication officer, the cyberneticist and the physicists were all seated, their armchairs arranged in a semicircle. These nineteen men formed the strategic brain of the spaceship.

The astrogator stood by himself at the half-lowered screen.

“Is every man here familiar with the situation on board the *Condor*?”

A murmur of affirmative voices could be heard.

“So far twenty-nine dead bodies have been located by the search troops in the vicinity of the *Condor*. Another thirty-four on board ship itself, including one person who was excellently

preserved inside the hibernator. Dr. Nygren has just returned from there and will give us his report now.”

“I’m afraid there isn’t too much to report,” said Dr. Nygren as he rose to his feet. Slowly he walked over to the astrogator. Nygren was almost one foot shorter than Horpach.

“Among the corpses we found nine that were mummified, that is in addition to the one the Commander has just told you about; that one is undergoing special examinations. Outside in the sand, mostly skeletons or remains of skeletons were dug up. The mummified bodies were found inside the ship where especially favorable dry conditions are present such as low humidity, almost no putrefying bacteria and fairly low temperatures. Those bodies that remained on the outside have all decayed. This process has accelerated here in the rainy season due to the high iron oxide and iron sulfide content in the soil. These chemicals react with weak acids—but I believe these details are insignificant. In case a more thorough explanation of these reactions should be desirable, our colleagues from the chemical department would certainly oblige. In any event, mummification was impossible outside the spaceship, considering that rain water and dissolved substances from soil and sand have been working on everything in the area for several years. This accounts for the polished surface of the bones.”

“Pardon me, Nygren,” interrupted the astrogator. “The most important aspect for us is the cause of death, not what happened afterwards.”

“There are no indications of violent death, at least none we could detect in the well-preserved bodies we saw,” replied Nygren quickly. He did not look at anybody in the room, but stared at something invisible in his raised hand. “Apparently they must all have died from natural causes.”

“What do you mean by that?”

“No external causes could be detected. Several fractures of legs and arms might have come about at a later date, but it will take additional experiments to determine that. Those bodies that had been dressed show no damage either to the epidermis or the skeleton. No injuries—apart from some scratches, and they assuredly did not bring about death.”

“How then did they perish?”

“I don’t know. It almost looks as though they starved or died of dehydration.”

“There was plenty of food and water left aboard the *Condor*,” interjected Gaarb.

“I am aware of that.”

For a moment no one spoke a word.

“Mummification means first of all complete dehydration of the body,” explained Nygren. He was still not looking at anyone present. “The adipose tissues undergo changes, but they do not disappear. But these people had practically no fats left. As if they had starved to death.”

“But this was definitely not the case of the man from the hibernator,” remarked Rohan, who was standing behind the last

row of seats.

“Correct. He probably froze to death. It is a mystery to me how he could have ventured inside the hibernator. Maybe he simply fell asleep there while the temperature kept falling.”

“Is there any likelihood of mass poisoning?” inquired Horpach.

“No.”

“But Doctor, how can you so categorically...”

“I can very well dismiss this so easily,” replied the physician. “Under planetary conditions, poisoning is conceivable only by way of the lungs, when breathing in poisonous gases via the esophagus or the skin. However, one of the well-preserved bodies was wearing an oxygen mask. The oxygen tank was still half full and would have lasted for several more hours.”

That’s right, thought Rohan. He remembered the man, the tight skin around his skull, the brownish spots on his cheekbones, the eye sockets filled with sand.

“These people could not have eaten anything poisonous, simply because there is nothing edible to be found. At least not on land. And they never got as far as the ocean. The catastrophe occurred shortly after landing. They had sent out only one scouting troop into the interior of the ruins. That was all. But here comes McQuinn. Are you through, McQuinn?”

“Yes, I am through,” answered the biochemist from the door. All heads turned around. He made his way through the rows of chairs and remained standing next to Nygren. He was still wearing his lab coat and a rubber apron.

“Do you have the results of the analysis?”

“Yes.”

“Dr. McQuinn has examined the corpse we found in the hibernator,” explained Nygren, “Will you tell us what you have found out?”

“Nothing,” replied McQuinn. His hair was so light that it was difficult to know whether it was blond or gray. His eyes were just as pale. Even his eyelids were covered with freckles. But right now his big horsey face did not strike anyone as funny.

“No organic or inorganic poisons. All enzyme values normal. Nothing abnormal detected in the blood. The stomach contents were some half-digested zwieback and food concentrate.”

“But how did he die?”

“He just froze to death,” answered McQuinn. He noticed that he still had on his rubber apron. He untied the strings and threw the apron over the back of a chair before him. The slippery material slid off the chair onto the floor.

“What is your opinion, gentlemen?” the astrogator asked. He would not let go so easily.

“No opinion, countered McQuinn. “All I can say for sure is that these people were not the victims of some poisoning.”

“How about radioactivity, some substance with a very brief half-life? Or hot radiation?”

“Hot radiation in fatal doses leaves traces such as damaged capillary walls, petechiae, changes in the blood. There are no such changes. No radioactive substance in a fatal dose would completely

vanish within eight years. There is less radioactivity here than we have on Earth. These men were not exposed to any type of radiation. I could swear to that.”

“But something must have killed them,” insisted Ballmin, the planetologist, raising his voice.

McQuinn did not speak. Nygren whispered into his ear. The biochemist nodded his head in affirmation, walked out of the room. Nygren stepped from the podium and sat down in his usual seat among his colleagues.

“That’s not too encouraging,” remarked the astrogator. “Apparently we can’t expect much help from the biologists. Would someone else express an opinion?”

“Allow me.” Sarnier, the nuclear physicist, rose from his chair. “We might find a clue to what brought about this catastrophe in the very condition of the ship itself,” he began, letting his eyes run slowly along the row of his seated colleagues. He had big farsighted bird’s eyes whose iris looked almost pale next to his pitch-black hair. “That means there is an explanation somewhere that we can’t perceive at this moment. The chaos in the cabins, the untouched provisions, the condition and location of the dead bodies, the damaged installations—all this must mean something.”

“Is that all you have to say about it?” interjected Gaarb angrily.

“Take it easy. We’re still completely in the dark, and the first thing we have to do is find the right approach to this problem. I believe we lack the courage to call some of the things we observed on board the *Condor* by their right name. This is why we cling so

desperately to the hypothesis of some mysterious poisoning which resulted in mass insanity. Just remember, it is necessary, for our own sake as well as for that of the dead crew of the *Candor*, to face the facts with an open mind. I'd like to urge you—in fact, I insist—that we all speak out freely: what was it that shocked you most when you were at the *Condor*? Something that you have not been able to confide to anybody yet, something so horrible you'd rather forget than even mention it—”

Sarner sat down. Rohan overcame his inner resistance and told about the soap bars he had noticed in the bathroom.

Then Gralew got up. Underneath the stacks of torn maps and books the whole deck had been strewn with dried human excrement.

Another spoke of a can of food that showed impressions of teeth, as if someone had tried to bite through the metal. Gaarb had been deeply shaken by the scrawls in the log book and the entry about the flies. But he did not stop there.

“Let's assume a cloud of poisonous gas escaped from the tectonic vault inside the city. Couldn't the wind have carried this poisonous air to the rocket? If they'd been careless, hadn't closed the air hatch properly—”

“Only the outer hatch was not properly closed, Gaarb. We know that from the sand accumulated inside the airlock. The inner hatch was tightly shut, remember?”

“They might have closed it later on, when they were already feeling the effects of the poison gas.”



“That is impossible, Gaarb. If the outside hatch isn’t locked, you can’t open the inside hatch. The two never open at the same time. The possibility of carelessness or accident is totally ruled out.”

“In any event, one thing is clear: it must have happened suddenly. Mass insanity—look, I won’t pretend we never see cases of psychosis during space flights, but never on a planet, especially not a few hours after touchdown. Mass insanity that gripped the entire crew could only be the result of some kind of poisoning.”

“Or infantilism,” remarked Sarner.

“What? What did you say?” Gaarb was dumbfounded. “Is that supposed to be a joke?”

“I’d hardly be joking in a situation like this. I said infantilism. No one else seems to have thought of it, despite the childish scribbles in the log book, despite the star almanacs that were ripped to pieces, despite the painstakingly drawn letters. You’ve all seen them, haven’t you?”

“But so what?” said Nygren. “Are you trying to say that’s a disease?”

“No. Not a disease. You are right there, doctor.”

Once again they all fell silent. The astrogator hesitated.

“We might be on the wrong track. The results of necroscopy are always uncertain. But for the moment I can’t see what harm it would do. Doctor Sax—”

The neurophysiologist described the image they had found in the brain of the frozen man in the hibernator; he also mentioned the syllables in the acoustics memory bank of the dead man. A

veritable flood of questions followed. Even Rohan was cross-examined by his colleagues, since he had been present during the experiment. Still, no conclusion could be drawn.

“When you speak of tiny black spots, doesn’t that remind you somehow of the word ‘flies’?” said Gaarb. “Wait a minute. Maybe the cause of death was something else. Maybe the whole crew was attacked by poisonous insects. You can’t recognize insect bites on mummified skin. And the fellow in the hibernator was simply trying to escape from the insects that got his friends—and then froze to death.”

“But how would you account for his total loss of memory before death?”

“Total amnesia? Are you sure that diagnosis is correct?”

“Yes, as far as we can generally rely on the results of a necroscopic examination.”

“What do you think about this poisonous insect theory?”

“Let’s hear what Lauda has to say about that.”

Lauda was the chief paleobiologist on board. He stood up and waited until they had calmed down.

“It isn’t simply by accident that we haven’t brought up the matter of these ‘flies.’ Anyone who understands anything about biology knows that outside a certain biotope—in other words, a higher unit composed of environment and all species occurring in it—no organism can exist. This holds true for every corner of the universe we have explored thus far. Life either creates a large variety of forms or none at all. Thus no insects could develop

without simultaneous development of plants on the dry land, or other symmetrical nonvertebrates. I don't intend to give you a lecture on evolution; I trust it will suffice if I assure you that there cannot possibly be any flies here. Or any other arthropods, for that matter—no hymenoptera or spiders. There aren't any related forms, either."

"How can you be so sure about that?" demanded Ballmin.

"If you were one of my students, you wouldn't be here with us now," said the paleobiologist drily. "You would never have passed the exam." The others smiled involuntarily. "Naturally I can't judge your knowledge in the field of planetology, but I'd give you an F in the biology of evolution."

"Typical shop talk. What a waste of time," someone whispered behind Rohan. Rohan turned around and looked into Jarg's tanned, broad face winking at him.

"Maybe the insects didn't evolve here," insisted Ballmin. "Maybe they were brought in from the outside."

"From where?"

"From the planets of the Nova."

Now the whole group began to talk at once; it took a long time before order was restored."

"Colleagues," said Sarner. "I know where Ballmin got his idea. From Dr. Gralew."

"Well, I won't deny it," admitted the physicist.

"Excellent. Let us assume we can no longer afford the luxury of plausible hypotheses and need some really wild ones. That's all

right with me. My dear colleagues and fellow biologists, suppose a spaceship had imported insects from a planet of the Nova into Regis III. Could these insects have adapted to local conditions?”

“Of course, if we want to get into wild hypotheses,” admitted Lauda. “But even wild hypotheses have to be able to supply explanations for everything.”

“Such as what?”

“Such as an explanation as to what corroded the outer armor plate hull of the *Condor* to such an extent that the ship can no longer take off unless it’s completely overhauled. Do you really believe some insects could adapt to a diet of molybdenum alloy? That’s one of the hardest substances in the whole universe. Engineer Petersen, tell us, what could destroy this type of armored plate?”

“If it’s been properly tempered, nothing I know of,” answered the deputy chief engineer. “You could drill into it with diamonds, but you would need a ton of diamonds and a thousand hours at your disposal. Another possibility would be acids. Anorganic acids, of course, and only at temperatures of at least two thousand degrees and with the proper catalysts.”

“Then how do you explain what corroded the armored plate of the *Condor*?”

“I haven’t the faintest idea. If the ship had been immersed in an acid solution, and at the proper temperature, it would look like that, all right. But how anyone could get the same results without arc-light plasma burners and catalysts is beyond me.”

“Well, so much for your flies, my dear Ballmin,” said Lauda and sat down.

“There is no sense in continuing this discussion any longer,” remarked the astrogator, who had remained silent until now. “Perhaps it was too soon for such a debate. All we can do now is carry on with our examinations. We’ll split up in three groups. One will explore the ruins, another the *Condor*, and the third will make forays into the interior of the western desert. That’s stretching our forces as far as they will go; I simply can’t remove more than fourteen energo-robots from our perimeter here, even counting some machines we might take from the *Condor*. Third step routine procedure is still in force, of course!”

# The First

Smouldering, slippery blackness enveloped him. He was choking. He desperately tried to free himself from the invisible ropes that bound him. He wanted to shake them off but kept ensnaring himself in an inextricable net. His scream was caught in his swollen throat. In vain he searched for a weapon. He was naked. One more time he strained every fiber of his being to choke out a cry for help.

Some ear-shattering noise tore him out of his sleep. Rohan jumped off his cot, aware only of the darkness around him and the endless ringing of the alarm signal. This was no longer a dream. He switched on the light, slipped into his protective suit and rushed out into the corridor.

Men were crowded in front of the elevators on all floors. Only the constant ringing of the signals could be heard. On the walls the word *alarm* glowed in big red letters.

He ran to the command center. The astrogator, dressed in his usual day uniform, stood in front of the big videoscreen. "I've already given the all-clear signal," he said calmly. "It's only raining. Look here, Rohan, what a beautiful sight!"

Indeed, a spray of innumerable sparks covered the videoscreen, which showed the upper part of the nocturnal sky. Raindrops were falling from a great height, spattering against the invisible protective shield of the energy field that surrounded the *Invincible* like an overturned bowl. Upon impact the drops of water instantaneously changed into microscopic fiery explosions, bathing the whole landscape with glittering light that resembled a hundredfold intensified display of the Northern Lights.

“The automats should have been better programmed,” said Rohan softly. He felt wide awake now, “I have to tell Terner to eliminate the instructions for annihilation. Otherwise every handful of sand that comes drifting against the energy dome will jerk us out of our sleep.”

“Let’s assume this was nothing but a fire drill,” replied the astrogator, who seemed to be in an unexpectedly good mood. “It’s four o’clock in the morning now. You can go back to sleep, Rohan.”

“To be frank with you, I don’t feel in the least bit like it. How about you?”

“I’m not sleepy at all. All I ever need is four hours of rest. After sixteen years of space travel not much has remained from the sleeping pattern I used to have back on Earth. Rohan, I’ve been trying to figure out the maximum security for our search troops. It’s too cumbersome for them to drag energo-robots along everywhere they go in order to set up protective screens. What do you think about that?”

“Why not send along a personal emitter for each member of the group? No, that wouldn’t do the trick either. You can’t touch anything if you’re surrounded by the protective bubble—you know what that’s like. And if you shorten the field radius too much, you risk nasty burns. I’ve been through that before.”

“I’ve even considered not sending any men out at all, but using remote-controlled robots instead,” confessed Horpach. “Of course that would only work for a few hours, or one day at best. But I believe we are going to stay here for a while.”

“What are your plans?”

“Each research team will have a base of operations, protected by an energy field. But there must be a certain freedom of mobility, otherwise we won’t obtain any useful results because of all the protective measures. But only under one condition: any man who works outside the protective screen must have a shielded companion immediately behind who will observe him. You must never lose sight of anyone under any circumstance; that is absolute law for our stay on Regis III.”

“Which group will I be assigned to?”

“Would you like to work at the *Condor*? Or would you rather explore the desert or the ‘city’? It’s up to you.”

“I’ll take the ‘city,’ astrogator. I still think that’s where we will find the solution to this mystery.”

“Possibly. Tomorrow—no, today, the sun’s coming up already—you will take the same group of men who accompanied you yesterday. I’ll send along a few Arctanes. Several hand laser



weapons wouldn't be a bad idea either. I have the impression that it is effective from a short range."

"What do you mean by 'it'?"

"If only I knew. Well, don't forget to take along a field kitchen. You'll want to be completely independent so you can carry on without having to count on supplies from the spaceship."

The red disk of the sun hardly supplied any heat as it rolled across the firmament, the shadows of the grotesque structures grew longer and fused. The wind whirled the wander dunes between the metal pyramids from place to place. Standing on the roof of a heavy caterpillar truck, Rohan peered through his field glasses and observed Gralew and Chen, who were busy outside the protective screen investigating something at the foot of one of the black honeycombs. His portable searchlight hung from a strap around his neck. The strap cut uncomfortably into his skin. Without ever letting the two men out of his sight, he tried to adjust the strap, pulling it away from his neck. The plasma burner in Chen's hand was sparkling like a tiny diamond. From inside the truck came a radio signal, calling at regular intervals. Rohan did not turn his head. He heard the driver answer the call.

"Navigator! Orders from the astrogator! We're to return at once!" yelled Jarg excitedly and stuck his head out of the turret hatch.

"Did you say return? Why?"

“I don’t know. They’ve been sending the return signal constantly—EV four times already.”

“EV? Damn it, my neck feels stiff! All right, let’s get a move on. Give me that microphone and get out the blinker signals.”

Ten minutes later all the men who had been working in the outer zone were back inside the vehicles. Rohan urged his small column to hurry as fast as it could over the hilly terrain. Blank, functioning now as wireless operator, suddenly held out the earphones to him. Rohan climbed down into the steel belly of the vehicle, where it smelled of hot plastic. Over the humming of the ventilators, whose air blasts ruffled up his hair, he listened in to the exchange of radio messages between Gallagher’s group in the western desert and the *Invincible*.

A thunderstorm seemed to be brewing. Ever since that morning the barometers had indicated low air pressure, but not until this moment did flat, dark blue clouds creep up on the horizon. High above was the clear sky. The atmospheric disturbance kept increasing, until the static noise grew so strong in the earphones that communication could take place only by Morse Code signals.

Rohan intercepted a group of coded messages. He had come in on the middle of the transmission, however, and did not grasp what it was all about. He only understood that Gallagher’s group was also returning at top speed and that a red alert had been called on the *Invincible*. Even the physicians had been ordered to man their stations.

“Alert for the physicians,” Rohan said to Ballmin and Gralew, who looked at him expectantly. “An accident, but surely nothing serious. Maybe there was a landslide somewhere and someone was buried under it for a while.”

He mentioned this because he had been told that Gallagher’s men were supposed to scout a certain area and make geological excavations there. But in his heart he did not really believe that it was a matter of an ordinary accident.

They were less than four miles from the spaceship, but the other group evidently had been called back much earlier, for when they sighted the steep dark silhouette of the *Invincible* they came across fresh tracks made by the caterpillar drive vehicles. The impressions in the sand could have been no more than thirty minutes old, otherwise they would have been wiped out by the strong wind.

They approached the perimeter of the energy dome and called the command center to open a pathway for them. They had to wait surprisingly long for an answer. Finally the blue light signals appeared and they were let into the protected area. The group from the *Condor* had already arrived. Then they and not Gallagher’s people had been admitted inside before them. Several trucks were parked next to the ramp and near the drive entrance; men ran about aimlessly, sinking into the sand up to their knees. Automats blinked with their searchlights.

Dusk was falling. Rohan did not know what to make of this chaotic scene. Suddenly a bright ray of light flared up high, transforming the rocket into a giant lighthouse. Far back in the

desert, the searchlights had pinpointed a column of lights that danced crazily back and forth as if an entire military convoy were approaching. Once again the blue lights flared up, marking the entrance to the energy field to let in Gallagher's party. Hardly had the vehicles come to a stop when the patrol jumped to the ground. A second searchlight rolled down the ramp, and a small procession passed through the narrow lane between the parked trucks, bearing a man on a stretcher.

As they went by Rohan, he pushed past the men in front of him, then stopped in his tracks. For a moment he really believed an accident had taken place, for the man on the litter had been tightly strapped down. He kept struggling against his bonds, and they creaked under the strain. At the same time, a terrible whine rose from his open mouth.

The group continued to follow the path marked by the cone of the klieg light. The procession drew farther and farther away, but he could still hear clearly the nonhuman howling, unlike anything he had ever heard before, as he stood there alone in the dark. The white spot with the figures grew smaller, slid up the ramp and disappeared in the darkly gaping hole of the loading hatch. Rohan called out to some of the men, asking them what had happened, but they did not know any more than he did, since they belonged to the *Condor* troop.

Quite some time passed before he regained his composure and could find his bearings again. The column of vehicles began to move and drove noisily up the ramp. Lights came on at the

elevator; gradually the small crowd waiting down below dwindled. Rohan was one of the last to take the elevator up. With him were the heavily laden Arctanes, whose imperturbable calm irritated him to an irrational degree. Inside the spacecraft, the telephones and informants rang constantly; the walls were still lit up by alarm signals for the physicians.

Soon the warning lamps went out, the corridors were empty. Part of the crew went down to the mess hall. Rohan heard snatches of conversation in passageways and the sounds of steps disappearing in the distance. A tardy Arctane stomped toward the robot section.

Finally they all had dispersed. But Rohan remained as if paralyzed, utterly despairing of ever comprehending the scene he had just witnessed, for it came to him in a flash of insight that there simply was no explanation and could never be one.

“Rohan!”

Gaarb stood before him, wrenching him back to reality.

“Oh, it’s you, doctor! Did you see it too? Who in the world was that?”

“Kertelen.”

“What? I can’t believe it!”

“I saw him almost until the end.”

“The end?”

“Yes. I was with him,” said Gaarb, his voice unnaturally quiet. Rohan saw the reflections of the hall lamps in Gaarb’s glasses.

“Was that with the expedition that went to the desert?” Rohan wanted to know.

“Yes.”

“And what happened to him?”

“Gallagher had picked that spot according to his seismographic probes. We penetrated a labyrinth of narrow, winding canyons.” Gaarb spoke haltingly, as if he were talking to himself and wanted to visualize once more the exact course of events, “Soft, washed-out rock of organic origin, full of grottoes and caves. We had to leave our trucks behind... We walked in single file, keeping close together. Eleven men. The ferrometers indicated the presence of large masses of iron. That was what we were looking for. Kertelen thought some kind of machines might be hidden there.”

“Yes. He told me something about that. And then?”

“In one of the caves he found a machine, under a surface layer of mud. In the same cave we even found some stalactite and stalagmites.”

“So you discovered a machine.”

“Not the kind you would imagine. It was a wreck. Not in the least rusty—it must have been constructed of some rustproof alloy—but the thing was corroded, half burned, nothing but a wreck.”

“Perhaps there are others as well—?”

“But this machine was at least three hundred thousand years old!”

“How do you know?”

“We found deposits of limestone from the water that had dripped down from the stalactites on the ceiling. Gallagher himself calculated the approximate age of three hundred thousand years by figuring the rate of evaporation, the time it would take for a stalagmite of a certain size to form. By the way, can you imagine what the machine looked like? Almost like the ruins!”

“Then it’s not a computer?”

“No. It must have been mobile, but it didn’t have two legs. And it wasn’t like a crab, either. Besides, we didn’t have time to make a thorough examination, because just then...”

“What happened?”

“I made a count of my crew at regular intervals. In fact, I stayed back in the energy field in order to watch them—you know about the commander’s orders. But they were all wearing masks, and consequently they all looked alike, especially since their colored protective suits were completely caked with mud. Suddenly I was one man short. I called them together and we began our search. Kertelen had been so pleased about his find; apparently he had continued his search alone. I simply assumed he had lost his way in one of the side gullies. The canyon is full of detours, all short, level and well lit. Suddenly he came around the corner. He was already in that state. Nygren was with us. At first he thought it was a heat stroke.”

“And what is it?”

“He’s unconscious. That is, not exactly. He can walk, move every part of his body; but it’s impossible to communicate with

him. He's also lost the power of speech. Did you hear his voice?"

"Yes, I did."

"He seems to have calmed down somewhat—it was much worse before. He didn't recognize any of us. This struck us as the most horrible thing at first. I tried calling out to him, 'Kertelen, where are you?' But he walked by me, as if he were completely deaf, went straight through our group and then up the canyon in such a manner that we all got gooseflesh. He was totally changed. He didn't react to our calls, so we had to catch him—you can't imagine what a job that was. Finally we were forced to tie him up; otherwise we would never have been able to transport him back to the base."

"And what do the doctors say?"

"They spout Latin phrases, as usual, but they don't know anything either. Nygren and Sax are in with the commander. You can find out more from them."

Gaarb walked away heavily, his head bent to one side as usual. Rohan stepped into the elevator to get to the command center. The room was empty, but as he passed by the cartographical cabins, he could hear Sax's voice coming through the door that was slightly ajar. He entered the room.

"Total amnesia. At least that's what it looks like," the neurophysiologist was saying. He had his back turned to Rohan and examined an X-ray picture he held in his hand. The astrogator sat at his desk, the open log book in front of him. His hand rested on one of the bookshelves packed tightly with rolled-up star maps.



He remained silent as Sax slowly put the X-ray film back into a brown manila envelope.

“Amnesia, but this is a special case. Not only does he not remember who he is, but he has also lost the ability to read, write and speak. What we’re faced with here is complete disintegration, total destruction of personality. Nothing has been retained except for primitive reflexes. He is capable of walking, and he can eat, but only if someone puts the food into his mouth. He won’t reject it, but—”

“Can he see and hear?”

“Yes, he can. But he doesn’t understand what it is he sees. He cannot distinguish between people and objects.”

“And his reflexes?”

“Normal. Only his brain has been affected. Apparently all traces of his memory have been wiped out with one stroke,”

“Then the man from the *Condor* was also—”

“Yes. Now I am sure of it. It was the same thing.”

“I’ve seen one other case like this,” whispered the astrogator. He looked in the direction of Rohan but did not seem to notice him.

“That was out in space.”

“Oh, yes, of course! Why didn’t I think of it before?” exclaimed the neurophysiologist in a high voice. “Amnesia due to a magnetic shock, wasn’t that it?”

“Yes.”

“I never saw a case of it. I’m only familiar with it through the literature. Didn’t that happen a long time ago when strong

magnetic fields were used to fly at high speeds?”

“Yes. That is to say, only under specific conditions. The intensity of the field is far less important than the gradient and the intensity of the change. Nowadays, if large gradients occur in space—and occasionally we encounter some pretty stiff ones—then our gauges will register them at great distances. This could not be done in the old days.”

“True,” concurred the physician. “That’s quite right. Ammerhatten made similar experiments with dogs and cats. He exposed them to enormous magnetic fields until they lost their memory.”

“Yes, it had to do with the brain’s response to electrical stimuli.”

“But in this case we not only have Gaarb’s report. We’ve got confirmation from his men as well.” Sax was thinking out loud. “Powerful magnetic fields. Must have been hundreds of thousands of Gauss?”

“That wouldn’t be enough. You’d need millions for that,” the astrogator answered in a gruff voice. Only now did he become aware of Rohan’s presence.

“Come in and close the door behind you!”

“Millions? Wouldn’t our instruments here on board detect such a field?”

“Only under certain conditions,” replied Horpach. “If it were concentrated in a small area, if it were the size of this globe here, and if in addition it were screened off from the outside...”

“In short, if Kertelen had stuck his head between the poles of a gigantic electro-magnet—”

“Even that wouldn’t be sufficient. The field would have to oscillate in a certain frequency.”

“But there was nothing but rubble up there. There were no machines and no magnets, nothing but eroded ravines, gravel and sand.”

“And caves,” Horpach added meaningfully.

“And caves. Do you believe somebody pulled him into one of those caves and that there was a magnet in it? No, that’s—”

“How else can you account for it?” asked the commander, as if he had grown tired of this discussion.

The physician remained silent.

At 3:40 A.M. the shrill ringing of the alarm signals sounded throughout the *Invincible*. The men awoke with a start, dressed and hurried to their stations, swearing as they went. Five minutes after the alarm signal began, Rohan entered the command center. The astrogator had not yet arrived. Rohan quickly walked up to the videoseen. The dark night was lit up brightly in the east by countless white flashes of lightning. It seemed as though a meteorite shower emanated from a radiant point and was attacking the rocket.

Rohan checked the dials of the field control instruments. He had programmed the computers himself and knew they would not react to rain or sandstorms.

Something—it was too dark to make out what it was—came rushing from the direction of the desert and scattered in a rain of fire. The discharges occurred at the surface of the energy dome. The mysterious missiles bounced off the shield and flew back, rapidly fading flames along a parabolic curve. Still other flames slid down the curvature of the vaulted field. The ridges of the dunes became momentarily visible, then sank back again into the darkness.

The hands on the dials flicked sluggishly. The system of the Diracs needed only a relatively small effort to ward off this mysterious bombardment. Rohan heard the approaching steps of the commander as he looked across to the spectrometer installation,

“Nickel, iron, manganese, beryllium, titanium,” the astrogator read the results off the brightly illuminated scale. He stood next to Rohan. “What I wouldn’t give to be able to see with my own eyes what’s going on there.”

“It’s raining metallic particles,” said Rohan slowly. “They must be quite small to judge by their discharges.”

“I’d like to get a close look at them,” said the astrogator. “How about it? Shall we risk it?”

“You mean switch off the energy field?”

“Yes. For a fraction of a second. We’ll catch a few particles inside the protected zone, the rest will be repelled when we switch our energy field back on.”

Rohan did not answer for a long time.

“Well, it’s conceivable...” he finally said.

But before the commander had time to step over to the instrument panel, the flickering flames died down just as rapidly as they had flared up. Stark darkness reigned again, the kind that is known only on moonless planets that circle far from the star clusters of the galaxy.

“No luck this time,” muttered Horpach. His hand rested on the main switch. He remained standing for another minute, then nodded briefly in Rohan’s direction and left the room. The all-clear signal sounded throughout all levels of the spaceship.

Rohan sighed, glanced once again at the videoscreens: there was nothing on the image but pitch black darkness. Then he went back to bed.

# The Cloud

They were getting used to the planet, its never-changing desert face, the slight shadows cast by its unnaturally light clouds as they drifted apart. Even by daylight one could see them through the light of the bright stars. They came to accept the ever-present sand that crunched under wheel and foot. They even grew accustomed to the dull red sun, whose rays were incomparably softer than those of its terrestrial counterpart. Instead of warmth, one felt its silent presence whenever the back was turned.

Every morning the work troops set out, each one in a different direction. The energo-robots disappeared among the dunes, rocking like giant boats. Once the dust cloud settled those who remained at the *Invincible* would try to guess what the day would offer. The men discussed what one of the radar observers had said to one of the communications technicians, or tried to recall the name of the pilot who had lost a leg on the navigational satellite Terra 5 six years ago. They passed the time chatting about little things, perched on empty canisters below the rocket, whose shadow circled like the hand on a gigantic sundial until it grew long enough to touch the ring formed by the energo-robots. Then

the men rose and began to look out for their friends, who would return exhausted and hungry.

Without the novelty which had originally inspired them when they were working in the metallic debris of the “city,” their energy soon dissipated. Hardly a week had gone by when even the *Condor* work detail failed to bring any more exciting news (like the fact that another corpse had been identified). And the findings that at first had been symbols of sheer horror—the remains of their dead comrades—were now carefully packed inside hermetically sealed containers and stowed down below in the storage rooms of the *Invincible*. The men whose job it was to continue to search the sand around the *Condor*, or to rummage through the ship’s interior, experienced boredom rather than a sense of relief. They seemed to have grown oblivious to the fate of the former crew. Their efforts now concentrated on collecting bits of memorabilia, meaningless knick-knacks that had survived their anonymous owners—an old, workworn harmonica or a Chinese puzzle. These objects quickly lost all traces of their origin, and were soon circulated and used as communal property among the *Invincible*’s crew.

Rohan would never have believed it possible, but in less than a week he was behaving no differently than the rest of the crew. Only on rare occasions, when he was completely alone would he begin to wonder what he was doing there. All this work, their ant-like activity, the complicated details of their research: the transilluminations, the search for specimens, the rock drillings (which were made even more difficult by the third step routine),

the opening and closing of the energy fields, the laser weapons with their exactly prescribed firing range, the unending visual control, the constant calculations—all this, he realized, was nothing but self-deceit. Basically, they were doing nothing more than wait for some new event, another catastrophe. They were simply pretending that they did not know the real reason for all this busywork.

At first the men would crowd around the ship's infirmary every morning to wait for news about Kertelen. He seemed to them not so much the victim of a mysterious attack as some creature who no longer resembled a human being, a monster who had nothing in common with them. It was as if they believed they were in some fantastic fairytale, in which an unknown force from a hostile planet had changed one of them into a monster. In reality, of course, the man was nothing but a cripple. Moreover, it soon became apparent that his brain was simply empty, like that of a newborn baby. His mind was able to absorb all the knowledge the doctors would teach it. Gradually, like an infant, he began to talk. Those who passed the hospital no longer heard the strange whining sounds, unlike any produced by human voices, or that senseless baby's crying that had been so terrible because it came from the mouth of a grown man. One week later, Kertelen formed his first syllables and began to recognize the physicians, although he could not yet pronounce their names.

By the second week, the men had lost interest in him, especially after the doctors announced that he would never be able to say



anything about the circumstances surrounding his accident, not even after he had completed his unusual re-education process and had “returned to his normal self.”

In the meantime the work continued. The crews continued to map the city and to collect details about the construction of the shrub-like pyramids, although no one could figure out their function. Finally, the astrogator decided that further investigations of the *Condor* would be useless, and therefore were to be discontinued. The spaceship itself would have to be abandoned. Repairing the outer hull was more than they could manage here, especially since the engineers had much more urgent work to do. Only a large number of energo-robots, transporters, jeeps and all kinds of instruments were transferred to the *Invincible*. The spaceship itself was reduced to a wreck after this salvaging operation. The *Condor* was made tight. The crew comforted itself with the thought that either they or the next expedition would eventually bring the cruiser back to its home base. At the conclusion of these operations, Horpach directed the *Condor* troop to continue its work in the north of the desert. They joined Gallagher’s group, now under the command of Regnar. Rohan advanced to main coordinator of all research activities. He would leave the immediate vicinity of the *Invincible* for no more than brief periods, and not even every day.

In an area criss-crossed by many ravines with subterranean springs, the two groups made some peculiar finds. They encountered clay deposits with layers of a reddish-black substance

which seemed to be of neither geological nor planetary origin. The specialists were at a loss. It looked as if millions of years earlier vast quantities of metal particles had settled on the surface of the old basalt mantle of the planet's solid shell. These splinters consisted either of metal or some metalloid matter—perhaps a huge iron-nickel meteor had exploded in the planet's atmosphere and then melted into the ancient rock during fiery cataclysms. These metallic fragments might have oxidized gradually, followed by chemical reactions with their matrix and other elements present. Finally they would have changed into these black-brown layers with occasional spots of crimson.

So far excavation had struck no deeper than a shallow level of rock formation, whose complicated geological structure confused even the most experienced of the planetologists. Once they had driven shafts down to the basalt base—itsself indubitably more than a billion years old—they discovered that the deposits immediately above contained carbon of organic origin which showed highly advanced stages of recrystallization. At first the scientists believed this layer to have been the original ocean bed. But then they came upon true coal beds with fossils of a large variety of plant species that could only have existed on the dry land. Little by little they gained a clearer picture of the life forms that had existed at that time on the continent of Regis III. Thus they learned that primitive reptiles had once roamed in the primeval jungle, some three hundred million years earlier. Indeed, they returned in triumph one day with the remains of a reptile's spinal column and the

jawbone, though the crew showed little enthusiasm about these finds. Apparently, evolution had taken place twice in the dry land areas. The first extinction of all life occurred in an epoch about one hundred million years back. At that time all plant and animal life seemed to have died out suddenly; the most probable cause would have been the nearby Nova explosion. However, life had developed again after this catastrophe; new forms, new species had arisen. Unfortunately, no exact system of classification could be established by the scientists; the available data were not sufficiently comprehensive. Yet they were positive that no mammals had ever evolved on this planet. Some ninety million years later, a second star explosion had occurred, but this time at a far greater distance from Regis III. This event could be traced by isotopes. According to the approximate values calculated, the intensity of surface radiation was not strong enough to have caused such enormous losses of life. And yet—even more puzzling—from this point on, plant and animal fossils were less and less frequently seen in the rock formations. Instead, the scientists found pressed “clay,” antimony sulfides, molybdenum and iron oxides, salts of nickel, cobalt and titanium in increasingly larger quantities.

There were strong centers within the six- to eight-million-year-old metalliferous strata which were found relatively close to the surface; but this radioactivity was comparatively short-lived considering the age of the planet. During that period something seemed to have unchained a series of violent, localized nuclear

reactions, whose products were deposited in these “metalline clay-layers.” Besides the hypothesis of the “radioactive iron meteor,” other, most fantastic assumptions were advanced, attempting to establish some connection between the strange centers of radioactive “hot spots” and the annihilation of the planetary system of the Lyre and the extinction of its civilization.

It was suggested that atomic battles might have taken place on Regis III among the spaceships escaping their threatened planetary home system. Yet this did not explain the extent of the metalliferous strata, which were discovered in other more remote excavation sites as well. From all these various data a mysterious yet plausible picture emerged: life on the planet’s continents had become extinct during the same span of millions of years during which the metalline deposits had been formed. Radioactivity could not have been the cause of the destruction of all living things. They had made calculations and converted the general amount of radiation into equivalents of nuclear explosions. This amounted to twenty to thirty megatons. Distributed over a period of hundreds of thousands of years, such explosions—if these had in fact been atomic explosions and not some other kind of nuclear reactions—could not, of course, have seriously endangered the evolution of biological forms.

Since the scientists suspected some connection between these deposits and the ruins of the “city,” they insisted on continuing with their research, but this required that considerable amounts of debris be cleared away before they could begin prospecting. The

only solution was to dig underground shafts; but those who worked below the surface would no longer be able to enjoy the protection of the force fields. The scale was tipped when—at a depth of about twenty yards—a layer rich in iron oxides was found to contain rusty metal parts of a most curious shape that looked like the corroded remnant of tiny mechanisms. At this point the scientists decided to carry on even without the protective energy field.

On the nineteenth day after they had landed on Regis III, dark, dense cloud formations, unlike any they had observed before, gathered over the area where the excavation unit was working. Toward noon a violent thunderstorm broke out that surpassed any electrical storm ever seen on Earth. Sky and mountain merged in the unceasing blinding flashes of lightning. The brooks turned into torrents that rushed down the winding ravines and flooded the excavation site. The men ran for shelter under the dome of the big energy field. Mile-long lightning bolts repeatedly struck the hull of the protective dome. Finally, the thunderstorm moved slowly off to the west, and the entire horizon above the ocean was soon a single black wall ripped by constant lightning.

On the way back to the *Invincible* the prospecting detail discovered vast numbers of tiny black metal drops in the sand. Were these the ill-famed “flies”? The men gathered them up very cautiously and took them along to the spaceship, where they aroused great interest among the scientists. However, there was no possibility whatsoever that the drops were the remains of insects. Again there were consultations among the experts, frequently

resulting in violent controversies. In the end it was decided to send an expedition toward the northeast, beyond the labyrinth of ravines and the areas of iron oxide deposits, because some new discoveries had been made on the caterpillar chains of the *Condor* vehicles: they had found traces of minerals that had not been seen in any of the terrains that had been examined so far.

The next day, twenty-two men climbed into their vehicles. As soon as sufficient stores of oxygen, food and nuclear fuel had been packed away the column began to move. The group was well equipped energo-robots, the self-mobile mortar from the *Condor*, transporters and robots (among them twelve Arctanes), automated dredging machines and rock drills. Regnar was in charge of the expedition. Radio and television contact was maintained with the column until the planet's curved surface made the further use of ultra-short waves impossible. Then the *Invincible* launched an automatic teleprobe into a stationary orbit, over which communication could be maintained.

All that day the column continued to advance. At nightfall the vehicles and machines formed a defense circle and surrounded themselves with a force field.

The following morning they continued on their way. Toward noon, Regnar informed Rohan that he wanted to stop at the foot of some sand-covered ruins inside a shallow crater in order to inspect them at closer range. One hour later, the reception became very bad because of strong static disturbances. The communication crew switched to another wave length for better reception. Soon

afterwards the reception suddenly broke off altogether, just as the thunder died away and the storm moved off into the direction the expedition had taken. The breakdown in communication had been preceded by several episodes of fading that increased in length and strength. Most peculiar, however, was the fact that at the same time TV reception had become worse, even though it was independent of conditions in the ionosphere, as it emanated from a satellite circling beyond the atmosphere. It was about one o'clock when all communication ceased. No technician, none of the physicists called in for consultation, could explain this phenomenon. It was as if a metal wall had descended somewhere in the desert to cut off the expedition from the *Invincible*.

All this time Rohan had kept close to the astrogator, who seemed quite apprehensive. At first Rohan believed there was no justification for the commander's attitude. The weather front that had moved off in exactly the same direction as the expedition might have certain definite screening properties. The physicists, however, doubted that such a thick layer of ionized air could possibly come about. When the thunderstorm had completely died down and it was still impossible to re-establish communication, even after sending nonstop call signals, Horpach dispatched two scouting planes of the flying saucer type. It was close to six o'clock in the evening.

One of the flying saucers flew a few hundred yards above the desert. The other rose to an altitude of two and one-half miles, serving as a television transmitter station to its lower flying

companion. Rohan, the astrogator, Gralew and a dozen other men, including Ballmin and Sax, stood in front of the big telescreen in the command center, viewing directly whatever happened inside the visual field of the first machine's pilot. Beyond the dark labyrinth of ravines stretched the desert with its endless chains of dunes, now covered by black stripes, for it was close to sunset. The oblique rays of the setting sun cast the landscape in a mournful light. Small craters, filled to the rim with sand, slipped by underneath the low-flying machine from time to time. Some craters had remained visible only because of the central cone of a volcano extinguished for many centuries. The terrain rose gradually and became increasingly diversified. Amid the sandy hills high rocky ridges jutted out, forming an entire system of oddly jagged mountain chains. Lone stone needles resembled the bodies of smashed rockets or of some gigantic figures. Crevices, filled by cone-shaped formations of boulders and rubble, cut the slopes with their sharp outlines. Finally the sand disappeared altogether and gave way to a wilderness of steep rocks and rubble heaps. Here and there tectonic fissures wound through the planet's crust. From a distance they resembled meandering rivers. The landscape now resembled that on the Earth's moon. Suddenly the television reception grew worse once again. The image became blurred and synchronization was disrupted. All efforts at correction were in vain.

Now the whitish coloration of the rocks turned into ever darkening shades. The high-rising rocky ridges that moved away



from the immediate view were brownish and covered by a poisonous and metallic glitter. Velvety black spots occurred here and there, as if a dense dead scrub proliferated over the bare stones.

A call came from the first machine, which had remained silent thus far. The pilot reported that he could hear the automatic position transmitters with which the lead vehicle of the expedition had been equipped. Yet the men assembled in the command center could hear only the pilot's weak and fading voice, calling Regnar's group.

The sun was lowering in the sky, which glowed in rich crimson hues. A black wall reared up against this red backdrop in front of the machine. The wall seemed to consist of many cloud-like yet solid strata that reached from the rocky ground to a height of one thousand yards. Everything behind it was now hidden from view. If this dark conglomeration of partially inky-blue and partially metallic purplish shimmering clusters had not moved up and down, slowly and rhythmically, one could have taken it for an unusual formation of mountains.

Now the sun rays struck the wall in near horizontal lines. Below them caves opened up revealing sudden flashes of light coming from inside. The gaps in the wall appeared to be filled with furiously dancing swarms of sparkling black iron crystals. At first the men in front of the picture tube had the impression that the cloud was advancing toward the approaching machine; but this was an optical illusion. Only the flying saucer was moving with

constant speed, flying straight toward the strange obstacle in its path.

“KU-4 to ground station. Shall I fly above the cloud? Over,” sounded the muffled voice of the pilot.

“Commander in chief to KU-4. Stop in front of cloud!” came the astrogator’s reply after a fraction of a second.

“KU-4 to ground station. Stopping before cloud,” confirmed the pilot at once and Rohan thought that his voice sounded rather relieved. Just a few hundred yards separated the machine from the strange formation that had begun to fork out, each prong diminishing in breadth toward the end; they seemed to stretch as far as the horizon. Now the entire screen in the command center was filled by the gigantic, pitch black mass of the vertical surface of this improbable ocean. The flying saucer no longer moved in the direction of the black wall. Suddenly, before anyone could even utter a sound, bolts of lightning shot out in all directions from the slowly heaving mass. The image on the screen grew dark, vanished to a small point, then again lit up, flickering once more, rent apart by the lines of weak electrical discharges, and finally disappearing completely,

“KU-4, KU-4,” called the operator.

“Here KU-8,” suddenly reported the pilot of the second craft, that had functioned all this time as the relay station for the first flying saucer.

“KU-8 to ground station. Shall I start televising directly? Over.”

“Ground station to KU-8. Start televising directly!”

The big videoscreen in the command center was now covered by wildly whirling black currents. It was the same picture but this time seen from a height of two and one-half miles. Now it could be observed that the black mass formed one immensely long cloud bank that rested against the towering ring of mountains, as if it intended to block the way to this region. The surface of the black wall moved along sluggishly like some congealed, viscous mass. No trace could be detected of the first machine that had been swallowed by the dark substance.

“Ground station to KU-8. Are you receiving KU-4? Over.”

“KU-8 to ground station. Nothing from KU-4. Using interference waves. Calling KU-4! Calling KU-4, here KU-8! Come in, please! KU-4, KU-4!” the men heard the second pilot’s voice. “KU-4 does not reply. Proceeding to infrared waves. Calling KU-4! Here KU-8, come in, please! KU-4 does not reply. Using radar now to probe the black cloud wall.”

It grew absolutely still inside the darkened control center; not even the men’s breathing could be heard. The entire room was tense with expectation. There was no change on the screen; the men no longer looked at it. The rocky ridge jutted out above the black cloud, an island in an ocean of ink. High up in the sky gold-drenched cirrus clouds were fading away. The sun’s disk was already touching the horizon. In another few minutes, dusk would fall.

“KU-8 to ground station,” sounded the pilot’s voice, which seemed to have completely changed during the few seconds since

the last communication. "Radar findings indicate a purely metallic obstacle. Over, please."

"Ground station to KU-8. Switch radar screen image over onto television screen! Over!"

The screen grew dim, then totally dark, glowed briefly in a pale blue light, then turned green. Finally it became scattered all over by innumerable, brightly sparkling discharges.

"The cloud consists of iron," said someone behind Rohan. It was like a sigh.

"Jazon!" shouted the astrogator. "Is Jazon here?"

"Yes, here I am." The nuclear physicist stepped forward.

"Can we heat that up?" asked the astrogator, calmly pointing to the videoscreen. Everyone knew what he meant. Jazon hesitated. "KU-4 ought to be warned first to expand their protective energy field to its maximum."

"Jazon! They are incommunicado."

"Up to 7000° Fahrenheit... without great risk."

"Thanks! Blaar, the microphone! Commander in chief to KU-8! Get the laser ready! Aim at the cloud bank! Up to one billierg into the epicenter! Nonstop bombardment along the azimuth!"

"KU-8. Nonstop bombardment up to one billierg," answered at once the voice of the pilot. Nothing happened for one second. Then a flash, and the central cloud which filled the lower part of the screen changed color. At first, the cloud seemed to liquefy, then it turned red and finally began to boil. A funnel with glowing walls was formed; all the neighboring shreds of cloud were sucked into it

as if into a maelstrom. Suddenly all movement ceased. The cloud was now in the shape of a huge ring; through this lumen could be seen many chaotically arranged groups of boulders and rocks. A fine black ash-like dust drifted in the air.

“Commander in chief to KU-8. Maximal fire power!”

The pilot repeated the order. A wildly flickering wall surrounded the hole as the cloud attempted to patch it, withdrawing its groping black arms whenever they were seized by the flaming inferno. All this lasted but a few minutes. The situation grew more and more critical. The astrogator did not dare shoot at the cloud with the full force of the laser-beam mortar, for the flying saucer with its pilot was still inside the cloud. Rohan instinctively knew Horpach was hoping that machine would fly out through this gap. But now as before, there was no trace of it. The KU-8 hovered almost motionless and pierced the bubbling rim of the black ring with its blinding laser beams. The sky was still quite light, but the shadows grew increasingly darker along the rocks. The sun was setting.

Suddenly, the gathering darkness in the valley began to glow eerily. The cloak of darkness that enveloped everything loomed a dull red, like the mouth of a volcano beneath a fiery cloud of ashes.

Now only dark shadows were visible. They kept merging, forming one continuous mass in whose center fiery flames hissed and boiled. The cloudy substance, whatever it was, had moved in to attack the missing aircraft, and fierce flames shot up wherever the black mass collided with the ship's energy screen.

Rohan looked at the astrogator, on whose rigid, expressionless face was mirrored the wavering reflection of the blazing fire. The middle of the screen showed the black seething mass with the fiery nucleus that intermittently broke into sheaves of fire. In the distance a huge mountain was silhouetted against the cold purple of the last sun rays that at this very moment so much resembled their terrestrial counterpart. All the more incredible was the spectacle that took place inside the cloud.

Rohan stood by. The astrogator's face was like a mask, giving no indication whether he would order the upper machine to come to the aid of the lower, or leave the latter to its fate and continue on a northeasterly course.

All of a sudden something horrendous happened. Either the pilot of the machine imprisoned by the cloud lost his head, or some catastrophe occurred aboard the aircraft—in any event, a bolt of lightning coursed through the black simmering mass, a blinding light marked the spot where the lightning had hit, and long swaths of the cloud that had been ripped apart by the explosion scattered rapidly in all directions. The shock wave was so violent that the whole picture began to oscillate, echoing the same crazy dance that the KU-8 performed as it was tossed about by the turbulence of the atmosphere. Then the screen was filled again by the black mass which grew denser and denser. Only black could be seen, nothing else.

“Ready the antiprotons! Full force ahead! Aim at the cloud! Nonstop bombardment!”

The pilot repeated the order. The technicians observed the side screen on which everything was visible that happened behind the machine. All of a sudden one of the technicians yelled: “Watch out, KU-8! Climb! Higher! Climb, keep climbing!”

A huge black whirling cloud came racing like a hurricane from the vacant air space in the west. A moment earlier the black tornado had still been part of the immense cloud bank. Now it became separated and rose vertically, whirling rapidly, dragging offshoots behind that soon split off due to the violent motion. The pilot noticed this phenomenon a fraction of a second before the warning call rang out. He pulled the machine upward in steep ascent. But the cloud pursued him, spewing black columns up into the sky. He attacked them systematically, shooting at one after the other. He made a frontal hit and one of the black clusters nearby started to divide and became darker. Suddenly the whole image began to shake.

As soon as part of the cloud bank reached the region of the radio waves, making radio communication from plane to ground increasingly difficult, the pilot apparently used the antimatter mortar for the first time. Abruptly the planet’s atmosphere changed into one immense sea of fire. The purple afterglow of the sunset vanished instantly. For several seconds the television observers in the command center could still perceive the cloud through the jagged horizontal pattern on the screen. Out of the cloud rose smoke columns that quickly oozed away, their color fading to a grayish white. Now a second explosion, far more terrible than the

first, poured cascades of fire over the rocky chaos that had been almost enveloped by gases, haze and smoke. This was the last picture that was transmitted, for one second later the screen was filled with sparks and arcs of electrical discharges, and then vanished altogether. Only the empty, brightly lit screen glimmered in the darkened command center, illuminating the deathly pale faces of the assembled men.

Horpach ordered the radio crew to keep calling both machines. Then he went to the adjoining navigation cabin together with Rohan, Jazon and several others.

“What is the nature of this cloud? What is your opinion?” he asked without any introductory remarks.

“It is made up of tiny metal particles. A remote-controlled emulsion, as it were, with a uniform center,” answered Jazon.

“Gaarb?”

“I am of the same opinion.”

“Any suggestions? None? All the better. Which supercopter is in better shape, ours or the one from the *Condor*?” Horpach demanded of the chief engineer.

“Both are in perfect condition, astrogator. But I would prefer ours.”

“Excellent. Rohan, if I’m not mistaken you once expressed the desire to work outside the protective dome. Well, here’s your chance. You’ll get eighteen men, take along double the usual complement of automatic arms, vibration arc lasers and antiprotons. Anything else you could use?”



Nobody replied.

“All right, then. So far we haven’t invented anything more powerful than the antimatter. You’ll start at 4:31 A.M. Sunrise. Proceed in a northeasterly direction and try to find the crater that Regnar mentioned in his last report. Shoot at everything on your way out there, but keep at a safe distance. Don’t waste any time waiting around or experimenting. And don’t spare the ammunition. If you lose contact with our base here, just carry on. As soon as you’ve located the crater, proceed to land, but be careful not to lower on to our men there. I suppose they’re somewhere around there—” He pointed at the map of Regis III that covered an entire wall. “Over in this area, cross-hatched in red. It’s just a rough guess, but that’s all we have so far.”

“What do we do after touchdown, astrogator? Shall I search for the men?”

“I leave that up to you. Use your own judgment. But please remember not to shoot at anything within a radius of thirty miles, because our men might be somewhere in there.”

“How about ground targets?”

“None whatsoever. Up to this point here”—the astrogator outlined the area with a sweeping motion of his hand—“you may deploy your annihilation weapons aggressively. But beyond this line you’re to defend yourselves only with your force field. Jazon, what is the limit for the field of such a supercopter?”

“Several million atmospheres per square inch.”

“ ‘Several million.’ What’s that supposed to mean? I asked you how many? Five million? Twenty million?”

Horpach’s voice sounded very quiet; but the effect of this studied calm was to strike chill in the hearts of the *Invincible* crew.

Jazon cleared his throat. “The field has been tested with twelve and a half.”

“That sounds much better. Did you get that, Rohan? Whenever this cloud bank reaches this limit of your force field, you get the hell out of there. Climb up, that would be the best escape route. Well, of course it’s impossible to predict everything that might happen...” He looked at his watch. “Eight hours after you leave here I’ll have you called over every wave length. If that doesn’t work, we’ll try to establish communication via satellites or direct optical contact We’ll send laser signals using Morse code. That’s always worked up to now; at least I’ve never heard anything to the contrary. But just in case the laser beam signals should fail to get the message to you, wait another three hours and then start back to the base. If I’m not there—”

“Do you plan to take off?”

“Don’t interrupt me, Rohan! No, I don’t plan to, but things don’t entirely depend on us. If we’re gone, you’re to go into orbit around the planet. Have you ever done that with a supercopter?”

“Yes, twice, in the delta of the Lyre constellation.”

“Fine. Then you’re aware that it’s somewhat complicated, but not impossible. Your orbit must be stationary. Stroem will give you the exact data before you start. Once in orbit, you will wait for me

for thirty-six hours. If I haven't reached you by then, you'll simply return to the surface of Regis III and land near the *Condor*. Try to get it in shape to take off from here. I know what this advice sounds like, but you'll have no alternative. Once you've engineered this miracle, report back to Earth with the *Condor*. Any questions?"

"Yes. May I establish contact with these ... with this center that directs the cloud, if I should succeed in locating it?"

"I'll leave that up to you also. But make sure that the risk remains within the limits of reason. Of course, I am totally ignorant, but I don't think you'll find any master brain on the surface of Regis III. If a center even exists."

"What do you mean by that?"

"We've been scanning the entire electro-magnetic spectrum. If anyone were steering this cloud with the help of rays, our instruments would have registered the corresponding signals."

"The center might be hidden in the middle of the cloud."

"Maybe. I don't know. Jazon, can you conceive of a means of telecommunication independent of electromagnetic waves?"

"Completely out of the question, if you want my opinion."

"What do you think I asked for?"

"The extent of my knowledge is not the same as what exists or might exist. We don't know any other type of communication. That's all."

"How about telepathy?" came a voice from the background.

"No comment," replied Jazon curtly. "Nothing of the kind has ever been detected, as far as I know. Not in any part of the

universe explored by man, at least.”

“Let’s not waste our time with useless discussions. Get your men together, Rohan, and make the supercopter ready for takeoff. Details about the ecliptical orbit will be in your hands within the hour, Stroem will work it out for you. Stroem, please calculate a constant orbit with an apogee of 150 miles.”

“Will do, Astrogator.”

The astrogator opened the door leading to the command center.

“How are things going, Turner? Nothing yet?”

“Nothing. Just a lot of static, that’s all.”

“No trace of emission spectrum?”

“Not a trace.”

That means that neither of the two machines is using any of their weapons. They’ve stopped fighting, thought Rohan. If they’d gone on to use laser fire or induction emitters, the instruments aboard the *Invincible* would register such activity at a distance of several hundred miles.

Rohan was far too, gripped by excitement to worry about the mission he had been ordered to carry out—and far too busy to indulge in the luxury of anxiety. There was no time for sleep that night. The supercopter had to be checked out, additional fuel had to be taken aboard, provisions and weapons had to be loaded. The men worked hard to finish all the necessary preparations in time. The instant the red disk of the sun peered above the horizon, the two-storey-high craft, weighing seventy tons, lifted off into the air. Heavy dust clouds whirled around the launching pad. The copter

flew in a straight line toward the northeast. Rohan quickly gained an altitude of almost ten miles. He could travel at maximum speed within the stratosphere. There was also less danger of an encounter with the black cloud, or so he reasoned.

Whether he was right in his assumption, or whether it was just luck, preparations were met for landing hardly one hour later. The sun's slanting rays fell on the supercopter as it descended, while the sandy crater below still lay in the gray light of dawn. Even before huge fountains of sand gushed up to meet the downward blast of hot gas jets, the video technicians alarmed the men in the command center that they had sighted something suspicious in the northern part of the crater. The heavy craft interrupted its descent and hovered, trembling slightly as if poised on an invisible tensioned spring. From a height of 500 yards they made a thorough inspection of the spot.

The screen of the magnifier showed a gray-brownish background against which tiny rectangles stood out, grouped geometrically around a larger, steel-gray rectangle. Together with Ballmin and Gaarb, who were sitting next to him at the controls, Rohan realized that these were the vehicles of Regnar's expedition.

Swiftly, with all precautionary measures, they landed not far from the area. The telescopic landing legs of the supercopter were still working and clicking into place simultaneously, when the crew began to lower the gangway and send off two scouting machines, well-protected by a movable force field. The interior of the crater resembled a shallow dish with a jagged rim. A black-

brownish crust of lava covered the central cone of the ancient volcano.

The scouting vehicles needed a few minutes in order to cover the distance of one mile that separated them from Regnar's group. There was excellent radio communication, no sign of interference. Rohan spoke with Gaarb, who was riding in the front vehicle.

"We're still climbing a slight incline, we should see them any moment now," Gaarb repeated several times. Suddenly he shouted: "Here they are! I can see them!" Then he added with a calmer voice: "Evidently everything seems to be okay there." He counted: "One, two, three, four—all the vehicles are there. But why are they parked in the sun?"

"How about the men? Do you see any of our men?" inquired Rohan, who sat tensed in front of the mike.

"Yes. Something's moving over there—two men. Here—another one—somebody is lying down in the shade—I can see them, Rohan!"

His voice grew distant. Rohan could vaguely hear him say something to his driver. Then came the dull echo as they shot off a smoke signal. Gaarb's voice came on strong again.

"That was just a little salute to let them know we are here. The smoke is drifting over their way now. It will soon clear up. Jarg, hey there, Jarg! What's the matter? Hey there, guys!"

His excited shouts were loud in Rohan's ears. Then there was abrupt silence. A motor sprang to life, Rohan could hear the humming engines move farther and farther away until they came

to a halt. Then a few hurried steps, muffled sounds of shouting, indistinct screams and then silence again.

“Hello, Gaarb, hello!” Rohan kept repeating in his mike. His lips were trembling. Footsteps approached, someone running across the sand came nearer; the loudspeaker began to crackle.

“Rohan!” Gaarb’s voice sounded strange; he was breathing hard. “Rohan! Damn it! It’s the same as with Kertelen! They’re all crazy—they don’t recognize us, they don’t talk—Rohan, can you hear me?”

“Yes, I’m listening. Are they all the same way?”

“Looks like it to me. But I can’t say yet for sure. Jarg and Turner are just going through the group to see—”

“How about their force field?”

“It’s switched off. I can’t detect it. I don’t know. They must have switched it off.”

“Any signs of a struggle?”

“No. Nothing. All the vehicles are parked here. There’s no damage. And the men are simply lying around or sitting there. You can shake them and they don’t react at all. What? What’s the matter over there?”

Rohan heard a distorted sound, interrupted by a long whining whimpering howl. Rohan gritted his teeth, trying to suppress the feeling of nausea that welled up from the pit of his stomach.

“For God’s sake, that’s Gralew!” came Gaarb’s horrified voice. “Gralew! Gralew! Don’t you recognize me?” Gaarb’s panting,

amplified by the loudspeaker, seemed to fill the entire command center.

“Gralew too,” he uttered breathlessly. Then he fell silent, as if gathering new strength.

“Rohan, I don’t know if we can handle this situation by ourselves. We have to get them away from here. Send us some more men, will you?”

“Right away.”

One hour later the convoy of horror stopped below the metal body of the supercopter. Only eighteen men out of the original twenty-two that had left with the expedition had been found. The fate of the other four was unknown. Most of the group had offered no resistance and had come along peacefully. Five of the men refused to budge and had to be taken by force. They were carried aboard on stretchers, then brought to an improvised infirmary on the lower deck of the supercopter. The other thirteen men, whose rigid masklike faces were especially terrifying, were brought to an isolated room where they allowed themselves to be put to bed without any resistance. They had to be undressed. They were as helpless as newborn babies. Rohan witnessed the scene silently. He stood in the corridor between the rows of cots. He noticed that most of the men remained passive, although those that had been carried off by force continued to whine eerily.

Rohan left the incapacitated men in the care of the attending physician. He sent all the vehicles at his disposal on a search mission, trying to locate the missing four men. He had many



vehicles now, as he had brought back the machines abandoned by the sick men. Now Rohan used his own men to drive these machines. He had just finished dispatching the last group when he was called back to the command center: the radio men had finally established contact with the *Invincible*.

He was not at all surprised that they had succeeded in getting in touch with their “home base.” He was beyond the stage where anything could still surprise him. He gave a brief report to Horpach.

“Who is missing?” the astrogator wanted to know.

“Regnar, Benningsen, Korotko and Mead. What’s the story on the two airplanes?” Rohan now inquired in turn.

“I have no news from them.”

“And how about the cloud?”

“I sent out a patrol this morning. They just returned one hour ago. They couldn’t detect any trace of the cloud.”

“Nothing? Nothing at all?”

“Nothing.”

“Not even the aircraft?”

“Nothing.”

# Lauda's Hypothesis

Lauda knocked at the door of the astrologator's cabin and walked in. The astrologator was making some entries on a photogrammetrical map.

"What's the matter?" asked Horpach without lifting his head.

"I wanted to talk to you about something."

"Is it that urgent? We're starting in fifteen minutes."

"I don't know. It seems we're about to figure this place out," said Lauda.

The astrologator laid aside his compasses. Their eyes met. The biologist was no younger than the commander; strange, that he was still permitted to go on space flights. Apparently he was particularly interested in it. He looked more like an old mechanic than a scientist.

"What have you figured out, then? Let's hear it."

"We've turned up living organisms in the ocean," answered Lauda. "Life in the ocean, but none at all on land."

"How is that? There *was* life on land. Ballmin himself found traces of it."

“That’s right. Traces more than five million years old. But later all life on land was exterminated. What I’m about to say sounds fantastic, Astrogator, and I have next to no proof for it, but here’s the way it might have come about: imagine, once upon a time, some millions of years ago, a rocket landed here. A rocket that originated from some other system, perhaps from the region of a nova.”

Lauda spoke faster now, his voice calm and firm.

“We know for a fact, that intelligent life existed on the sixth planet of the system before the explosion of the Zeta of the Lyre constellation. These creatures had a highly developed technology. Suppose a scouting craft of the Lyre people landed here on this planet. Maybe there was a crash landing or some other catastrophe that totally wiped out the ship’s crew—a nuclear explosion, say, or a chain reaction—anyhow, there wasn’t a single living being aboard the wreck that touched down on Regis. Only robots, automated and computerized machines remained. Not the kind we have, with a trunk, a head and limbs, resembling the human body. The inhabitants of the Lyre were probably not humanoid at all in appearance, and they constructed their robots to resemble them. The robots were unharmed and left the ship. They were highly specialized homeostatic mechanisms, capable of withstanding the most difficult environmental conditions. Now they no longer had anyone to direct their activities. Perhaps those robots whose mental processes were closest to those of their creators even tried to repair the wrecked craft, although this would serve no useful

purpose under the circumstances. But you know the way robots operate. A repair robot will always repair everything he's been programmed for, whether it makes sense in a given situation or not. Then a separate group of robots became independent of the others. Perhaps they were attacked by the local fauna. Lizardlike reptiles, predators, lived on the planet at that time, and certain predators will attack anything that moves. The robots fought them off and won the battle. They had to be armed for a fight like that—in other words, they adapted to local conditions as best they could. We'd have to assume, of course, that these robots were capable of producing other machines according to their specific needs of the moment. Let's say they needed flying machines to fight off these saurians. Needless to say, I don't know any details. I am only imagining the way the situation might have evolved under natural conditions. Maybe there were no flying reptiles here at all, only burrowing reptiles, living underground. I simply have no way of knowing. But in any event the robots would have adapted perfectly to life on the continents of this planet. They succeeded so well that they were victorious in their battle against all life forms. Including plants.”

“Plants? How do you account for that?”

“I'm not quite sure. I could advance several hypotheses, but I'd rather not. Incidentally I haven't even mentioned the most important part yet. Hundreds of generations later the 'offspring' of the first mechanisms were no longer anything like the original products created by the Lyre civilization. Do you follow me? It was

the beginning of an evolution of nonliving things, an evolution of machines. After all, what's the first principle of a homeostat? To outlast, to survive under changing conditions, however difficult and hostile these conditions may be. The forms that eventually resulted from this evolution faced a peril far greater than attack by the local fauna and flora. They were forced to search out sources of energy and raw materials in order to produce spare parts and new organisms. This search led to the development of a kind of mining industry. Their ancestors—the ones who arrived with our hypothetical spaceship—must have been originally powered by some radioactive source. But there are no radioactive elements present on this planet. In other words, they no longer had access to this particular supply of power, and so were forced to find another one. This would have led to a critical shortage of power and eventually to a battle over the source of energy supply. The machines waged war on each other in a literal struggle for survival. And of course this is the basis for all evolution: survival of the fittest, due to natural selection. In this battle, the 'intellectually' superior mechanisms, which needed considerable amounts of energy (not least, perhaps, because of their size) were no match for the less developed but more economical and more productive machines—”

“Hold it. Aside from the fact that this all sounds like pure fantasy, isn't it true that it is precisely the organism with the highest developed nervous system who usually wins the evolutionary battle? Even if the nervous system had been replaced

in this case by an electronic system, the principle would still remain the same.”

“Correct. But only in the case of homogenous organisms that naturally evolved on the same planet—not those that arrived from other planets.”

“I don’t understand.”

“It’s this simple: on Earth, the biochemical prerequisites for the proper functioning of organisms have always been and still are almost always the same. Algae, amoebae, plants, animals—they’re all made up of nearly identical cells; they all have a very similar protein-based metabolism. And in view of this common basic building block, this common point of origin, what you have just outlined about the development of the machines becomes a distinguishing characteristic rather than a common one. It is not the only one, but one of the most important. However, the situation was quite different in this case. There were two types of mechanisms that landed here on Regis. The more complicated obtained their energy from their own radioactive stores of supply, while the simpler mechanisms, small repair systems, derived their power from solar cells that were recharged by sunlight. This was a tremendous advantage and made them superior to the other radioactive-powered type.”

“But the higher developed mechanisms might have robbed them of these solar batteries. And anyway, what good is all this debate? Why should we even talk about it? It may not even be worth discussing. What do you say, Lauda?”

“Quite the contrary! This is an important point! As I see it, an inanimate evolution of a most peculiar character has taken place here, due to extraordinary conditions which came about by chance. This is the way it looks to me. Two types of systems were successful in this evolutionary pattern: first, those that had made the greatest advances in miniaturization, and then those that became settled in a definite place. The first type were the beginning of these ‘black clouds.’ I believe them to be very tiny pseudo insects that, if necessary, and for their common good, can unite to form a superordinate system. This is the course taken by the evolution of the mobile mechanisms. The stationary mechanisms, on the other hand, were the starting point for this strange metallic vegetation, the ‘ruins’ of the areas we thought were cities—”

“In other words, you don’t think they are cities?”

“No, of course not. They’re merely collections of mechanisms that became stationary. Inanimate structures that self-reproduced and were outfitted with special organs to store solar energy. That seems to be the function of the small triangular plates.”

“Do you mean to tell me that the city is still vegetating?”

“No. I have the impression that this—let’s say this metallic forest—has become the victim in the struggle for existence. There’s nothing left of it but rusty scrap metal. Only one type of mechanism has survived: the mobile systems that dominates all the continents of this planet.”

“Why?”

“I can’t answer that. I’ve made innumerable calculations. There is the possibility that the sun of Regis III has cooled off at a much faster rate over the past three million years than was previously the case. This may have deprived the stationary organisms of the amount of energy they need. But that’s just an assumption.”

“Let’s just suppose you are right: do you believe, then, that the clouds have some command center at either the surface or the interior of this planet?”

“No, I don’t think it’s anything like that. It could be that these microorganisms themselves form such a center when they combine in a certain manner—a kind of inanimate brain. In general it’s probably better for them to live separately. They exist in loose swarms which permits them to be constantly exposed to the sunlight, or even to chase after thunder clouds, for they probably obtain energy from these atmospheric discharges. However, they will unite in moments of danger, or to be more precise, in the event of any sudden change that constitutes a threat to their survival.”

“Such a reaction would have to be triggered by something. And what happens to that incredibly complex memory bank that remembers the whole system during these periods of ‘swarming’? After all, an electronic brain is known to be cleverer than its individual parts, Lauda. Are you suggesting that these elements have been clever enough to jump back to their proper places again by themselves? That would imply some initial blueprint of the entire brain—”



“Not necessarily. It suffices for each element to recall those elements with which it was in immediate contact. Let’s say element number one is to attach each of its surfaces to six other particles which in turn remember the same thing about themselves. Thus the amount of information stored in each individual particle can be very limited indeed, and only a certain trigger mechanism, some kind of signal—*Warning! Danger!*—is needed to restore the original configuration, the creation of the ‘brain.’ But this is no more than a grossly simplified description. The process must be far more complicated than that—just consider how frequently these individual elements are destroyed—and yet the overall functioning of the superstructure remains unaffected.”

“Fine. We can’t afford the time now to go into further details. Are there any practical conclusions we can draw from your hypothesis, Lauda?”

“To some extent, yes, but rather negative conclusions. Millions of years of ‘machine evolution’ and a phenomenon never before encountered by man anywhere in the galaxy. Let’s just focus on the main problem. Machines as we know them do not exist for their own sake, but rather to serve someone or something. From the point of view of mankind, the existence of a self-generating metal bush or an iron cloud is meaningless. Of course you could also say that cactus plants in our terrestrial deserts are equally meaningless. The key lies in the fact how excellently they have adapted in their fight against other living beings. I am inclined to believe they resorted to killing only during the first phases of this

battle, while the continents were still teeming with life. Soon the amount of energy used for killing must have proven to be uneconomical, and they turned to other methods. The result? The catastrophe of the *Condor*, the business with Kertelen, and, finally, the destruction of Regnar's men."

"What kind of methods do you mean?"

"I don't know exactly how they function. I can only express my own opinion: in the case of Kertelen, we have witnessed the annihilation of almost the entire information bank stored in the human brain. It's probably the same thing with animals. An organism maimed in this fashion obviously cannot survive. Simpler, faster, and more economical than outright killing... I'm sorry to say that my conclusions are very pessimistic, as far as we are concerned. That may even be the understatement of the year. Our position is far worse than theirs, for several reasons. To begin with, it's much easier to destroy a living organism than a mechanism or some technical installation. Besides, they have evolved under conditions that forced them to fight against living things and against their metallic brothers, as we might call these robots. In other words, they have conducted a war on two fronts, battling) against any kind of adaptive mechanism evolved by living systems, and also against any manifestation of intelligence in machines. Millions of years of such warfare must have resulted in a perfect and uniquely universal system of destruction. I am afraid if we want to beat them we'll have to resort to total annihilation, and that's as good as impossible."

“Are you serious?”

“Yes. Of course, it is conceivable that the entire planet could be destroyed, if the proper concentration of means were available. But this is not our task here, quite apart from the fact that we lack the necessary equipment to do so. The situation as I see it is absolutely unique. We are superior intellectually. These mechanisms do not represent a truly intelligent power. But they have managed to adapt perfectly to this planet—by annihilating anything rational as well as anything alive. They themselves are not alive, therefore what is harmless for them might mean death for us.”

“How can you be so sure that these mechanisms lack rationality?” “I could try to duck that question. I could plead ignorance; but I assure you, if I’ve ever been convinced of anything, this is it. Why don’t they represent an intellectual power? My God! If they had any mental faculties they would have finished us off long ago. Just run through everything that’s happened since we landed here—you’ll have to conclude that they can’t possibly have a strategical plan. They make only one attack at a time.”

“Hmm. What about the way they interrupted contact between us and Regnar, and then the attack on our scouting planes—”

“But they haven’t done anything they didn’t already do thousands of years ago. The more complicated automatons they destroyed must certainly have had radio communication. One of their earliest tasks must have been to prevent the exchange of

information. The solution to their problem was self-apparent: what would be better suited as a screening device than a metallic cloud? And now? What do we do? We have to protect ourselves and the machines and robots without whose aid we would be helpless, while our adversaries are free to operate in any way they need. They command a literally inexhaustible means of reproduction; they can continue to exist even if we annihilate a part of their forces; they are unaffected by our conventional weapons of destruction. There's nothing left for us to do but turn to our strongest weapon, the antimatter artillery. Yet even so we'll never destroy them all. Have you noticed how they react when they're hit? They simply disintegrate. Besides, the fact that we have to stay behind our protective force fields, reduces our maneuverability. They, on the other hand, can reduce their size at will, move freely from place to place—and even if we should succeed in beating them on this continent, they'll simply withdraw to another one. And after all, their complete annihilation is not what we came here to accomplish. I think we should get out.”

“So that's it.”

“Yes, that's it. Since we're obviously dealing with an adversary that is merely the outgrowth of an inorganic evolution, we cannot solve this problem by the usual formula of retaliation for what happened to the *Condor* and its crew. That would be the same as trying to punish the ocean for having swallowed a ship.”

“There'd be a great deal of logic in what you are saying—if the story really went like that,” said Horpach and rose from his seat.

He leaned back against the table, both hands planted on the chart that had been covered with writing. “But it’s only a hypothesis, and we can’t return to Earth with a hypothesis. We need certainty. Not vengeance but certainty. An accurate diagnosis. Facts. Once we have that, once I have specimens of these—these flying mechanical fauna (if they exist at all)—safely stowed away on board, then I’ll agree that we have nothing left to do here any more. Then it will be up to our homebase on Earth to give us further instructions. Incidentally, there’s no guarantee that these metal flies will remain on this planet. They might undergo further evolution, leave the confines of Regis III and become a threat to interstellar spaceflight in this part of the galaxy.”

“Even if that were so, nothing of the sort would happen for several hundred thousand—if not several million—years. I’m afraid you are still guided by the notion that our opponent is a rational being, Astrogator. What was once the mere instrument of reasoning creatures became autonomous once its masters vanished. Over a period of millions of years, these structures have actually become part of the natural forces of this planet. Life survived in the ocean, partly because the mechanical evolution did not extend to that sphere, partly because the aquatic organisms were prevented from getting access to the dry land. This would explain the atmosphere’s moderate oxygen content, which is a by-product of the photosynthesis taking place in the algae and plankton living in the ocean. It also would account for the conditions on the continent’s surface. Naturally it’s nothing but one vast desert—

these systems do not build up anything, have no civilization and do not create anything of value, having nothing but themselves. That's why we should regard them as forces of nature. Nature herself never creates values. These structures are their own *raison d'être*; they simply exist for themselves, and they behave the way they do simply in order to continue to exist..."

"How would you explain the destruction of our scouter planes? They were inside their protective energy field the whole time, as we know."

"One energy field can be extinguished by another. And if you want to erase the entire memory bank of a man's brain instantaneously, you have to surround his head with a magnetic field so powerful it would be difficult to produce even with all the means we have here on board. For that you would need gigantic transformers and electromagnets."

"Do you mean to say that these structures have all that at their disposal?"

"Of course not. They don't 'have' anything. They are nothing more than building blocks that combine to form whatever the circumstances of any given moment require. A danger signal simply means that 'something has come up.' They register changes in their environment—changes in the electrostatic field, for example. The flying swarm is immediately sent into the 'cloud-brain' formation and its collective memory reawakens: *yes, we've encountered this organism before, dealt with them in such and such a manner, annihilated them*—then they just repeat the procedure."

“All right,” said Horpach, who had not been listening to the biologist’s explanations for some time. “I’m going to postpone departure. Now we’ll have a meeting, though I’d rather not, since it means another one of those endless disputes. The scientists will get upset again, but I don’t know what else to do. I’ll see you in the main library in thirty minutes, Dr. Lauda.”

“If they can convince me that my hypothesis is wrong, you’ll have a truly happy man on board.” Dr. Lauda spoke these words softly and left the cabin as quietly as he had come. Horpach walked over to the intercom at the other wall, pushed the receiver button and called the scientists in to a meeting.

It soon became evident that Dr. Lauda’s assumptions were shared by most of his colleagues: he was merely the first to express them in such a determined manner. The only differences of opinion concerned the question whether the cloud could be considered to have consciousness or not. The cyberneticists were inclined to view the cloud as a thinking system, capable of strategic planning. Lauda was subjected to vigorous attacks. Horpach realized that the basis for their violent arguments was not so much their objections to Lauda’s explanations as the fact that he had discussed them first with the commander rather than with his colleagues. Despite their good relations with the rest of the crew, the scientists formed a “state within a state” on board ship and followed a definite unwritten code of behavior.

Kronotos, the senior cyberneticist, asked Lauda how the cloud could have learned to attack men if it were devoid of intellect.

“Quite simple,” answered the biologist. “It’s done nothing else for millions of years. I’m referring to their fight against the original denizens of Regis III, animals with a central nervous system. The cloud learned to attack them the same way a terrestrial insect will attack its victim, and with the same precision with which a wasp injects its poison into the nerve fibers of a cricket or a grasshopper. No intelligence is needed for that, just instinct.”

“But where did they learn to attack planes? Surely they’ve never met up with aircraft before.”

“How can you be sure of that? The cloud fought on two fronts, as I’ve already pointed out, my dear colleague. Against the organic inhabitants of Regis III, and against the inorganic kind—the automatons, the robots. These robots must necessarily have resorted to all kinds of defensive and offensive means,”

“But if there were no flying robots among them—”

“I see the point Dr. Lauda wants to make here,” remarked Saurahan, the assistant cyberneticist. These giant robots, macro-automatons, must have established some means of communication with each other in order to work together. They could be most efficiently destroyed through isolation, and that could be best accomplished by blocking their communication system—”

“Whether the cloud’s behavior is triggered by conscious mental activity or not is completely immaterial at this point,” Kronotos



countered. “Our present task is not to find a single hypothesis that will answer all our problems, but rather one that will guarantee us maximum possible security in the course of our stay on this planet. So it would be wiser for us to assume that the cloud does have a certain degree of intelligence. We’ll probably exercise greater caution that way. If, on the other hand, we go along with Dr. Lauda’s belief that the cloud does not possess any reasoning power, and if he turns out to be in error, we may have to pay a terribly high price for that error. I am speaking now not as a theorist but« as a tactician.”

“Which of us are you setting up camp against—myself or the cloud?” replied Lauda calmly. “I’m not opposed to caution, but this cloud has as much intelligence as an insect, and not even an individual insect, but, say, an anthill. Otherwise we would all be dead by now.”

“Where’s your proof?”

“We were not the cloud’s first human opponents. May I remind you that the *Condor* landed on this planet before us. The microscopic “flies” should have learned then, if they had any reasoning power, that they could penetrate the energy field by simply burrowing through the sand. After all, the energy field reached only as far as the surface of the ground. The flies knew the extent of the *Condor*’s energy field; they could have figured out the appropriate action. Yet they failed to do so. Therefore we must assume the cloud does not have a mind; it acts by sheer instinct.”

Kronotos was not ready to give up but Horpach intervened and suggested that they continue the discussion some other time. He asked for concrete suggestions based on the conditions they had discussed.

Nygren asked whether the men could be equipped with metal helmets in order to counteract the effect of a magnetic field, but the physicists thought this would be useless, since a strong field would produce currents in the metal that in turn would heat the helmets to temperatures so uncomfortable that the men would tear them off. One could easily imagine what the result would be.

It was already evening. Horpach was talking with Lauda and the physicians in one corner of the room, while the cyberneticists formed another group.

“You know, it is strange that the more intelligent ones, the macro-automatons didn’t come out on top of this conflict,” said one of the cyberneticists. “That would be the exception to the rule whereby evolution proceeds toward greater complexity, higher specialization, thus perfecting homeostasis and making better use of available information.”

“These machines didn’t have a chance; they were too complicated and too highly developed from the start,” argued Saurahan, “Don’t forget that they were highly specialized, and had been designed to serve their creators, the inhabitants of the Lyre. Once their masters ceased to exist, the robots were crippled. Like a body without a head. The precursors of the present “flies”—not that they existed at that time; on the contrary, they must have

developed at a much later stage—these precursors were relatively primitive. That is precisely why they had such a tremendous potential to develop in many different directions.”

“Still another, even more important factor may have played a role there,” interjected Dr. Sax, who had just joined the group. “We are dealing here with mechanisms, which are incapable of regenerating themselves in the manner of organic beings, or living tissue that can renew and heal itself. Even if a macro-automaton could have repaired a damaged robot, he would have needed the proper tools; probably a lot of complicated machinery. Consequently, it would have sufficed to separate these macromachines from their tools in order to put them out of action. Thus they became the defenseless victims of these tiny flying creatures, who in turn were hardly affected if they were damaged.”

“Very interesting,” spoke up Saurahan. “From what you say it follows that robots should be constructed quite differently from the way we’ve been doing it in order to be really universal: you’d have to start with tiny elementary building blocks, primary units, pseudo-cells that can replace each other, if necessary.”

“That’s not such a new idea,” replied Sax with a smile. “It’s the same way organic forms develop—and it’s no accident, either. Neither is it merely by chance that this cloud is composed of such interchangeable units. It is a question of the proper materials: a damaged robot needs parts that can only be produced by a highly advanced technology. But a system that consists of a few crystals, thermistors, or other simple elements, can be destroyed without

serious effects, because it will be replaced immediately by one of a billion similar systems.”

Horpach realized that he could not expect much help. The others were too engrossed in the debate to notice as he left the room. He went to the command center in order to tell Rohan's group about the hypothesis of “inorganic evolution.” It was already dark when the *Invincible* managed to establish communication with the supercopter far off in the crater. Gaarb answered the call.

“I have only seven people here,” he said, “including two physicians who are tending to our casualties. The others are asleep, except for the radio operator, who's sitting here next to me. By the way, Rohan's not back yet.”

“Not yet returned? When did he leave?”

“At about 18:00 hours. He took six engines along and the rest of the crew. We agreed that he would return shortly after sunset. The sun went down ten minutes ago.”

“Are you in radio communication with him?”

“Not since about an hour ago.”

“Gaarb! Why didn't you inform me at once?”

“Rohan told us he would be out of touch for a while. They wanted to advance into one of the deep ravines, you know. The canyon walls are completely covered by that damned metal stuff. It reflects so strongly that we can't get any signal at all.”

“Please inform me the moment Rohan gets back. He will have to justify such negligence. That's a sure way to lose the entire crew

in one fell swoop.”

The astrogator had hardly finished when Gaarb began to yell excitedly; “Here they are, Astrogator! I can see their lights, they’re coming up the hill—there’s Rohan. One, two, no, only one vehicle—in a minute we’ll know more.”

“I’ll wait.”

As soon as Gaarb saw the headlights that swept the path ahead, now flinging bundles of light rays on the encampment, now disappearing behind some small elevation of the ground, he seized a flare pistol and fired twice, with the effect that his men awoke abruptly and jumped up. In the meantime the vehicle made a turn, the radio operator in the center opened a passage in the wall of the force field. A dust-covered tank rolled along a runway marked by blue blinking lights. The vehicle slowed down in front of the dune where the supercopter was poised. Gaarb was horror-stricken when he recognized the small vehicle: it was the three-man amphibian scouter, the radio car of the group. Now the cone of their searchlight formed a straight path from the copter to the vehicle. Gaarb and several men ran toward the machine. The vehicle had not yet come to a complete standstill when a man jumped out. His protective suit hung in shreds from his body; his face was so encrusted with blood and dirt that Gaarb recognized him only after the man began to speak.

“Gaarb,” moaned the man, and tried to grab the scientist’s shoulders as his own legs gave way under him. The others jumped

forward, held him up and asked anxiously: “What happened? Where are the rest of the men?”

“They’re all—all—,” whispered Rohan and fainted as they caught him in their arms.

Toward midnight the physicians succeeded in reviving him. From the oxygen tent inside the aluminum barrack, he told the story that Gaarb transmitted half an hour later to the *Invincible*.

## Rohan's Group

The column Rohan led consisted of two big energo-robots, four caterpillar-track vehicles and one small amphibious car. The latter was occupied by Rohan, the driver Jarg, and Turner, the mate. They followed the order prescribed by alarm procedure three: an unmanned robot rolled at the head of the column, followed by Rohan's amphibian scouter; then came the four cross-country vehicles, with a crew of two men each. The second energo-robot brought up the rear. Both energo-robots extended a protective force field over the entire column.

Rohan had decided to take this side trip when he discovered traces of Regnar's group. "Electro-hounds"—as the olfactometers were commonly called—had picked up the track of the four lost men. Unless they were found soon, they would doubtlessly wander through the rocky labyrinth like helpless children and die of hunger and thirst.

The group drove the first few miles along the track sniffed out by the electro-hounds. At the entrance of one of the many wide canyons that they passed in their search, the men discovered footprints in the mud of a small, almost dried-up riverbed. Three

footprints could be clearly made out; they had been excellently preserved in the soft ground that had lost very little moisture that day. There was another imprint, but its outlines had grown quite indistinct: it had been nearly erased by the water that trickled gently around and over the stones. These tracks were unmistakable. They were made by the heavy shoes of Regnar's crew. The trail led into the ravine. They followed it for a short distance, but it disappeared as soon as the ground became rocky again. Rohan did not feel discouraged, for he noticed that the canyon walls sloped steeper and steeper as they advanced. It was most unlikely that Regnar's men, who were paralyzed by amnesia, would have tried to climb up this sharp incline. Rohan was confident he would find the lost men very shortly. He comforted himself with the thought that only the winding road had prevented him from spotting them so far. After a short consultation, the group continued on its way until they came upon an area characterized by strange dense metal bushes that grew on both sides of the steep canyon walls. The odd-looking "plants" resembled compact brushes, reaching a height of nearly five feet. They sprouted out of narrow rocky crevices filled with black oozing clay. At first they were scattered singly here and there, then became a dense brush that covered both slopes of the ravine almost down to the bottom of the valley with a rusty, bristling matting. Far below an invisible water vein trickled between huge boulders.

Occasionally, the black mouths of dark caverns gaped from between the "bushes." Narrow rivulets were dribbling from some,



while others seemed dry. Rohan's men tried to glance inside several of the caves that were located fairly close to the ground. They used searchlights to illuminate the black holes. In one of the grottoes they found a considerable amount of tiny triangular crystals, partially submerged in the water that had dripped down off the rocky vault. Rohan gathered up a handful and put them in his pocket. They drove about half a mile into the gorge; the terrain ascended at an ever-sharpening angle. So far the caterpillar chains of the vehicles had done an excellent job in climbing, and when the search party once more found footprints in two places in the dried mud of the brook, they were convinced they were on the right track. As they rounded another bend in the road, radio contact with the supercopter began to fade, but Rohan ascribed this to the screening effect of the metal bushes. On either side of the gorge, which measured twelve yards wide at the base and about twenty at the upper rim, sheer rocky precipices jutted out, covered by the black wiry tangle of bushes. The plants were so numerous that they now formed one uninterrupted thicket that stretched all the way up to the top of the mountain ridge.

The vehicles passed through two wide rocky gateways. This took quite some time, for the technicians had to be very precise when they diminished the radius of the force field. They wanted to avoid touching those rocks that appeared weatherworn and crumbly. Any contact between the force field and one of the pillars of rock might result in a landslide. The men were less concerned

about their own safety than that of the missing colleagues, who could be injured or killed by falling stones and boulders.

About an hour had passed since radio contact had broken off, when suddenly bolts of lightning flashed on the videoscreen of the magnetometers. The direction finder apparently was out of order, for when they tried to locate the origin of these impulses they got simultaneous readings from all points of the compass. Only with the help of ampere meters and polarizers did they discover that the growth on the slopes was causing the fluctuation of the magnetic field. Now the men became aware that the thicket looked different in this part of the ravine: no longer did it glisten in a rusty red; and the bushes were taller, bigger and somehow more intensely black, because of strange nodules that adhered to their wiry branches. Rohan did not allow them to be examined more closely; he did not wish to risk opening the protective field.

They drove on faster now, and the magnetometers and peak volt meters indicated constantly changing activity. Whenever the men glanced up, they noticed the air trembling above the black thicket as if it had been heated up tremendously. Beyond the second rocky gate, thin clouds rose from the black metallic tangle like drifting smoke. However, all this was too far away and even binoculars did not reveal the consistency of the cloud. Jarg, who had the eyes of an eagle, maintained that the cloud of smoke looked like a swarm of tiny insects.

Rohan was growing restless. The trip had already lasted longer than he had intended, and the end of the canyon labyrinth was not

yet in sight. They were making better time now; the stone rubble in their path gradually disappeared. The stream itself was hidden deep under the rocks; its soft gurgling could be heard only when the vehicles stopped for a moment.

Behind the next turn loomed up a gorge much narrower than the previous ones. On the basis of their measurements, the technicians declared it would be impossible to pass through with the force field switched on. They explained that the variety of shapes a force field could assume was limited to variants of a revolving body such as a sphere, an ellipsoid or an hyperboloid. Up to this point they had managed to squeeze through the narrow straits of the ravine by deforming their force field to a flattened-out stratostat, which was, of course, invisible.

Such maneuvering would be impossible now. Rohan consulted with Tomman, the physicist, and two field engineers. They decided to risk a short partial suspension of the force field. The first to pass the straits would be the unmanned robot with its energy field temporarily out of action. Once on the other side of the rocky gate, it would switch on immediately its emitter and so create once more a reliable shield in front. The men in the four big vehicles and Rohan's small scouter would only lack overhead protection during their passage through the gorge. The energo-robot at the rear was to connect its shield with its counterpart in front the instant it emerged from the gate, thus reestablishing the uninterrupted force field.

Everything went according to plan, and the last big truck was just passing between the two rock pillars when a strange shock rent the air—not a sound but a vibration, as if somewhere nearby a huge boulder had fallen to the ground. The stubby walls of the gully began to steam; a black cloud emerged from them, slowly creeping at first, but then rushing with unbelievable speed toward the column.

Rohan had let the trucks pass first and he was waiting his turn in his amphibian scouter; suddenly he saw black swaths break from the slopes of the gully, and a gigantic fiery glow appeared at the head of the column, where the front robot (which had already emerged from the rocky gate) had activated the force field. Wherever the attacking cloud masses touched the field they burned brightly. But many of them managed to rise above the flames and fell upon the vehicles.

Rohan screamed at Jarg to switch on the rear energo-robot's field and connect it with the front, for the potential danger of a landslide was immaterial now. Jarg tried, but he could not switch on the force field. As the chief engineer stated later, the electronic tubes of the apparatus were probably overheated. Had Jarg continued sending current impulses for a few more seconds, the field would undoubtedly have 'turned on.' Instead, Jarg lost his head and jumped out of the vehicle. Rohan had barely managed to grab his sleeve when Jarg tore himself away and, mad with fear, fled down the ravine. Rohan rushed over to the vehicle, but it was too late.

The men who had been taken by surprise inside their vehicles jumped out and ran off in all directions, their figures barely recognizable behind the seething clouds. This sight was so incredible that Rohan froze on the spot. At this point it was senseless to reestablish the force field, for he would have killed the whole crew: the men were even climbing up the slopes, as if trying to find refuge in the metal thicket. Rohan remained standing, motionless in the deserted vehicle, waiting for the same fate to befall him.

Behind Rohan, Turner fired away, leaning out of the turret hatch of his tank. He shot off compression lasers—a useless gesture, since the largest part of the clouds was already quite near. Not more than sixty yards separated Rohan from the others. The victims threw themselves on the ground and rolled around, engulfed by the black flames. They must have been screaming, but the constant roar of the cloud drowned out their voices along with all other sounds—including the noise of the front energo-robot. Myriads of tiny attacking particles sparked off endlessly wherever they hit the robot's energy field.

Rohan remained motionless, leaning halfway over the side of his scouter vehicle. He made no attempt to seek cover. This was no courage born of desperation, as he told them later on; it simply did not occur to him. He had no thoughts at all.

The unforgettable scene—his men under the black avalanche—changed abruptly. The victims stopped rolling on the ground, trying to escape or to crawl into the wiry growth. They stood still

or sat down. The cloud had divided into funnels to form a kind of localized whirlpool above each of the men, swirling around the entire body or just the head. Then, brushing against each man briefly, the cloud, now churning and raging, fled upward, surging higher and higher along the canyon walls until the light of the evening sky was blotted out. Finally the black seething mass crept into crevices among the rocks, while the roaring tumult gradually subsided. Soon everything submerged into the black jungle. Nothing remained of the cloud except for some tiny black dots sprinkled here and there around the motionless bodies, bearing witness to the catastrophe that had unfolded but a few instants earlier.

Rohan still could not believe that he had escaped unscathed. He did not understand to what circumstances he owed his good fortune, He glanced over in Turner's direction, but the turret hatch was empty. The mate must have jumped out—there was no telling why and when. Then he saw him lying on the ground nearby, still clutching at the butt-ends of the laser guns. His dead eyes stared up at the sky.

Rohan got out of his car and ran from one man to the next. They did not recognize him. No one said a word. Most appeared to be calm; they were either lying down or sitting on the boulders. Several men got up, walked over to the vehicles, and ran their fingers over the surfaces slowly and clumsily, like blind men.

Rohan saw Jarg's friend Genlis, an excellent radio man, standing and gaping at the trucks as if he were seeing them for the

first time in his life. His mouth was half open as he tried to move one of the door handles.

Suddenly Rohan realized the significance of the round scorched hole in one of the partition walls of the *Condor's* command center. He knelt next to Dr. Ballmin, grabbing his shoulders, trying desperately to shake him back to consciousness, knowing full well that this would be in vain. Suddenly he heard a sharp report and a violet flame flared up directly by his head. One of the men who were sitting over to one side had removed his Weyr mortar from his holster, and accidentally pushed the trigger, Rohan called out to him but the man paid not the slightest attention. The bright flash of light seemed to delight him, like a child watching fireworks, for now he began shooting wildly in all directions. He used up the entire nuclear-powered magazine of the mortar. The air hissed in the intense heat. Rohan instinctively dropped to the ground, trying to seek protection behind some large boulders. He heard heavy steps coming nearer and saw Jarg appearing from behind a bend, his face bathed in perspiration, and running breathlessly, He stormed straight toward the madman, who amused himself by firing his Weyr weapon. "Stop! Take cover! Take cover, Jarg!" shouted Rohan at the top of his voice. But before the confused Jarg could come to a complete standstill, a horrible explosion hit his left arm. Rohan caught a glimpse of his face as the torn-off shoulder was hurled up into the air, the blood gushing wildly from the frightful wound. The insane marksman did not seem to notice anything, while Jarg gazed in astonished disbelief

first at the bloody stump, then at his mangled arm. Jarg staggered; his knees began to sag; finally he crumpled down on the ground.

The man with the Weyr mortar got up. Rohan could see the incessant stream of fire from the heated weapon striking sparks wherever it hit stones and rocks. The air began to smell of silicious earth. The man stumbled forwards, his arms describing random movements like a baby playing with a rattle. The flame whizzed through the narrow air space between two men sitting next to each other. They made no attempt to shield their eyes from the blinding light; another moment and they would get the full load right in their faces. In a purely reflex action, Rohan drew his own Weyr gun and fired once. The man hit his chest violently with both arms; his weapon clattered onto the rocks, and he fell face downward to the ground.

Rohan came to his senses. Dusk was falling. The men had to be transported out of this place as quickly as possible. All he could use was his small amphibian car. He tried to get one of the cross-country vehicles ready to start, but it turned out that two of them had collided at the narrowest part of the gulch. A crane would be needed to pull them apart. That left only the rear robot, which could carry five men at best. But he had nine on his hands, and all nine had lost their senses. He decided to gather them together and tie them up, so that they would be unable to escape and harm themselves. For the time being and for their own protection, he would place them inside the energy dome between the two energo-robots.



It was already pitch dark when he finished his ghastly task. The men offered no resistance when he bound them with ropes. He backed out the rear robot to make a gangway for his small vehicle, then placed both emitters in position, switched on the protective field by remote control, left all the helpless men safely herded inside the energy dome, and started back.

On the twenty-seventh day after landing on Regis III, almost half of the *Invincible's* crew had been put out of action.

# The Defeat

Rohan's report sounded irrational, as true stories often do. Why hadn't the cloud attacked him or Jarg? Why hadn't it touched Turner until he got out of the amphibian vehicle? Why had Jarg first tried to escape, only to return later? The last question was fairly easy to answer. He probably decided to turn back the moment he stopped panicking and realized he was more than thirty miles away from the spaceship, which obviously couldn't be reached on foot with his limited supply of oxygen.

The other questions, however, remained puzzles whose solution might mean life or death for them. But the need for action left no time for reflections and hypotheses.

It was past midnight when Horpach learned of the catastrophe that had befallen Rohan's group. Half an hour later the astrogator was ready for takeoff. It is a thankless task to fly a spacecruiser to a spot only one hundred and twenty miles away. The ship must proceed at a relatively slow speed and at a right angle to the planet's surface, standing vertically above its exhaust flames, and consuming a vast amount of fuel. Since the craft's power drive had not been geared to this, they had to switch on the electro-

automation. Nevertheless, the steel colossus floated softly through the night, as if carried by gently rolling waves. To any observer standing on Regis III, this would have presented a most unusual sight: the ship's dim outline, hardly visible against the glow of the flames emanating from its rear jets, traveling through the night sky like a dark silhouette poised on a column of fire.

It was no small task to steer a proper course. They had to climb beyond the stratosphere, then descend again, all the while with stern pointing downwards, perpendicular to the ground.

All this maneuvering demanded the astrogator's undivided attention, especially since their destination, the crater, lay hidden underneath a thin veil of clouds. Shortly before dawn, the *Invincible* set down in the crater, just over a mile away from Regnar's former station. Supercopters and machines were quickly unloaded, huts erected within the protected area of the force field surrounding the spacecruiser. By noon, all survivors of Rohan's group had been brought back safely by a specially equipped rescue team. None of the men was injured, except for a total loss of all mental functions. Two additional rooms had to be prepared as a sick bay, since every bed was occupied in the *Invincible's* regular infirmary. Only now did the scientists try to probe the mystery that had spared Rohan's life, and which—had it not been for the tragic incident with the Weyr mortar held by an insane man—would have saved Jarg as well.

It was a mystery. The clothing and equipment of the two men had been identical to that of the afflicted group. The fact that the

three of them, Turner included, had been together in the small vehicle was probably of no significance either.

At the same time, Horpach had the unpleasant job of deciding how to proceed from here. One thing was clear: he could return to home base and present facts that would justify his terminating this mission, as well as facts that would clear up the tragic fate of the *Condor*. The questions that so intrigued the scientists—the metal pseudo-insects, their symbiosis with the metallic plants that grew on the rocks, and finally the questions regarding the “mind” of the cloud (they didn’t even know whether there was only one or several of these clouds, and whether all the small clouds formed a single closed system)—all that would not have induced the astrogator to remain one hour longer on Regis III if four men of Regnar’s group, Regnar himself among them, had not still been missing.

The trail of the lost men had led Rohan’s group into the ravine. The defenseless men would undoubtedly perish there, even if the inorganic occupants of Regis III left them alone. Thus the whole area would have to be searched, as the victims were bereft of any ability to act rationally, and were entirely dependent on the help of the *Invincible*.

They were comparatively certain only of the extent of the area where the search would have to be carried out, since the men could not have gotten more than twenty to thirty miles from the crater in their aimless wandering through the grottoes and gullies. Not much oxygen would be left in their packs, but the physicians reassured

them that breathing the planet's atmosphere would not constitute any serious danger. Considering the mental state of the men, it would, of course, not matter too much if the methane content in their blood resulted in a stuporous state.

The area they would cover in their search for the lost men was not too extensive, but extremely difficult to explore. It would take weeks, even under the best circumstances, to comb all the nooks and crannies, grottoes and caves. Beneath the layer of winding ravines and valleys existed another system of subterranean corridors and caverns, hollowed from the rock by underground rivers. The two upper and lower labyrinths were connected only at certain spots. The lost men might easily have wandered into one of these hiding places, and probably had separated from each other by now. Their total amnesia made them more helpless than small children—who would at least have stayed together. And worst of all, this terrain was the nesting place of the black cloud. Not much use could be made here of the *Invincible's* gigantic technical facilities and scientific equipment. The most effective protection, the force field, could not be applied at all in the subterranean vaults of this planet. Horpach faced a most difficult choice: leaving the planet at once—which would have amounted to a death sentence for the lost men—or taking up the risky search. Their chances for success here were limited to the next few days, perhaps a week at most. Horpach realized that after that time there would be no hope of finding the men alive.

Early the next morning, Rohan called the scientists to a meeting, explained the situation and told them he was counting on their help. Rohan had brought back a handful of the “metal insects” in his pocket. Nearly twenty-four hours had been spent examining the little “flies.” Horpach wanted to know whether it would be possible to render them harmless. And the question arose again: why had Rohan and Jarg been spared by the attacking cloud?

The captives had a place of honor during these discussions: a closed glass container on the conference table. Only twenty specimens were left; the others had been destroyed during the scientific experiments. The strictly symmetrical tripartite structures resembled the letter Y. Three wings were anchored in a central thickening, each wing tapering to a point at its extremity. They looked coal black under direct illumination; but reflected light made them glisten bluish and olive green, not unlike the abdomens of certain terrestrial insects which are composed of tiny surfaces like the multifaceted rose-cut of a diamond. Their interior structure was always the same when examined under a microscope. These miniscule elements, one-hundredth the size of a small grain of sand, formed a kind of autonomous nervous system with a number of independent fibers.

The smaller section, forming the arms of the letter Y, constituted a steering system controlling the “insect’s” locomotion. The micro-crystalline structure of the arms provided a type of universal accumulator and at the same time an energy

transformer. Depending on the manner in which the micro-crystals were compressed, they either produced an electrical or magnetic field, or else produced changeable force fields that could raise the midsection's temperature to a relatively high degree, thus causing the stored heat to flow in an outward direction. The resultant thrust of the air enabled the "insects" to ascend. The individual mini-crystals seemed to flutter rather than fly, and were incapable of steering an exact course—at least during the experiments conducted by the scientists in the laboratory. However, if they joined each other by chain-linking their wing tips, the ensuing aggregates possessed improved aerodynamic properties which increased proportionately with the number of links.

Each crystal combined with three other crystals. In addition, its arm could link up with another crystal's middle section. This permitted a multilayered structure of ever-larger systems. The individual crystals did not even need to touch directly. It sufficed for the wingtips to come into close proximity to bring about a magnetic field which kept the entire system in balance. When a given quantity of "insects" clumped together, the aggregate then displayed definite, observable behavior patterns. If the aggregate was subjected to external stimuli, it could change its direction, form, shape and the frequency of its internal impulses. Following such a change, the field would reverse its polarity, and as a result, the crystals no longer attracted but repelled each other and then broke down into their individual components.

Besides this steering system, each black crystal contained another communicative system, or rather the fragment of what seemed to be a larger entity. This superordinate entity, which probably incorporated an enormous number of separate elements, was the real driving power regulating the actions of the cloud. At this point scientists were stumped. They knew nothing about the growth potential or the “mind” of these guiding systems. Kronotos assumed that the number of individual elements making up a larger entity was determined by the difficulty of the task they had to solve. This hypothesis sounded quite plausible, but neither the cyberneticists nor the information-theory experts knew of any comparable structure, that is any “brain” capable of proliferating at will, able to adjust its size to meet the extent of its goals.

Some of the structures Rohan had brought along were damaged. Others, however, displayed typical reactions. The individual crystal could flutter about, ascend, and hover, nearly motionless, in the air; descend, approach a source of a stimulus or avoid it. Moreover, it was completely harmless; even when its existence was threatened—the research scientists tried to destroy individual crystals by chemical means, force fields, heat and radiation—it sent out no energy whatsoever to defend itself. It let itself be squashed like the most miserable bug on Earth, with one difference: the crystalline insect’s carapace was far more difficult to crack. However, the moment the “insects” combined into a relatively small aggregate and were then exposed to the action of a magnetic field, they produced a nullifying counterfield of their



own. When subjected to heat they tried to combat it by giving off infrared radiation. Further experiments were not possible, since only a handful of crystals were at the scientists' disposal.

Speaking on behalf of the rest of his colleagues, Kronotos answered the astrogator's question. The scientists requested time for additional examinations and requested larger quantities of crystals. To this end they suggested sending an expedition into the interior of the ravine in order to search for the lost men, and at the same time bring back, say, ten thousand pseudo-insects.

Horpach agreed to this plan. But he was of the opinion that no more human lives should be endangered. He ordered a vehicle sent to the ravine, that had not participated in any maneuvers thus far: a special automated vehicle weighing eighty tons, normally deployed only under conditions of heavy radioactive contamination, high pressures and excessive temperatures. The vehicle, generally known as the Cyclops, was fastened down at the girders of the loading hatch, at the very bottom of the space cruiser. As a rule such machines were never put in action on planets, and until now the *Invincible* had never had to make use of its own Cyclops. In the history of the entire space fleet, the situations which had called for such extreme measures could be counted on the fingers of one hand. As far as the astronauts were concerned, dispatching the Cyclops for a mission meant charging the devil himself with a task; no one had ever heard of a Cyclops' defeat.

The vehicle was lifted out of the ship's hold with the help of cranes. Then it was set down on the ramp where the technicians and programmers took charge of it. In addition to the usual system of Diracs for the production of the force field, the Cyclops was equipped with an antimatter projectile cannon, which enabled it to shoot off antiprotons simultaneously in any and all directions. An ejector directly built into the turret even made it possible for the Cyclops to rise several yards above the ground on the interference of the force fields. This rendered the machine independent of wheels and caterpillar tracks as well as the profile of the ground's surface. The front section was equipped with an armored nozzle; a retractable inhaustor emerged from the opening. This telescopic hand could drill into soil, obtain core samples of minerals in its vicinity and perform necessary exploratory tasks. Although the Cyclops was outfitted with powerful radio and television transmitters, it was also capable of independent action thanks to the electronic brain that guided it. The technicians of engineer Petersen's operational staff had fed the brain a prepared program, for the astrogator figured on losing contact with the Cyclops as soon as it entered the ravine.

This program scheduled as its first task the roundup of the lost men. The Cyclops was to surround the men and itself with a secondary force field, concentric to its primary energy dome. Then under the protection of the outer perimeter it was to open an access route to its own inner shielding wall of energy. Once men and machine were safely protected, the Cyclops was instructed to

bring back as large a number of the attacking crystals as it could gather up. Only in case of extreme emergency, if the force field were in danger of being crushed, was the machine permitted to resort to its antimatter cannon. The resultant annihilation would inevitably lead to nuclear contamination of the surrounding area. This would endanger the lives of the missing men who might be lingering near the battle zone.

The Cyclops was about twenty-five feet high and proportionately wide: its casing was more than twelve feet in diameter. Should some cleft in the rocks prove to be too narrow to let it pass through freely, it could enlarge the opening by either using its steely telescopic hand or by crushing the obstacle with its force field and then sweeping aside the rubble. But even if the field were switched off, nothing could befall the Cyclops, for its ceramic vanadium-armored hull was as hard as a diamond.

A robot had been installed in the interior in order to take care of the men once they were rescued. Even beds had been set up. After all installations had been checked, the armored colossus slid down the ramp effortlessly and passed through the openings in the energy dome which had been marked by blue lights. The gigantic machine seemed to be carried along by some invisible power. Even when driving at great speed, not the slightest cloud of dust was stirred. Soon the men, assembled at the *Invincible's* tail end, could no longer see the Cyclops.

Radio and television contact between the Cyclops and the command center functioned perfectly for nearly an hour. On the

observation screens a tall obelisk, resembling a toppled-over church steeple, came into sight. It partially blocked Rohan's view of the rock walls. Rohan recognized this as the entrance to the ravine where the attack had taken place. The Cyclops' speed diminished somewhat while it rolled across the first talus which was covered with many large boulders. The men, watching the vehicle's progress on the videoscreens in the command center, even heard the babbling brook which flowed hidden under the rocky debris—since the machine's nuclear drive worked so quietly.

The communication experts managed to maintain audio-visual contact until 2:40 P.M. By that time the Cyclops had driven across the flat, easily navigable part of the ravine and had arrived at the labyrinth of the rusty jungle. Thanks to the efforts of the radio operators, they succeeded in sending and receiving four further messages. But the fifth message was already so garbled that they had to guess at its meaning: the machine's electronic brain informed them that the vehicle was proceeding satisfactorily.

At that point Horpach acted according to plan and dispatched a flying probe equipped with a television relay system. The probe rose skyward at a steep angle and disappeared from view within a few seconds. Communication with the *Invincible* was maintained; the command center received the probe's steady signals. The videoscreens projected the image of a picturesque landscape as seen from an altitude of 1700 feet; fissured rocks covered with rows of rusty red and black bushes. Several minutes later the observers spotted the Cyclops far below as it advanced steadily

along the bottom of the gorge. The machine glistened like a fist of steel. Horpach, Rohan and the leaders of the specialists' groups stood before the videoscreens in the command center. The reception was good, but they fully expected it to grow worse or even be disrupted. For this reason they had readied further probes to serve as relay stations. The chief engineer was firmly convinced that contact with the Cyclops would be interrupted in case of an attack; with the aid of probes, they would at least be able to observe the Cyclops' operations.

The men before the videoscreen, watched the wide-screen image carried by the high-flying eye of the teleprobe; the colossus was now only a few hundred yards away from the transporters that blocked the way inside the rock-gate; the electronic eye of the Cyclops could not see this. On its way back, upon completion of its tasks, the Cyclops was supposed to tow away two collided tanks locked tightly together.

Seen from above, the two abandoned transporters looked like small greenish boxes. Near one of the vehicles the men could recognize a partially charred figure—the body of the man whom Rohan had hit with the Weyr gun.

Directly in front of a bend in the road where the pillars rose, forming the rock-gate, the colossus came to a halt. There it approached a slope, overgrown by a wild tangle of metal bushes that reached almost to the bottom of the valley. The men watched the machine's movements intently. It opened the force field out the front in order to send the inhaustor through the gap. The inhaustor

protruded from its casing, like an elongated cannon barrel with a grappling hand at its end. It grabbed a few bunches of the metallic growths and pulled them, apparently effortlessly, out of the rocky ground. Then the vehicle retreated a short stretch, turned and crept backwards into the ravine.

The entire operation had functioned smoothly. Radio contact with the Cyclops' brain was reestablished with the help of the teleprobe hovering above the ravine. The colossus reported having stashed away inside a special container a generous specimen of teeming black "insects."

Now the Cyclops had approached the scene of the disaster within one hundred yards. There stood Rohan's second energo-robot, its armored back leaning against the rock; the two interlocked transporters were stuck in the middle of the rocky passage; a short stretch ahead was the first energo-robot that had formed the column's front. The softly trembling air indicated that the robot was still producing a force field, just as it had earlier when Rohan had left it behind after the catastrophe had befallen his group of men. First the Cyclops switched off the Diracs of the energo-robot via remote control. Then the giant revved up its motor, rose into the air and skillfully floated over the backs of the transporters, which jutted at a 45° angle. Hovering over the narrow defile, the Cyclops descended to the huge boulders. Then—more than thirty-five miles away from the ravine—one of the observers in the control room of the *Invincible* shouted a warning, just as the black pelt covering the slopes began to smoke and fall

over the terrestrial vehicle in big waves, burying it instantly and completely, as if a mantle of pitch-like smoke had been thrown over it. An instant later a widely branched bolt of lightning flashed across the whole width of the attacking cloud. The Cyclops had not deployed its devilish weapon—the lightning was simply caused by the energy fields produced by the cloud itself, which clashed with the machine's own force barrier. Suddenly, this dome-shaped barrier, to which a heavy layer of heaving blackness seemed to be glued, appeared to come alive. Now it swelled up like a gigantic lava bubble; now it contracted. This strange game went on for quite a while. The observers were under the impression that the hidden vehicle was trying to divide the myriads of attackers, which became more and more numerous, as ever new cloudy avalanches rolled down into the gorge. The luminous glow of the protective sphere could no longer be seen by the observers. Only the weird battle between two powerful inorganic forces continued in the dull silence. Finally one of the men in front of the videoscreen sighed: the twitching black bubble had disappeared into a dark funnel. The cloud had changed into a giant whirlpool which extended beyond the highest rocky peaks. The cloud's lower end clawed into its invisible opponent while its top rotated like a mile-long maelstrom in wild bluish whirls. No one said a word, but the men knew that the cloud was trying to squash the vehicle trapped inside the bubble like a kernel in a shell.

Rohan heard dimly as the astrogator questioned the chief engineer as to whether the Cyclops' force field would hold out. But

he said nothing; he could barely manage to open his mouth.

The black whirlpool, the walls of the ravine, the black, bushy growths—all vanished in the fraction of a second. It looked as if a fire-spewing volcano had opened up at the bottom of the glen; a fountain of smoke, boiling lava, chunks of rock and, finally, a huge cloud, which dragged behind it a trail of vapor veils. The cloud raced higher and higher, until the steam—from the boiling waters of the little brook, perhaps—reached an altitude of one mile where the teleprobe was flying. The Cyclops had deployed its antimatter cannon.

No one in the control center moved or uttered a sound. A sense of gloating satisfaction ran through the group. It did not really matter, nor did it lessen the intensity of their emotion, that this feeling had no rational foundation. Perhaps their pleasure stemmed from the subconscious impression that the cloud had finally met up with a worthy opponent. Ever since the start of the attack direct communication with the Cyclops had been cut off and the men could only see whatever was sent via the probe's ultrashort wave rays across forty miles of vibrating atmosphere. Also the men working outside the control center had learned of the battle raging inside the ravine. That part of the crew which had been busy dismantling the aluminum barrack stopped working. The horizon over to the northeast grew bright as day, as if another sun were rising, far mightier than the first sun which now stood high in the sky. Then the brilliant glow was blotted out by a pillar



of smoke, which soon spread out into a giant dark mushroom cloud.

The technicians in charge of watching over the probe had to remove it from the thick of the battle by making it ascend to a height of two and one-half miles. Thus it escaped the zone of violent airstreams caused by the constant explosions. Neither the rock walls, lining the sides of the ravine, nor the matted slopes, and not even the black cloud that had crept out of the brushy tangle were visible. Bubbling tongues of flame and wisps of smoke, criss-crossed by the parabolic trajectories of glowing debris, filled the videoscreens. The probe's phonometer transmitted continuous rumbling thunder, sometimes weaker and sometimes stronger again, as if a considerable part of the continent were shaken by an earthquake.

It was astonishing that this ghastly battle just kept going. A few seconds more and the bottom of the ravine and the entire area around the Cyclops would reach the melting point. The rocks would sag, collapse and change into lava. Indeed, the observers were now able to see the fiery glistening stream make its way toward the exit of the gorge a few miles away.

Horpach wondered whether the electronic switches of the Cyclops' antimatter cannon were stuck, for it seemed unlikely that the cloud would persist in attacking an adversary who dealt it such destructive blows. However, after the probe had been given instructions to climb still higher, and had reached the border of the

troposphere, the image on the picture screen proved to Horpach that he was mistaken.

By now the visual field comprised some fifteen square miles. The entire jagged terrain was in motion. The men watched as black conglobulations oozed forth from the darkly spotted rocky slopes, emerging from fissures and caves haltingly, as if photographed in slow motion (of course this optical illusion was only caused by the distance). The black billowing masses rose upwards, fused and grew denser during their journey as they pushed ahead in the direction of the battle scene. For several minutes it looked as if the dark avalanches that were continually thrown into the battle zone from the rear might suppress the atomic fires, suffocating them by their sheer mass and extinguish the flames. Yet Horpach knew better; he was well aware of the energy reserves contained in the manmade monster.

An earsplitting, endless roll of thunder roared from the loudspeakers and filled the control center. At the same time flames two miles high bored into the shapeless mass of the attacking cloud. The burning pillars rotated slowly, forming a fiery mill. The air vibrated in layers, which bent in the heat as its core shifted.

Inexplicably, the Cyclops now drove backwards and retreated gradually toward the glen's exit, without halting its attack for a single second. Perhaps the machine's electronic brain had considered that the atomic explosions would cause the rock walls to burst and fall on it. Although the Cyclops could survive such a calamity, its maneuverability might be affected considerably. For

whatever reason, the Cyclops tried to reach open terrain, and in this broiling turmoil the observers could no longer distinguish between the fire from its cannons, smoke, wisps of cloud or debris of the rocky pillars.

The gigantic cataclysm of nature seemed to have reached a climax. The next moment, however, something incredible happened, The image on the videoscreen flared up, brightened to a terribly glaring, blinding white. The screen was covered by a swarm of innumerable explosions. In a renewed influx of antimatter everything lying beneath the Cyclops was annihilated. The air, debris, steam, smoke and gasses were transformed into hardest radiation to split the ravine in two. Within a radius of three hundred yards the cloud was hurled skywards.

More than forty miles from the epicenter of the earthshaking explosion, the *Invincible* reeled under the impact. Seismic waves traveled through the desert. The transporters and energo-robots standing under the ramp slid to the side. A few minutes later a violent howling storm swept down from the mountains. Its fiery breath seared the faces of the men who sought shelter behind the machines, whipped whirling sheets of sand high into the air and raced on across the wide desert.

Evidently, a fragment must have hit the teleprobe, which by that time was over eight miles from the scene of the catastrophe. Communication was not disrupted but the picture blurred considerably. Another minute passed by. As the wisps of smoke

dissipated a little, Rohan, who had kept his eyes glued to the screen all this time, was able to witness the next stage of the fight.

The battle was not over yet, as he had thought a short while before. If the attackers had been living beings, the massacre would have induced the reinforcements coming up from the rear to turn around, or at least have forced them to stop in the face of this flaming hell. But this was a battle between inanimate things. The atomic holocaust continued; only form and direction of the main attack were altered. For the first time Rohan understood what the battles must have been like that had once raged on the desolate and deserted surface of Regis III, when the robots had destroyed each other. He sensed dimly what forms of selection had been used by this defunct evolutionary process, and what lay behind Lauda's hypothesis that the pseudo-insects had been victorious because of their optimum adaptation. At the same time, it occurred to him that something similar must have occurred here before solar energy fixed the inorganic, indestructible memory banks in the mammoth cloud's myriads of tiny crystals. These inanimate particles—mere nothings compared to the all-consuming flames, the rock-devouring explosions—had had to overcome similar stragglers thousands of years ago—heavily armored giants and atomic monsters, descending from the species of robots. Whatever had enabled the crystals to survive, whatever had allowed the metal hulls of those giant behemoths to be torn into rusty shreds and dragged through the immense desert together with the skeletons of once indestructible electro-mechanisms (which now lay buried in the

sand)—whatever had wrought this utter havoc represented an unbelievable, indescribable bravado, if such a term could be applied to the tiny crystals of the gigantic cloud. But what other name could you give it? Rohan could not help an involuntary feeling of admiration as he continued to watch the cloud.

Even in the face of the massacre the cloud kept on attacking. Now only the highest mountain tops peeked out from the cloud bank which covered the entire area picked up by the telelenses of the probe. Everything else—the entire valley—disappeared beneath a flood of concentric black waves which raced up from the horizon and were sucked into the funnel of fire at whose center the Cyclops stood, though it could no longer be seen inside the conflagration. This advance had been gained at the cost of apparently senseless sacrifice; but at least it offered some chance of success.

Rohan and the men realized this as they helplessly watched the spectacle unrolling before their eyes on the videoscreens in the control center. The Cyclops' energy reserves were practically inexhaustible. But the longer the annihilation bombardment lasted, the hotter it would get inside the machine. For at least a fraction of the star temperatures was imparted to the cannons and thus returned to its point of origin, despite the powerful protective installations, despite the antiray reflectors mounted on the Cyclops' armored hull. That was why the attack was continued on all fronts simultaneously. The denser the concentration of antimatter particles clashing with the doomed hailstorm crystals on

the armored plates, the higher the temperature rose in the Cyclops' engines. A human being would have long succumbed to the conditions inside the Cyclops. The ceramic hull had probably turned a glowing red, but beneath the canopy of smoke, the observers could see nothing but the pulsating light blue bubble of fire as it crept slowly toward the exit of the ravine. Thus the spot where the cloud's first onslaught had taken place appeared two miles to the north; they recognized the horribly burnt-over ground, covered with a crust of slag and lava. From the shattered rocks hung the ashes of the brush-like growth. Small clumps of metal clung to them—the remains of molten crystals struck by nuclear explosions.

Horpach gave orders to switch off the loudspeakers, whose ear-splitting noise filled the control center. He asked Jazon what might happen once the temperature inside the Cyclops exceeded the heat resistance of the electronic brain.

The scientist answered without hesitating: "The cannons are shut off automatically."

"And the force field as well?"

"No."

Meanwhile the battle area had shifted to the plain outside the exit of the ravine. The inky ocean of flames boiled, welled up, began to whirl about, then rushed into the fiery gullet with devilish leaps.

"That should happen any minute now." Kronotos spoke into the silence that emanated from the violently heaving picture. Another

minute went by. Suddenly the glow of the fiery funnel grew considerably weaker. The cloud had covered it.

“Thirty-five miles from here,” said the communications technician in answer to a question from Horpach.

The Astrogator sounded the alarm. The crew manned their stations. The *Invincible* pulled up the ramp and the personnel elevator; all the hatches were closed. Once again a fiery glow could be seen on the videoscreens. The funnel of fire had returned. This time the cloud no longer attacked; only a few wisps were ignited and flared up brightly. The main body of the cloud receded in the direction of the ravines, penetrated into the labyrinth which was overlaid by dense shadows. The Cyclops, apparently undamaged, came back into view. It was still very slowly pushing backwards, keeping up its steady bombardment all the while, annihilating the entire surrounding terrain—rocks, sand, dunes.

“Why doesn’t the Cyclops shut off its cannons?” somebody called out.

As if in reply to these words, the machine stopped firing, turned and rolled toward the desert with increasing speed. Far overhead, the teleprobe pursued the machine’s course. Suddenly the men saw something like a thin band race toward the probe with incredible speed. Before they realized that the Cyclops had fired at the probe, and that the fiery streak was due to the annihilated air particles along the missile’s trajectory, the men recoiled instinctively, perhaps out of fear that the discharge might jump off the screen

and detonate right in the command center. Then the image vanished and only the empty white screen stared at them.

“The Cyclops has smashed the probe, Astrogator!” shouted the technician at the steering console. Horpach gave orders to send up another teleprobe. Meanwhile the Cyclops had come so close to the *Invincible* that they could recognize the colossus as soon as the second probe had gained a little altitude. Another thread of light, and the second probe was destroyed. Just before the picture vanished from the screen, they barely managed to recognize their own spaceship. The Cyclops was no more than six miles away now.

“That damn thing has gone off its rocker!” swore the second technician at the steering console, and his voice trembled with agitation. On hearing these words, Rohan suddenly knew. He glanced at the commander and was aware that Horpach had been seized by the same thought. He felt a senseless, leaden heaviness creep through his limbs, his head, throughout his entire body. But the command had been issued: the astrogator had ordered a fourth and a fifth teleprobe sent up. They were all destroyed by the Cyclops, who picked them off like a sharpshooter at target practice.

“I need maximum thrust,” said Horpach without taking his eyes off the videoseen.

The chief engineer’s fingers struck full chords on the distributor keyboard as if he were playing an organ.

“Full power for takeoff in six minutes,” he replied.



“I need maximum thrust,” Horpach repeated in the same tone of voice. Silence fell over the control center. One could even hear the hum of the relays behind the enamel walls. It sounded as though a swarm of bees had awakened there.

“The reactor shell is too cold,” the chief engineer argued.

But now Horpach turned around and, facing him directly, repeated for the third time in the same unchanged voice: “I need maximum thrust.”

Without a word the chief engineer grasped the main lever. Alarm signals bleated in staccato bursts throughout the spaceship, and followed the men’s steps like a distant roll of drums as they hurried to their battle stations. Once more Horpach glanced at the videoscreen. Nobody said a word, but everyone knew by now that the impossible was about to happen: the astrogator was preparing to go into battle with his own Cyclops.

The quivering needles of the instruments lined up like soldiers. On the lit-up face of the output meter the numbers jumped up to five and six figures. Sparks burst from somewhere in the supply network, and it began to smell of ozone. In the rear of the control center the technicians communicated to each other by hand signals which control system was to be switched on.

Shortly before it was destroyed, the next teleprobe showed the elongated head of the Cyclops, and the men watched as it tried to squeeze through the narrow gap between the rock walls. Then once again the screen was blank, blinding the eyes of the observers with its silvery white. Any moment now, the machine would become

visible via direct transmission. The radar operator was ready to drive an outside TV camera beyond the nose of the spaceship in order to enlarge the view field. The communications technician shot off another probe. The Cyclops did not seem to be heading straight toward the waiting *Invincible*, positioned under the protective energy dome and ready for battle. Teleprobes sped from the spaceship's nose at even intervals.

Rohan knew that the *Invincible* was capable of stopping a discharge of antimatter, but to intercept the energy of the thrust would cost them their energy reserves. Under the circumstances Rohan thought it wisest to turn back—in other words, to go into stationary orbit. Any minute now he expected to hear the command, but Horpach remained inexplicably silent, as if he believed it possible that the electronic brain might regain its senses. Indeed, while following the silent movements of the dark shape amongst the dunes with a worried expression, Horpach asked: “You keep calling the Cyclops, don't you?”

“Yes. No contact.”

“Send: Stop immediately!”

The technicians at the console got busy. Two, three, four times, streaks of light flashed under their hands.

“No reply, Astrogator.”

Why doesn't he start? Rohan was puzzled by the astrogator's reluctance. Maybe he won't admit defeat? What nonsense! Horpach! He made a move ... and ... now ... he's going to issue the order to take off...

But the astrogator simply took a step backward.

“Kronotos?”

The cyberneticist came closer. “Here.”

“Whatever have they done to that Cyclops?”

Rohan felt consternation. Horpach had said “they”—as if he were actually dealing with thinking opponents.

“The autonomous circuits are running on cryotrons,” began Kronotos with a voice which revealed that he was merely voicing theories. “The temperature has gone up. The circuits have lost their supraconductivity...”

“Do you know this for sure or are you just guessing?” asked the astrogator.

What a strange conversation! Everybody stared at the videoscreen on which the Cyclops could now be seen in direct transmission. It was creeping forward, its movements fluid yet somewhat unsteady. Now and then it deviated from its course as if it were still in doubt about its real destination. It fired several times at the teleprobe before hitting its target. Then the men saw the probe plummet to the ground like a ball of fire.

“The only thing I can imagine that would explain its strange behavior would be resonance,” said the cyberneticist after a moment’s hesitation. “If their field has overlapped with the brain’s own—”

“How about the force field?”

“A force field can’t screen out a magnetic field.”

“Too bad,” the astrogator remarked dryly.

Gradually the tension eased inside the *Invincible's* control center. The Cyclops was obviously no longer steering for its homeport. The distance between them, that had been very slight, increased again. No longer subject to human control, the vehicle ambled off to the wide expanses of the northern desert.

“Chief engineer, take over for me for a while,” requested Horpach. “The rest of you will accompany me downstairs.”

# The Long Night

The intense cold woke Rohan up. Drugged with sleep, he curled up under his blanket and pressed his face into the pillow. Then he placed his hands over his face, trying to shield it from the biting cold, but it was no use. He realized that he had to wake up completely. But he kept putting the moment off without knowing why. Suddenly he sat up. The cabin was pitch black. An icy blast of air hit him directly in the face. He jumped off his bunk, cursing softly as he groped his way in the dark toward the air conditioning. As he had gone to bed, he had felt so warm that he had turned the knob to “cold.”

Little by little the air in the small cabin heated up, but Rohan, huddling under his blanket, could not go back to sleep again. He glanced at the luminous dial of his wristwatch—3:00 A.M. Only three hours of sleep again, he thought furiously and still freezing. The conference had lasted a long time. It was almost midnight when they had finally broken up. All that useless talk, he thought. Now, enveloped by this darkness, he would give anything to be back at the space station, not to have to see or hear any more of this damned Regis III and its dead nightmare of a world. Most of

the strategists had been in favor of going into orbit, except for the chief engineer and the head physicist. From the beginning the latter had strongly supported Horpach's opinion: remain here as long as possible. The probability of finding the men of Regnar's group was one in a million, or not even that much. If they weren't already dead, only the great distance between them and the battle scene could have saved them from this atomic inferno. Rohan wished he knew whether the astrogator had stayed solely because of the four lost men, or if other considerations had played a role in his decision. The way it appeared from Regis III was just one side of the story; it would look very different indeed in the dry words of some report and in the bright calm of the space station. The report would simply state that the *Invincible* had lost half its overland vehicles and its main weapon, the Cyclops (which would represent a future threat for any spacecraft landing on the planet). In addition, they had suffered six casualties, and more than half the crew had to be hospitalized and would most likely remain unfit for duty for many years to come. And because of these losses in human lives, machines and their most valuable instruments, they had run away from microscopic crystals, the creatures of a small desert planet, the dead remainder of the Lyre civilization that had long since been surpassed by Earth. What else but flight would it be, if they turned back now? But was Horpach the kind of man who would take such motives into consideration? Maybe he himself did not know why he had not ordered them to take off? Was he waiting for something? Surely, the biologists had discussed the

possibility of defeating the inorganic insects with their own weapons. If that species had already undergone evolution, they concluded, it should be possible to introduce further changes. To begin with, the scientists would need to experiment with a considerable quantity of captured specimens and bring about certain genetic changes that would reappear in future insect generations, changes that would render harmless this whole crystalline race. Such genetic changes would have to be of an extremely specific nature; they would need to offer an immediate, exploitable effect, and ensure that succeeding generations would develop an Achilles heel, a vulnerable feature that could be attacked. But this was just the usual, speculative, idle talk of the theoreticians: they hadn't the faintest idea what type of a mutation this would require, how to produce it, how many of these cursed crystals could be captured without risking another battle whose outcome might mean an even more serious defeat than on the previous day. Even if everything should go smoothly, how long would they have to wait for the results of this new evolution? Not just days or weeks, surely. Were they supposed to circle around Regis III like children on a merry-go-round, for one or two or even ten years? The whole thing was totally absurd.

Rohan noticed that he had turned the heat up too high: it had become uncomfortably hot in his cabin. He threw back his blanket, got up, took a shower, dressed quickly and left the cabin.

The elevator was not there. While he waited in the semi-darkness, broken only by the moving lights of the indicator, he

listened to the nocturnal quiet enveloping the spaceship. His temples were throbbing, his head felt heavy with the torment of sleepless nights and days filled with tension. Occasionally a blubbering sound could be heard in the pipe lines. From the levels below came the muffled murmurings of the idling engines, which were ready for takeoff at any moment. Dry metallic air wafted from the ventilation shafts next to the platform on which he was standing. When the door slid open, he entered the elevator. He got off on the eighth level. Here the corridor made a turn and followed the curve of the main hull. Rohan walked ahead without really knowing where he was going. Mechanically he lifted his feet in the right spots in order to step over the high thresholds of the separating walls that could be hermetically sealed off, until finally he caught sight of the shadows of the crew working at the main reactor. The room was dark; only a few dozen luminescent hands flickered over the control panels.

“They can’t possibly be alive any more,” said one of the men sitting at the instrument panel. Rohan could not recognize who he was. “A thousand Roentgen went out to a radius of five miles. They’re dead by now, you can bet on that.”

“What are we sitting around here for, then?” grumbled another man. Not the voice, but the seat the man occupied—he was sitting at the gravimetric control panel—told Rohan that Blank had spoken.

“Why? The old man doesn’t want to turn back, that’s why.”

“How about you? Would you do it?”



“What else can we do?”

It was warm in the room. The air was filled with the peculiar artificial pine scent used in the air conditioning units to alleviate the odor given off by the plastic parts and the tin casing when the reactor was on. The result was a blend which could be found only here on the eighth level.

The men could not see Rohan as he leaned with his back against the foam-rubber padding of the partition wall. Not that he was hiding there on purpose; he simply did not wish to participate in this conversation.

“It’ll be right on our heels,” another man said after a brief silence, and bent forward. For a fleeting instant his face became visible, half pink, half yellow from the glow of the little control lamps on the reactor wall, whose lights seemed to glare at the men huddled in front of the instrument panel. Rohan, like the rest of the men, knew at once what he was talking about.

“We have the field, and there’s our radar,” muttered Blank, annoyed.

“A fat lot of good that’ll do us if it shoots at one billierrg.”

“The radar won’t let it get close enough,”

“Who are you trying to kid? I know it like the inside of my own pocket.”

“So what?”

“It’s equipped with an antiradar system. Interference systems —”

“But it’s gone off its rocker—an electronic looney.”

“Looney, you say? Were you in the command center?”

“No. I was here the whole time.”

“Well, I was there. Too bad you didn’t see how that monster smashed our teleprobes.”

“Do you mean they reprogramed it? The Cyclops is already under their control?”

They’re talking about “them,” thought Rohan, as if it were really something rational.

“Who knows? Supposedly the only thing that’s off is the communication system.”

“Then why is it shooting at us?”

Again there was a moment of silence.

“Don’t we even know where it is?” asked the man who had not been in the command center.

“No. The last report arrived at eleven. Kralik told me so. The Cyclops was sighted toddling along through the desert.”

“Was it far from here?”

“Are you crazy? Ninety miles. That’s just under an hour’s drive for it. Maybe less.”

“Why don’t you two shut up? Just speculating won’t help any of us,” Blank snapped at them. His sharp profile was silhouetted against the colorful flickering of the little lights.

The men fell silent. Slowly, Rohan turned around and left as quietly as he had come. His way led past the two laboratories. The light was out in the big lab but in the small one all was lit up brightly. Rohan glanced inside. Only cyberneticists and physicists

sat around the table—Jazon, Kronotos, Sarner, Liwin, Saurahan and someone else who had his back turned to the rest and, half hidden in the shadow of the slanting partition wall, was busy programing a big electronic brain.

“There are two potential solutions to this problem: annihilation or self-destruction. Anything else would amount merely to changing the cloud’s conditions for existence,” Saurahan said. Rohan did not budge. Once again he was just standing there and listening.

“The first solution is based on triggering a snowballing process. For that you need an antimatter projector that will drive into the ravine and stay there.”

“We already tried that once,” somebody remarked.

“If it doesn’t have an electronic brain, it will still be able to function at temperatures of more than one million degrees. We’d need a plasma missile too. Plasma is insensitive to star temperatures. The cloud will react the same way as before—it will try to strangle it, to find resonance in its steering circuits—but there won’t be any steering circuits. Nothing will happen except for a low-yield nuclear reaction. The more matter is drawn into this reaction, the more violent it will become. That way we can gather up the entire necrosphere of this planet in one place and then annihilate it...”

Necrosphere, thought Rohan. Oh, sure—inorganic crystals. Just leave it to the scientists to come up with a fancy new name.

“I’d prefer the self-destruction alternative,” Jazon said, “How would that work?”

“First you’d need to bring about two separate consolidations of two giant cloud brains. Then cause the two to collide with each other. Get each cloud to consider the other a threat to its own survival in the struggle for existence.”

“Sounds good. How do you plan to accomplish this?”

“It won’t be easy, but it is feasible—provided that the cloud is only a pseudo-brain, incapable of drawing logical conclusions.”

“The safest method is nevertheless changing the cloud’s conditions for existence by lowering the average intensity of radiation,” said Sarner. “Four hydrogen bombs, fifty to one hundred megatons each, over each hemisphere, that means altogether about 800 megatons, would be sufficient. The water in the oceans would evaporate. As a result the planet’s cloud cover would become denser, the albedo would increase and the symbiotic partners on the ground could no longer give off the required minimum of energy needed for their multiplication.”

“The equation won’t balance out,” objected Jazon. Seeing that the discussion threatened to turn into a technical dispute, Rohan stepped away from the door and went on.

Instead of taking the elevator again, he returned by a metal spiral staircase which was rarely used. As he passed one level after the other he saw the repair shops, where De Vries’ mechanics were working on the dark, motionless Arctanes as sparks showered from their welding torches. Far away he noticed the tiny windows of the

sick bay, spreading a soft lilac-colored glow. A physician in a white coat noiselessly hurried along one of the corridors, followed by a small automaton carrying a tray with glittering instruments. Rohan walked past the dark and deserted mess halls, the club rooms, the library, and finally reached his own level. He slowed down near the astrogator's cabin, as if he wanted to stop and listen here too. But no sound came through the smooth door, not even a light ray, and the portholes were bolted down with copper nuts. Not until he was back in his cabin did he feel how tired he was. His arms hung numbly at his sides. Heavily he plunked himself down on his bunk, kicked off his shoes and folded his hands behind his neck, staring up at the low, poorly lit ceiling, whose blue paint showed a long crack right in the middle.

Neither a sense of duty nor curiosity about other people's private affairs and conversations had driven him to roam through the spaceship. He was simply afraid of the lonely night, for that was the time when he was troubled by images he would have liked to forget. Worst was the memory of the man he had shot at close range to prevent him from killing the others. He had been forced to shoot him, but that didn't make things any easier. He knew the moment he turned off the light he would have to relive the scene, see the man in front of him again who with a dull smile obeyed the Weyr gun in his hand, while he stepped across the dead man lying on the rocks, his arm torn off.

The dead man was Jarg, who had returned, and who—after having been saved by some miracle—now had to die such a

senseless death. Seconds later the other man, his protective suit smoldering and shred to pieces across his chest, would collapse over Jarg's body. In vain Rohan tried to chase away these images that, against his will, kept appearing before his eyes—he could smell again the sharp odor of ozone, the hot recoil of the butt tightly grasped by his sweating fingers—he could hear again the men's whimpers as he chased them, panting and wheezing, and then dragged them one by one, tying them up in bundles like sheaves of corn. And each time he shuddered to the core of his innermost being when he peered into the desperate helplessness of the familiar faces, into their blind, unseeing eyes.

A dull thud—the book he had once started to read back in the space station had fallen to the floor. He had put a white slip of paper inside to use as a bookmark, but he had not read a single line. Who had time for reading? He stretched out on his bunk, thinking of the scientists who were now sitting together concocting plans to destroy the cloud, and his lips drew up in a scornful smile. What absurdity, he thought. They want to destroy, and so do we. Everyone wants to destroy that certain something, but it won't save anyone. The planet Regis is uninhabited; man has no business being there. Why be so grimly stubborn? It's no different than if the men had perished in an earthquake or a thunderstorm. We haven't been confronted by someone's conscious, purposeful effort, or some hostile will. Nothing but an inorganic process of self-organization... Is it worth wasting our energy and strength to destroy it, simply because from the start we've considered it an

enemy lying in wait for us, who ambushed the *Condor* first and then ourselves? How many weird phenomena alien to human concepts are harbored by the universe? Should we land everywhere with weapons of annihilation aboard, in order to smash to smithereens all that surpasses man's power of comprehension? What did they call it just now? A necrosphere. Which means necro-evolution as well. Development of inorganic matter. Perhaps the inhabitants of the Lyre system might have put in a word or two about that; Regis III belonged to their realm. Maybe they intended to settle here on this planet; once their astrophysicists announced that their sun would turn into a nova, it might have been their last hope. If we ever found ourselves in such a situation, of course we would fight and try to stamp out the black crystal brood. But under the present circumstances? One parsec away from the space station, and the station removed from Earth by so many light years... For whose sake are we sitting here in this damned spot losing our men? Why must the scientists search all night for the best method of annihilation? How can anyone speak of vengeance here?

If only Horpach stood in front of him now, he would tell him all that. How foolhardy, how ludicrous this "victory at any price," this "heroic persistence of man," this obsession with retaliation for the death of their companions, who had perished only because they themselves had sent them to their death... We were simply not cautious enough, we relied too much on our powerful weapons. We

made mistakes, and now we must take the consequences. We and no one else are responsible.

These were his thoughts in the dimly lit room as he lay on his cot, his eyes burning as if sand had accumulated under his closed eyelids. Man—he saw in a flash of insight—had not yet reached the true pinnacle; he had not yet appropriated that galactocentric idea, praised since antiquity, whose real meaning could not consist in searching only for similar beings and learning to understand them, but rather in refraining from interfering with alien, nonhuman affairs. Conquer the void, of course; why not? But don't attack what already is, that which in the course of millions of years has achieved a balanced existence of its own, independent, not subject to anyone or anything, except the forces of radiation and matter—an active existence, neither better nor worse than the existence of the amino-acid compounds we call animals or human beings.

Rohan reveled in this noble thought, was filled with understanding for any form of existence, when he was suddenly hit by a sound, sharp as an arrow: the unnerving high-pitched howling of the alarm sirens.

All his thoughts vanished instantly, as if blown away by the blatant noise which spread throughout all the level. He jumped up and rushed out into the corridor, running with the other men with warm, human breath in a heavy, tired trot. But even before he reached the elevator, he felt a blow. Not with any particular organ of sense: indeed, not with his own body at all, but rather as if it



were with the spaceship's body of which he was an infinite particle. Though very distant and weak, the blow shook the *Invincible's* hull from one end to the other. It was a jolt of immense severity, which—and he felt this too—was received and skillfully warded off by something far bigger than the *Invincible*.

“It's the Cyclops! The Cyclops did it!” yelled the men as they raced ahead. One after the other disappeared in the elevator, whose doors shut with a hissing sound. Other members of the crew stormed noisily down the circular stairway, too impatient to wait their turn at the elevator. At this moment, the silent but even more violent detonation of the second blow bored through the babble of voices, the shouts, the whistles of the crewmen, the nonstop howling of the alarm sirens, through the hasty shuffle of feet coming from the upper levels. The little blue lamps on the corridor ceilings began to flicker, then burned brightly again.

Rohan would never have believed that an elevator could be so slow. He did not even notice that he was still pushing the button with all his might. Only one man still stood beside him, Liwin, the cyberneticist. The elevator stopped, and as Rohan got off he heard a whistling sound, so fine that it was almost unbelievable. He knew that the highest frequencies of this sound could not be perceived by the human ear. It was as if all the titanium joints of the spacecruiser were moaning at the same time. Rohan reached the door to the command center and realized that the *Invincible* had answered fire with fire. That effectively ended the battle.

Before the flaming background of the videoscreen loomed up the tall dark figure of the astrogator. The ceiling lights had been switched off, perhaps on purpose, and through the lines that rippled over the screen from top to bottom, causing the entire visual field to grow hazy, there glistened a gigantic, bulging mushroom, its stem attached to the ground, its huge billowing blisters extending into all four corners of the sky. It seemed motionless. The explosion had annihilated the Cyclops, reduced it to its very atoms, and left a terrible trembling in the air, through which the monotonous voice of the technician could be heard: “Twenty dash six hundred at zero point. Nine dash eight hundred at the circumference. One dash four twenty two in the field.”

1420 Roentgen in the field, pondered Rohan—that means that the radiation has broken through the barrier of the force field. He had not known it was possible. But when he glanced at the dial of the main output meter he saw how powerful a charge the astrogator had applied, enough energy to bring a good-sized inland sea to the boiling point. Well, Horpach hadn’t wanted to risk any further shooting matches. Perhaps he had gone a bit too far here; however, they now had to face only one adversary again.

Meanwhile an extraordinary spectacle unfolded on the picture screens: the ruffled, cauliflower-like mushroom cap was ablaze with all the colors of the rainbow, from the most delicate silvery green to rich orange and carmine red shades. Suddenly Rohan became aware that the desert was no longer visible. It was covered by a dense fog-like bank of sand that had been whirled up to a height of

several dozen yards, surging and heaving, as if the desert had become an ocean.

The technician was still calling out the readings on the dial: “Nineteen thousand at zero point. Eight dash six hundred at the circumference. One dash one zero two in the field.”

The victory over the Cyclops was received with a dull silence: to have defeated their own strongest weapon was a hollow triumph. Gradually the men dispersed while the mushroom cloud rose higher and higher into the atmosphere. Suddenly its top flared up in a new color display, as it was hit by the rays of the sun that had not yet risen over the horizon. The peak of the mushroom cap had pierced the upper strata of the icy cirrus clouds and now displayed, high up in the sky, golden lilac, amber yellow and platinum white nuances, whose light was reflected from the videoscreens into the darkness of the command center. The entire room was faintly illuminated by an iridescent glow, as if someone had pulverized colorful terrestrial flowers on the enameled white of the instrument panels.

Once more Rohan felt amazement, this time at Horpach’s appearance. The astrogator had thrown over his shoulders the snow-white dress overcoat which he had last worn during the farewell festivities in the space station. Evidently he had grabbed the nearest article of clothing at hand as he had hurriedly rushed out of his cabin. There he stood, hands in pockets, with gray disheveled hair, letting his gaze wander around the circle of men assembled in the command center.

“Rohan,” he said in an unexpectedly soft voice. “Will you come with me, please.”

Rohan stepped closer, automatically pulling himself up as he did so. The astrogator turned around and walked over to the door. They strode down the corridor, one after the other, and through the ventilation shaft they could hear above the soft hiss of compressed air a dull murmur, the irritated voices of the men on the lower levels.

# The Conversation

Rohan had not felt any surprise at the astrogator's invitation. He entered the commander's cabin. Rohan was not a frequent visitor to the cabin, but Horpach had summoned him aboard the *Invincible* and received him here after his lonely return to the crater. Such an invitation usually meant something unpleasant. At that time, though, Rohan was still suffering too much from the aftereffects of the catastrophe to fear his commander's anger. Moreover, Horpach had not blamed him at all, but had interrogated him quite thoroughly as to the circumstances surrounding the cloud's attack. Dr. Sax had taken part in the conversation. He had surmised that Rohan had been spared only because he had fallen into a state of stupor which limited the brain's activity, so that the cloud had assumed him to be wounded and thus rendered harmless. And the driver Jarg, in the neuro-physiologist's opinion, had been spared merely by accident, since his flight had taken him beyond the area where the attack had occurred. Turner, however, who had tried almost to the very end to defend himself as well as the others by shooting with the laser guns, had acted dutifully according to the rules. This very behavior had been his undoing, paradoxically

enough, for his brain had continued to function normally and so drew the cloud's attention to him. To judge by human standards, the black cloud was blind, of course, and man represented nothing to it but a mobile object like any other, which indicated its presence by the electrical potential of its cerebral cortex. Horpach and the physician had even considered protecting the men by placing them in artificial paralysis with the help of chemical preparations. But Sax thought that the effect would occur too late in case an "electrical camouflage" should be needed, and to send the men out on a mission already in a state of stupor would not be advisable at all. In the end, the entire interrogation showed no positive results. Rohan had the impression that Horpach intended to return to the problem at some future date.

Rohan stopped in the middle of the cabin, which was twice as large as his own. On the wall he saw the microphones for the intercom and the direct hook-up to the command center. Besides that there was no other indication that the spaceship's commander had been living here for years. Horpach took off his coat. Underneath he was wearing trousers and a net undershirt. The thick, gray hairs of his broad chest poked through the netting. Horpach sat down near the spot where Rohan was still standing. The commander leaned heavily on the table, which was empty except for a small, well-thumbed, leather-bound book. Rohan's glance wandered from the little unknown book over to the commander, and it seemed to him that he saw Horpach for the first time. Here was an utterly exhausted man who did not even

attempt to hide the trembling of his hand as he touched it to his forehead. And suddenly Rohan realized that he did not know this man at all, under whom he had been serving for the past four years. It had never occurred to him to wonder why there were no personal effects in the commander's cabin, the kind of silly trinkets that men would drag along with them on their trips through the universe, souvenirs of their childhood or their homes. At this moment, Rohan seemed to understand why Horpach owned nothing of the kind, why there were no old photos hanging on the walls, showing the faces of those close to him who had remained behind on Earth. Horpach did not need this sort of thing, for Earth was not what he called home. Perhaps he regretted this fact now for the first time in his life? The powerful shoulders, his strong arms, his solid neck did not reveal his age. Only the skin of his hands was old; it was thick and lay in chapped wrinkles around the joints. The skin there turned white as he spread out his fingers, observing the slight trembling with apparently tranquil, tired interest, as if he were noticing something that previously had been unknown to him. Rohan could not continue to watch. But Horpach bent his head, looked in his eyes and murmured with an embarrassed smile: "Seems I overdid things a bit."

It was not so much the words that startled Rohan as the tone the astrogator used and his general behavior. Rohan did not reply. He stood there as Horpach rubbed his hairy chest with his big hand and added: "It's probably better this way." And a few seconds later he spoke with surprising frankness. "I didn't know what to do."

This was shocking. Rohan thought he had known for days that Horpach was just as helpless as the rest. However, now he came to realize that he had known nothing, and had in fact believed that the astrogator was always several steps ahead of the others, because that was the way things were supposed to be. And now the commander's true nature was demonstrated to him doubly: on the one hand he saw Horpach's half-naked body, this tired body with the trembling hands that he had never seen before, and at the same time he heard the words that confirmed his discovery.

"Have a seat, son," said the commander. Rohan sat down. Horpach got up, stepped over to the wash basin, splashed water over his head and neck, dried himself quickly and with vigor. Then he put on a jacket, buttoned it and pulled up a chair at the table across from Rohan. He regarded Rohan with his colorless eyes that perpetually watered as if in a strong wind, and asked casually; "How about your ... immunity? Have you been examined?"

So that's what he's after, Rohan realized in a flash. He cleared his throat. "Naturally I've been examined, but the physicians couldn't find anything. Sax was probably right. He thought it was probably due to stupor."

"Well, well. Didn't they have anything else to say?"

"Not to me directly. But I heard them talking among themselves about why the cloud would attack a man only once and then leave him to his fate."

"Interesting. And?"



“Lauda suspects that the cloud can distinguish the normal from the injured on the basis of the electrical activity of the brain. The brain of an injured person, according to Lauda, shows the same activity as that of a newborn baby. Approximately, at least. Apparently I presented a very similar picture while I was in a state of shock. Sax thinks you could make a fine metal net that could be hidden under the hair, and have it emit weak impulses, like those in a brain injury case. That way it would be possible to elude the cloud. But that’s just a theory. No one knows whether it could really be done. They would like to conduct some experiments but they don’t have enough crystals for it. The Cyclops let us down too...”

“All right, then.” The astrogator sighed. “I really wanted to discuss something else with you. But this is strictly between the two of us. Is that clear?”

“Yes,” Rohan answered slowly, and the tension returned.

The astrogator averted his eyes. It seemed difficult to make a start.

“I am still undecided,” he began suddenly. “Some people in my place would simply flip a coin: leave or remain. But I don’t want to resort to that. I know you don’t always agree with me.”

Rohan was just about to answer but Horpach cut him off with a wave of his hand.

“No, no... This is your chance. I’ll leave the decision up to you. I’ll do whatever you decide.”

Horpach looked him straight in the face, then quickly hid his eyes again under his heavy eyelids.

“What ... me?” Rohan stammered. He had expected anything but this.

“Quite right, son. You. This is confidential, of course. It’s a deal, then. You make the decision and I will execute your orders. I’ll justify everything before the executive board at the space station. It’s a good deal, isn’t it?”

“Are you serious?” asked Rohan, trying to stall for time, for he knew what the answer would be.

“Of course I am. If I didn’t know you, I would give you more time to make up your mind. But I know that you have your own thoughts about things and that you’ve already come to a decision. Since I can’t wheedle it out of you, I insist that you tell me what it is, now, on the spot. That’s an order. At this moment, you are the commander of the *Invincible*... Is this too sudden for you? All right, I’ll give you one more minute to think it over.”

Horpach got up, walked over to the wash basin, rubbed his palm across his cheeks so that his stubbly beard rustled under his fingers, and without further ado started shaving with his electric razor. He looked into the mirror.

Rohan’s first reaction was to feel furious at Horpach for being so ruthlessly inconsiderate, for giving him the right—no, rather forcing the obligation on him—to make a decision, but at the same time tying his tongue and relieving him of all responsibility right from the start. He knew Horpach well enough to realize that

everything had been thoroughly planned in advance and that nothing could be changed now. The seconds passed, and he had to speak up, now, at once, but nothing came to mind. All the arguments he would liked to have flung in the commander's face, all the objections he had prepared like so many brick-bats during his nocturnal ruminations, had suddenly vanished into thin air. The four men were no longer alive—that was almost a certainty. If only that “almost” did not exist, then they need not consider anything, need not deliberate back and forth. They simply could fly away at dawn. But now this “almost” assumed ever larger proportions in his mind. As long as he had been on a par with Horpach, he had felt they should leave immediately. Now he felt incapable of forcing from his lips the order to take off. He knew that would not mean the end of the affair with Regis III, but really just the beginning. It had nothing to do with justification before the executive board at the space station. These four men would haunt the spaceship and things could never be the same again. The crew wanted to go back. But then he remembered his nocturnal roamings through the *Invincible* and realized that after a certain time the men would start thinking of it again and discuss it among themselves. They would say: “You see? He took off and left four men behind.” Nothing else would count. Each man needed the certainty that the others would not abandon him under any circumstances. Everything else was expendable, except for the crew. It did not really matter what else one might have lost, but the entire crew had to be back on board—the dead as well as the

living. This was not one of the rules to be found in the official service manual. Yet spaceflight would not be possible without such an unwritten code.

“I’m listening,” said Horpach as he put away his electric razor and sat down across the table from Rohan.

Rohan moistened his lips. “We ought to try...”

“What?”

“To find them.”

Finally it was out. He knew the astrogator would not contradict him. Rohan was now actually firmly convinced that Horpach must have counted on this, that he had even arranged it this way. In order not to have to bear the risk all by himself.

“The four men. I understand. Good.”

“But we need some plan. Something sensible.”

“We’ve been sensible all along,” countered Horpach. “And you are well aware with what result.”

“May I say something?”

“Go ahead.”

“A little earlier tonight I listened in to the deliberations of the strategists. I heard—no, never mind, it doesn’t matter. They’re figuring out various ways to annihilate the cloud, but it isn’t our task to destroy the cloud. We should rather concentrate on searching for the men. If we go ahead with an antiproton massacre, not one can possibly live through such a hell, if any of them are still alive. Not one. It isn’t possible.”

“That’s what I think, too,” the astrogator said with emphasis.

“You too? That’s good... Well, then?”

Horpach was silent. Then he asked, “Have they found some other solution?”

“The strategists? No.”

Rohan wanted to ask another question, but he could not muster up sufficient courage. The words would not pass his lips. Horpach looked at him, as if he were waiting for something. But Rohan did not know what to say. Could the commander possibly assume that he, Rohan, would come up with something better, more perfect than the scientists, than the cyberneticists and the strategists with their electronic computers to help them? That was sheer nonsense. Yet the commander kept patiently staring at him. Neither of them spoke. At regular intervals came the drip-drip-drip of the faucets, uncommonly loud in this complete stillness. And out of this silence that hovered between the two men something rose, brushing against Rohan’s cheeks with its icy breath. And now his whole face, from his neck to his jaws, cramped together, shrank, became too narrow, as he gazed into Horpach’s watery, ancient eyes. He saw nothing but these eyes and he knew what he had to do.

Slowly he nodded his head, as if he had said yes. Do you understand? the astrogator asked with his eyes. I understand, replied Rohan with a silent glance. But the clearer things became to Rohan, the more he felt that no one had the right to request something like this from him, no one, not even he himself. He maintained his silence, he did not speak, but now he pretended not to know anything, not to have even the faintest idea. He clung to

the naïve hope that he would be able to deny what had passed back and forth in their glances, for it had never been spoken out loud. He might feign lack of comprehension, for he knew, he could feel it, Horpach would never be the first to speak. But the old man saw through him, he was aware of everything. Thus they sat across from each other without moving. Horpach's glance softened. It held now neither expectation nor coercive urgency, only compassion, as if he wanted to say: All right, I understand. It's just as well.

The commander lowered his head. One more second, and the unspoken words, the agreement between them that only silent glances had implied, would vanish. Both could pretend that nothing had ever happened. But the lowered head tipped the balance. Rohan heard himself say: "I'll go."

Horpach sighed deeply, but Rohan did not notice. He was aghast at his own words.

"No," said Horpach, "I won't let you go this way." Rohan was silent. "I couldn't tell you," the astrogator began. "I could not even look for any volunteers. I have no right to do such a thing. But now you know for yourself that we can't simply take off from this planet. Only a single person, all alone, can walk into that area and hope to come out again. Without protective helmet, machines or weapons."

Rohan heard the commander's voice as from a great distance.

"I'm going to explain my plan now. You can think about it. You may reject it—the whole thing is still simply between the two of

us. This is the way I envision it: an oxygen container made of silicone. No metal. I'll send two unmanned cross-country vehicles. They will act as a decoy for the black insects and will be destroyed by the cloud. At the same time a third vehicle will start out with one man. This is the most dangerous part, because he must keep as close as possible so as not to waste any time for the march through the desert. The oxygen supply will hold out eighteen hours. Here are some photograms of the entire ravine and its surroundings. I think it would be advisable to follow a different route than on the previous expeditions. Drive as close as possible to the northern rim of the high plateau and then descend on foot over the rocks into the upper part of the ravine. If they're any place, that's where they would be. They could have made it there. The terrain is difficult, full of caves and crevices. In case you should find all of them or even just one..."

"That's it. How shall I transport them?" asked Rohan and he experienced a fleeting smugness. This is where the plan would fall apart. How ready Horpach was to sacrifice him...

"You'll carry along some suitable narcotic. Something to stun them. Of course, you'll use it only if they refuse to walk. Fortunately, they all can walk in that condition."

Fortunately, thought Rohan. He clenched his fists underneath the table so that Horpach would not notice it. He was not afraid, not yet. Everything seemed too unreal.

"Should the cloud become interested in you, then you must lie on the ground and remain rigid. I have thought of some medication

for such an eventuality, but it would take too long to take effect. That leaves only the protective head gear, the current simulator that Sax mentioned.”

“Have they built one already?” asked Rohan. Horpach understood what his question implied, but he remained calm. “No, not yet. But we can make one within an hour. Just a network you can hide in your hair. A small instrument that will produce minute electric currents. It can be sewn inside the collar of your spacesuit. I’ll give you one more hour now. I would give you more, but with each additional hour their chances of rescue grow less. They’re small enough to begin with. When will you reach a decision?”

“I have already made up my mind.”

“Don’t be foolish, son. Didn’t you hear what I just said? What I told you earlier was only to make you understand that we must not yet take off from this planet.”

“You know I’m going to go.”

“You won’t go if I don’t permit it. Don’t forget that I am still commander of this ship. We are facing a problem here and any personal ambitions must take second place to it.”

“I see,” said Rohan. “You don’t want me to feel that I have been pressured into this. All right. Is our first agreement still valid for what we are discussing now?”

“Yes.”

“Then I would like to know what you would do in my place. Let’s change roles now...”

Horpach remained silent for a while.



“And if I said that I wouldn’t go?”

“Then I won’t go either. But I know that you will speak the truth.”

“Then you wouldn’t go either? Word of honor? No, no... I know that won’t be necessary.”

The astrogator rose from his chair.

Rohan, too, stood up. “You haven’t answered my question.”

The astrogator looked at him. He was taller, more powerfully built, broader across the shoulders. His eyes had the same tired expression they had held at the beginning of the conversation.

“You can go,” he said.

Rohan automatically pulled himself up and turned toward the door. At this moment the astrogator made a movement, as if he wanted to hold him back, seize his arm, but Rohan did not notice it. He left the room, and Horpach remained motionless at the door. He stood this way for a long time.

# The Invincible

Before daybreak the first two cross-country vehicles rolled down the ramp. The slopes of the dunes toward the sunny side were still black, lying in the shadow of nocturnal darkness. The force field opened up, letting the machines pass through, and closed once more with blue lights twinkling in the night. On the posterior running board of the third vehicle, directly beneath the tail end of the space cruiser, sat Rohan, wearing a spacesuit, but without his helmet and goggles, only with the small oxygen mask before his mouth. He clasped his knees with his hands, for this way it was easier to observe the jumping second hand of his watch.

In the left breast pocket of his protective suit he had stashed away four vials, in the right pocket thin wafers of concentrated food, and the pockets of his knee protectors held small instruments: a radiation counter, a small magnetic watch, a compass, and a microphotogram map of the terrain, smaller than a postcard, which could be read only with a strong magnifying lens. Wound around his waist was a six-ply roll of the finest nylon rope. All metal parts had been removed from his clothing. He could not feel the wire netting hidden in his hair, unless he moved his scalp

on purpose. Neither could he feel the current flowing through the net, but he was able to control the micro-sender, sewn inside his collar, by placing his finger on that spot. The small, hard cylinder kept ticking evenly, and he could feel it throb clearly when he touched it.

There was a red streak in the eastern sky. A strong breeze had sprung up. The wind whipped the sandy crests of the dunes. The low-lying, jagged crater rims on the horizon seemed gradually to dissolve in a flood of red. Rohan lifted his head. There was to be no two-way communication between him and the spaceship, since a sender would have given away his presence at once. However, inside, in his ear, was a tiny receiver, no larger than a cherry stone. The *Invincible* could send him signals, at least for a while. Now words came from the receiver; it was almost as if he were hearing a voice inside his head.

“Rohan, this is Horpach speaking. Our instruments on the ship’s nose have noted increasing magnetic activity. The two vehicles are probably already under attack by the cloud... I am dispatching a probe.”

Rohan looked up into the brightening sky. He failed to see the start of the rocket which suddenly rose vertically like a flare, leaving in its wake a thin, white streak of smoke, which fogged in the spaceship’s nose. The teleprobe raced off with tremendous speed in a northeasterly direction. Minutes went by. By now half the disk of the bloated old sun sat astride the crater wall.

“A small cloud is attacking the first car,” said the voice inside Rohan’s head. “So far, the second vehicle is advancing undisturbed. The first car is approaching the rock gate ... attention! We have lost control over the first car. No visual contact—it is covered by the cloud. The second vehicle is approaching the turn near the sixth narrowing of the road. No attack yet. Now it’s got it too! We have lost control over the second car. They have surrounded it already... Rohan! Your car will leave in fifteen seconds. From now on you’re on your own. I’m activating the automatic starter. Good luck!”

Horpach’s voice was suddenly gone. In its stead came a mechanical clicking, ticking off the seconds. Rohan settled in a more comfortable position, planted his feet firmly on the running board and slipped his arm through the elastic loop that had been fastened to the railing of the car. The light machine began to vibrate and drove off.

Horpach had given orders for all men to stay inside the *Invincible*... Rohan was almost grateful; a farewell scene would have been unbearable. Clinging to the bouncing running board of the vehicle, he saw only the giant pillar of the spaceship which gradually grew smaller. At first, the blue glow that flickered over the slopes of the dunes told him the car was just crossing the border of the protective energy field. Soon after, the speed increased, and the reddish dust cloud whirled up by the huge tires obstructed his view. Only dimly could he see the gray skies above. How unfortunate, he thought. He might be attacked without even realizing it. Instead of remaining seated, as planned, he turned

around and stood up on the running board, holding tight onto the railing. Now he could direct his glance over the flat back of the unmanned vehicle toward the desert, which kept rushing toward him. The car drove at top speed, jolting, bouncing and lurching, forcing Rohan frequently to press himself with all his might against the body of the car. He could hardly hear the engine; the wind whistled past his ears, fine grains of sand bit into his eyes. On either side of the car fountains of sand sprayed into the air, forming a high and impenetrable wall. He did not even notice when he left the circle of the crater. Apparently the vehicle had wiggled out of it over a flat indentation on the sandy north rim.

Suddenly Rohan heard a singing signal coming nearer. The sender of the teleprobe must have been activated. He could not locate it in the sky, although he strained his eyes to look for it. Probably it had climbed up very high to avoid attracting attention and discovery by the cloud. At the same time, the probe was indispensable, for without it the crew back at the *Invincible* could not have guided the vehicle. A special odometer had been attached to the rear wall of the car to facilitate orientation. So far he had traveled more than eleven miles, and any moment now the rocks should come in view. But the disk of the sun, which had remained on his right and low over the horizon all along, barely visible through the whirling sand, now moved a bit behind him. That would mean that the car was turning to the left. In vain, he tried to find out if the angle of the turn coincided with the predetermined course, or whether it was wider. That would have

indicated that the men back at the navigational controls in the spaceship had noticed an unforeseen maneuver of the cloud, and therefore wanted to remove him from its range. Soon the sun disappeared behind the first long rocky outcrop; then its dim light returned. Bathed in the sun's slanting rays, the landscape presented a wild appearance and looked quite different than he remembered it from his last expedition. Still, at that time he had regarded it from a greater height, from the tower of the transporter. All of a sudden the vehicle was violently rocked about, throwing Rohan's chest several times quite painfully against the body of the car. Now he had to muster all his strength to keep the furious jolts from shaking him from his perch on the narrow running board. The wheels danced across the rocks and boulders, hurling the gravel high up into the air. Sometimes they stuck and spun crazily in the same spot. Rohan was sure this hellish ride was making enough noise to be heard for miles around, and he considered seriously whether he shouldn't stop the car and jump off—close below his shoulder he could feel the handle of the brake that had been purposely placed on the outside. But then he would have to face a march of several miles, and the prospect of swiftly reaching his goal, slim as it was to begin with, would have diminished even further. With clenched teeth, his hands frantically clutching the handles which now no longer seemed to offer a secure hold, with blinking eyes he looked over the flat top of the vehicle, up along the slope. Occasionally the singing of the radio-probe grew weaker, but it was still above him, no doubt, for the

cross-country vehicle maneuvered skillfully and dodged the piled-up debris and boulders on the huge rocky talus. Once in a while the car leaned to the side and slowed down, but soon afterwards it raced up the hill with full speed.

The odometer showed the number of miles he had traveled so far: sixteen. On his map his path had been marked as thirty-six miles, but in reality it was surely much longer, considering the differences in altitude and because of the meandering road. Not a trace of sand could be found here. The sun hung threateningly in the sky, heavy, gigantic and almost cold, and still touching the jagged teeth of the rocky crest. As if racked by a violent fever, the machine doggedly shook its way through the rubble. Sometimes it would slip when the rocks underneath it would work loose with a gnashing sound. The tires would rub helplessly against the stones and make a screeching noise. The incline grew steeper. Almost eighteen miles—he heard nothing aside from the singing signal of the probe. Nothing from the *Invincible*. Why? Rohan could vaguely recognize a steep wall, outlined in indistinct black lines below the sundisk. This might be the upper rim of the ravine into which he was supposed to descend—not here, though, but much farther north. Eighteen miles now. In any event, nothing was to be seen of the black cloud. It had probably already disabled the other machines by now. Or had the cloud given up after cutting them off from the spaceship by blockading radio communication? The whole vehicle threw itself from side to side like a desperate animal. Once in a while the roaring of the motor, which was running at full

speed, hit Rohan right in the gut. The vehicle kept losing speed, but against all expectations it made headway. Maybe he should have taken along a car with air-cushioned drive? But it would have been too large and heavy; there was no use now wasting a thought in that direction, since nothing could be changed anyhow.

He wanted to look at his watch but could not manage to hold his hand up to his eyes for even a second. He bent his knees, trying to soften the impact of the tremendous blows which shook all his insides. All of a sudden the vehicle reared up like a horse and then slipped sideways, down the hill. The brakes were squealing, but the pebbles and boulders gave way and slid down from all directions, rattling and clattering on the metal body of the car. The vehicle turned frantically, began to spin and skidded for a while on its side through the rocky debris. Then this movement came to a halt...

Slowly the car righted itself and crawled stubbornly up the slope again. Now Rohan could see the ravine. He recognized it by the black patches of underbrush, resembling crook-timber, which covered the steep rocks. About half a mile separated him from the edge of the ravine. Twenty miles...

The slope that lay before him looked like an ocean made up of chaotically tossed-about rocks and boulders. It seemed impossible that the vehicle would ever pave a way through this. He had already given up searching for passable spots, since it was not his job to steer the car. Instead he concentrated on not losing sight, even for a single moment, of the two rock walls on either side, that



rose steeply from the bottom of the valley. Any second now, the black cloud might well up from these walls.

“Rohan... Rohan...” he heard suddenly. His heart began to beat faster. He recognized Horpach’s voice.

“The car probably won’t get you to your destination. From where we are, we cannot make out the exact angle of the slope, but you only have a few more miles to go. In case the car gets stuck, you will have to proceed on foot. Repeat...”

No more than twenty-six miles ... that means I have another ten miles to go. That could take at least four hours in this type of terrain, maybe even more, Rohan calculated quickly. Let’s hope they’re mistaken and the car makes it after all.

The message ended and once again he could hear nothing but the rhythmical singing of the probe, Rohan bit down harder on the mouthpiece of his oxygen mask. The mouthpiece had chafed his lips during the violently bouncing ride. The sun no longer touched the nearby mountain crest but it had not climbed any higher either. Before him lay boulders and rocky ledges of all sizes; sometimes their old shadow seemed to reach out for him.

The car had slowed down. Rohan lifted his eyes and saw tiny feathery clouds sailing across the sky. Suddenly a strange thing happened to the vehicle: it reared up like a shying horse. Another second and the car would have plunged down the slope, trapping him underneath, if Rohan had not jumped off. He fell on his hands and knees, hitting the ground hard and feeling it right through his

thick protective gloves and shin-guards. He skidded about six feet across the rocky rubble before he recovered his footing.

“Rohan, this is Horpach calling! The car can’t go on. You must continue on foot... Use the map for orientation. The car will remain where it is, in case you aren’t able to make your way back otherwise. You are now at the intersection of coordinates 46 and 192...”

Rohan got to his feet slowly. Every muscle in his body was aching. But only the first few steps were difficult. He quickly found his stride. He wanted to get away as fast as possible from the vehicle, which was stuck between two rock ridges. He sat down at the foot of a tall rocky obelisk, pulled the map out of his pocket and tried to adjust it. That was not so easy. Finally he determined his location. He was more than half a mile, as the crow flies, away from the upper rim of the ravine, but descending was out of the question at this point, A solid layer of low metal growths covered the slopes. So he climbed uphill, wondering whether he should risk the descent into the ravine at a spot nearer than the one they had chosen previously. For it would take at least four hours to reach that place. Even if he could use the car to drive back, he would have to reckon another five hours for the return trip, and how much longer would he need to climb down into the gorge, let alone the time needed for the search? Suddenly the entire plan seemed to contain not even a single grain of common sense. The whole enterprise was nothing but a vain and heroic gesture devised by

Horpach, who was willing to sacrifice him in order to soothe his own conscience.

For a while he was so furious—he felt he had been tricked like a silly schoolboy by the astrogator, who had planned everything in advance—that he barely noticed his surroundings. Gradually he got hold of himself. There is no way back, he kept repeating to himself, I have to try it. If I have no luck climbing down, if I haven't found anyone by three o'clock, then I'll turn back.

It was a quarter past seven. He tried to walk with long, even, but not too rapid strides, because his oxygen consumption would rise steeply with any exertion. He fastened his compass to his right wrist to avoid deviating from the direction he had to follow. Several times, though, he had to walk around deep crevices with steep walls. Fortunately, gravity on Regis III was considerably less than on Earth. This fact allowed him relative ease of movement, despite the difficult terrain. The sun stood higher in the sky. His sense of hearing—used to the constant accompaniment of all the sounds which encircled him like a sheltering barrier laid down by the machines on his previous expeditions—this sense now felt exposed and supersensitive. Only occasionally would he perceive, now much weaker than before, the rhythmical singing of the probe. On the other hand, each gust of wind hissing around the jagged edges of the boulders, attracted his attention, for he believed he recognized in it the familiar, delicate hum which he remembered so well. Gradually he became accustomed to the vigorous stride. While mechanically clambering from one rock to

the next, he could give free rein to his thoughts. He carried a pedometer in his packet. He did not want to check the distance he had already traversed yet, and was determined to wait until an hour had gone by. But he could not stand it so long, and he pulled out the small instrument before the hour was up. He was sorely disappointed. He had not even covered two miles. True, he had to overcome considerable differences in altitude. This had slowed him down. This means not three, not even four hours, but at least another six, he thought to himself. He took out the map again, knelt down and adjusted it once more. To the east he could see the crest of the ravine. All this time he had been marching in a direction nearly parallel to it. In one place the dark bushes covering the slopes were divided by a long, thread-like gap, probably the dried-up bed of a little brook. He tried to get a better look at it. Kneeling down, with the wind whistling around his ears, he experienced a moment of indecision. As if he did not know too well what he was doing, he got to his feet and mechanically tucked away his map, made a ninety-degree turn from his previous direction and marched toward the steep wall of the gorge.

Cautiously he approached the silent, cleft boulders, as if he feared the ground might suddenly open up beneath him. He was gripped by a terrible fear. Yet he kept walking, his arms swinging at his sides, his hands seeming so dreadfully empty. He stopped suddenly and looked down into the valley, onto the desert where the *Invincible* was waiting. He could not see the spaceship; it was below the horizon. He was well aware of that, and yet peered over

in its direction, at the reddish sky that slowly filled with puffy clouds. The singing of the probe's signals became so faint that he was no longer certain whether it was reality or just imagination. Why was there no word from the *Invincible*?

Because they have nothing more to say to you, he answered himself. The upper boulders—they reminded him of grotesquely weathered statues—were within reach now. The ravine opened up before his eyes like a gigantic ditch of darkness. The rays of the sun did not yet penetrate halfway down the black-covered walls. Here and there, needles of chalky rock jutted out from the bristling thicket. With one glance he encompassed the entire giant space as far down as the stony bottom which lay less than a mile below.

Suddenly he felt so like a defenseless prey that he squatted down, snuggling against the rocks as if he were trying to turn into one of the boulders himself. This was absurd, of course, as he was in no danger of being discovered. What he had to fear had no eyes to see. He stretched out on a rock slab and looked down. The information he could glean from the photogrammetric map was totally useless, since it showed the terrain as seen from a bird's-eye view and was consequently extremely foreshortened vertically. Impossible to risk a descent along the narrow, bare channel lying between the two slanting surfaces all overgrown with black bushes. For that he would have needed not seventy-five feet of rope but at least one hundred feet, as well as a few hooks and a hammer; but he had nothing of the sort. He was not equipped for a climbing expedition.

The narrow furrow swept down quite gently at first, then broke off suddenly, disappeared behind a promontory jutting out from the rocky wall and became visible again way down through a bluish haze. A wild thought passed through his mind: If only I had brought along a parachute...

He carefully examined the slopes on either side of the spot where he was lying, stretched out below a big, mushroom-shaped boulder. Only now did he become aware of a mild warm breeze wafting upwards from the great emptiness yawning wide below him. And indeed, the outlines of the slopes opposite trembled softly. The tangled black growth absorbed, gathered and stored the sun rays. He let his gaze roam farther to the southwest, where he recognized the points of the rocky needles whose base formed the stone gate where the catastrophe had taken place. He would not have noticed them had they not been pitch black and coated with a thick, shiny glaze—the outer layers of the rock needles had reached boiling temperatures during the battle between the Cyclops and the cloud. This difference made them stand out from the rest of the rock formations. From his vantage point he could not discover a single trace of the transporters or the atomic explosion anywhere in the valley. As he lay there, stretched out, he was suddenly overwhelmed by despair: he had to get down there, and there was no way. Yet instead of feeling relief at the prospect of returning and telling Horpach he had done his utmost, he came to a decision.

He rose. A movement down in the gorge, seen out of the corner of one eye, caused him to huddle once more against the boulder.

But he straightened up again almost immediately. If I lie down every few minutes, I won't accomplish very much, he thought. He began walking along the ridge searching for a traversable point. Every few hundred feet he leaned out over the void, but the picture was always the same: wherever the slope was gentle, black underwood clung to it; where there was no brush, the terrain would fall away steeply.

Once his foot started a small rock rolling down. It tumbled into the abyss, followed by other stones. A small avalanche followed, rumbling and roaring some 300 feet below into the matted wall. Wisps of sparking smoke crept out from the spot, unfolded in the air, and hovered for a moment as if taking stock—he grew rigid all over. After a long minute, the smoke thinned out and dispersed among the glittering brush.

Shortly before nine o'clock, as he was peering out from behind a boulder, he saw down at the bottom of the valley—the basin was considerably wider here—a small, bright point that moved about. With trembling hands he pulled the collapsible field glass from his pocket and pointed it in that direction...

A human being! The magnification was not powerful enough, and he was unable to recognize the face but he could clearly see the rhythmical movements of the man's legs. The man walked slowly, limping slightly, as if he were dragging a wounded leg. Should he call to him? He did not dare. Or rather, he tried to, but fear paralyzed his throat. He hated himself for it. He knew only one thing: now more than ever he dared not abandon the search.

He took note of the route the other man had pursued—up the valley, which steadily widened here, toward the whitish cones of the talus—and he ran in the same direction, along the ridge, jumping across boulders and gaping clefts in the rocks, until his whistling breath in the mouthpiece became too labored, almost choking, and his heart pounded violently. This is sheer insanity, I can't exert myself like this, he thought helplessly. He slowed down somewhat, and suddenly a wide gully opened up invitingly ahead. Further below it was lined on either side by black tangled growths. The angle of descent grew steeper—perhaps some rocks were jutting out there to form an overhanging roof?

A glance at his watch helped him decide; it was almost 9:30. He started to climb down. At first his face was turned toward the abyss, then he swung around carefully. The wall became too steep. On all fours, he climbed down backwards step by step. It was not long until he came close to the black thicket which seemed to sear him with its rigid silent heat. His temples were throbbing. He stopped for a breather on a slanting, narrow rocky ledge, jammed his left shoe in a crevice and looked down. Some 120 feet below he saw a broad shelf from which, clearly visible, a barren hummock led downwards, rising above the stiff dead tufts of the black bushes. Unfortunately, there was nothing but air between him and the promising shelf. He looked up. He had traversed some 600 feet, perhaps even more than that. The violent thumping of his heart seemed to shake the air. Several times he blinked his eyes. Slowly, cautiously, he unrolled the rope. You wouldn't do anything as



crazy as that, an inner voice told him. He angled sideways and downwards and reached a shrub nearby. The sharp branches were covered by a fine layer of rust that scattered dust to the touch. Expecting the worst, Rohan grasped the shrub. Nothing happened. He heard only a dry crackling sound. He pulled the shrub with a firm grip but it did not budge. He slung the rope around its base, tugged hard one more time ... then in a sudden burst of courage, he wound the rope around a second and a third shrub, planted his feet firmly against a boulder and tugged at the rope with all his might. The bushes did not give way, but clung to the rocky ground.

Slowly he lowered himself; at first he could shift part of his body weight onto the rocks through the friction of his shoe soles, but soon he slipped and hung suspended in the air. Faster and faster, he let the rope slide through below his bent knee, braked his speed with his right shoulder, looked down attentively and finally landed on the rocky shelf. Then he tried to detach the rope from the shrubs above by pulling at the end nearest to him. But the shrubs would not let go, although he tugged at the rope repeatedly. It was stuck. He sat down on the narrow shelf, straddling it between his legs, and pulled as hard as he could. Suddenly it jerked through the air, hissing like a snake, and hit him on the back of his neck. He jerked back as though struck by lightning. For the next few minutes he stayed where he was, sitting astride the shelf. His knees were shaking too much for him to risk any further descent for a while. But now he could see the figure down below again ambling along. It looked larger already. He wondered why the

figure was so bright; and there was something very peculiar about the shape of the man's head, or rather his head covering.

He was aware that the worst was yet to come. But it surpassed his expectations. The path itself was much smoother now, but the crackling dead rust bushes gave way to a greasy shiny mass. Their wiry tangle was studded with small berry-like characteristic thickenings which he recognized immediately.

Now and then, little smoke clouds swarmed from these growths, softly humming, and circled in the air. Each time, he froze, but not for long; otherwise he would never be able to reach the bottom of the gorge. For a while he pushed forward, straddling the narrow rocky shelf. Then the hump broadened and was not quite so steep, and he was able to climb again, but only on hands and knees, and not without difficulty. He was unaware how much progress he had already made. He had to divide his attention all the while to either side of the narrow path. Occasionally he had to pass so close to the dusty bushes that their tuft-like wires would graze the folds of his protective suit. Yet not once did the little clouds that sailed above him, glittering in the sunlight, advance toward him. Finally he stood at the broad end of the rocky talus, only a few feet removed from the pebble-strewn bottom of the ravine. The stones there were chalky white and as hard as bone. It was shortly before noon. Now he was already below the brushy zone. The upper half of slope he had just climbed down was lit up by the sun high in the sky. Now it was possible to look back and survey the distance he had covered so far, but he did not bother to turn around. He ran

downhill, trying to shift his weight alternately from one leg to the other, jumping from rock to rock as fast as he could, but the crumbling rubble of the rock-piles followed him, tumbling and knocking down, and suddenly, just by the dry bed of the little brook, the rock-strewn ground slipped away from under his feet. He was hurled to the ground so violently that his oxygen mask was knocked off his face as he rolled downhill several dozen yards. He jumped to his feet again to continue his pursuit of the man, despite his bruises and cuts, for he was afraid to lose sight of him entirely here where both slopes—especially the opposite wall—were dotted with the dark entrances to a large number of caves. But before he could start up again, something warned him. Even before he fully comprehended what it was, he dropped to the ground and, arms stretched out wide, flattened himself against the sharp-edged stones. A light shadow descended on him from above, and a formless black cloud mass drew near and enveloped him, accompanied by a rising, monotonous roar, encompassing all registers from a high-pitched whistle to a bass booming. Perhaps he should have shut his eyes, but he did not do so. One thought crossed his mind: if only the instrument sewn into his protective suit had not been damaged by his fall... Then, swiftly, he lapsed into self-imposed immobility. Not even his eyeballs moved; and yet he could see the wriggling cloud stop immediately overhead and lazily flick out an arm. From quite close, the very tip of this arm looked like the mouth of an inky-black maelstrom.

On his scalp, on his cheeks, all over his face, he felt a manifold warm breeze, like a breath composed of millions of tiny particles. Something brushed against his suit near his chest. Almost total darkness surrounded him. In a flash the arm, spiraling like a miniature tornado, receded into the cloud. The constant humming grew to a shrill, piercing sound which hurt his teeth and drilled into his head. Then the sound lessened in intensity. The cloud climbed up almost vertically, turned into a black fog that spread from slope to slope, broke down into separate, globular coils that in turn began to whirl in concentric circles, crept into the stiff pelt of the bushes and finally disappeared. For a long time afterwards he lay there motionless. The thought flashed through his brain that this must be the end, that he no longer knew who he was, or how he had gotten there, or why. At this thought he was overwhelmed by such fear that he suddenly sat bolt upright. Then began to laugh. If he was capable of thinking such things, then obviously he had been spared, the cloud had been unable to harm him, he had outwitted the black insects. He tried to suppress the tickling, idiotic laughter that stuck in his throat and shook his whole body. It's hysteria, he reprimanded himself, and got to his feet again. He had almost regained his composure—at least so it seemed to him—as he adjusted his oxygen mask and looked round. The man was not there any more. But he had heard the footsteps. Most likely he had already passed by and disappeared behind the boulder jutting out nearly to the middle of the ravine. Rohan started to run after him. The echo of the man's steps seemed to come closer and closer; it

seemed strangely loud, almost as if the man were stomping along in iron boots. As Rohan ran, he felt a sharp pain shooting up from his ankle to his knee. I must have sprained my ankle, he thought, his arms flailing desperately through the air. Once again he could not breathe properly and was nearly choking when he suddenly caught sight of the figure. He walked mechanically, making giant strides, stomping along over the stones. The heavy tread and stomping reverberated from the nearby rock walls with a clapping sound. And then it hit Rohan like a bolt out of a clear blue sky: it was no human being, but a robot! One of the Arctanes... Not for a single moment had he considered what fate might have befallen them after the catastrophe. They had been in the second transporter when the cloud started to attack. Now he noticed the robot's left arm hanging limply and shattered by its side, its once shining, curved armor was buckled and slashed. Rohan felt bitterly disappointed, and yet he found comfort in the thought that at least he would have some kind of companion in his further search. He was just about to call to the robot when something made him hesitate. Instead he raced ahead of the robot, then stopped and waited for it, blocking its way. But the eight-foot tall giant obviously did not notice him. The dishlike ear of its radar antenna was partially destroyed—Rohan saw this clearly now that he was close to the robot—and where the lens of the left eye had been, a hole with a jagged edge yawned open. Still, the robot held itself steadily on its mighty feet, though it dragged its left leg behind it. When there were only a few feet left between them, Rohan called

the robot, but the Arctane pushed blindly ahead, straight toward him, so that Rohan had to jump aside at the last second. He approached the robot a second time and tried to seize its metal paw but the automaton jerked its arm away with an indifferent sweeping movement, and continued on its way. Rohan knew that the Arctane, too, had fallen victim to the attacking cloud and that he could no longer count on it. But he found it difficult to simply leave the helpless machine to its fate. Besides, he was curious about the robot's destination, for it picked its way over the smoothest possible path, as though it were advancing toward a definite goal. Rohan deliberated briefly—the Arctane had meanwhile wandered on for almost fifty feet—and then followed the machine. Soon the robot arrived at a steep boulder formation and started to climb it, without paying the least attention to the steady streams of debris that rolled out from under its broad feet. It had scaled about half of the rubble hillock when it suddenly fell and slid backwards, kicking its legs desperately. Under other circumstances, an observer might have laughed at this funny spectacle. Then the robot got to its feet again and once more started its upward climb.

Resolutely, Rohan made an about-face and walked away. For quite some time, however, he could hear the tumult on the boulder hill and the repeated metallic dragging of feet, a sound that was tossed back and forth many times between the facing rocky slopes, a multiple echo. He made good headway now, since the path he had taken—over the flat stones in the dry brook—was fairly

smooth and descended gently. Nothing was to be seen of the cloud; only an occasional trembling of the air above the slopes gave away the simmering in the black thicket. By now he had arrived at the widest part of the gorge, which opened into a basin, framed by rocky heights. He was roughly a mile and a half from the rock gate, where the catastrophe had occurred. Only now did he realize how hard it would be without an olfactometer, which could have helped him find human traces; but the instrument was much too heavy to be carried on foot. He would just have to get along without it. He stopped and examined the rocky walls. No one could possibly have taken refuge in the metal thicket. That left only the grottoes, caves and hollows in the rocks—he counted several from where he was standing. High rock shelves with vertical faces, that presented extraordinary difficulties for the climber, hid the caves' interiors from sight, and he decided to begin by examining the grottoes, one after the other. Back aboard the spacecruiser, he had tried, together with the psychologists and the physicians, to figure out where he should search for the four lost men—in other words, where they were most likely to be hiding. But in reality the conference had been of little use, since the behavior of an amnesiac was unpredictable. The fact that the lost men had been together when they left the rest of Regnar's group indicated that some kind of activity set them off from the others. And to a certain extent, the fact that the trails of the four men had not separated once at any point along the terrain explored so far, justified the hope of finding all four together in the same area—only if they

were still alive, naturally, and had not spread out in various directions above the rock gate. Rohan made a thorough search in two smaller and four larger grottoes, one after the other, which he could enter fairly easily since he needed only to climb over a few large, slanting rock shelves. This was not dangerous and took only a few minutes. In the last grotto he stumbled on metal debris, partly covered with water. At first he believed it to be the skeleton of the second Arctane; but they were extremely old and unlike any design he had ever encountered before. In a shallow puddle of water, which was visible because the smooth, almost polished vaulted ceiling of the grotto reflected some sparse daylight, he saw an elongated form, something like a fifteen-foot-long cross. The outer metal hull had long since fallen apart, disintegrated, mixed with the muddy ground and now formed a rust-red mass. Rohan could not indulge in a closer examination of this unusual find, perhaps the wreck of one of the macro-automats that had been exterminated by the fittest of the inorganic evolution, the black cloud. All he could permit himself was to fix the image on his mind: hazy outlines of braces and poles which probably were used for flying rather than for walking. A glance at his watch urged him to hurry on, and without further delay he continued to search through the next caves. But they were so numerous—from the bottom of the ravine they peered out occasionally like dark yawning windows in the steep rock walls—and the often flooded subterranean corridors that sometimes led into straight-walled, vertical tunnels and ditches with icy, gurgling rivulets, were so tortuous that he did not



dare penetrate too deeply into them. Besides, he carried only a small flashlight which provided relatively weak illumination and was especially powerless inside the more spacious grottoes with their tall, vaulted ceilings and innumerable galleries. Finally, totally exhausted and near collapse, he sat down on a huge flat sun-warmed boulder near the exit of a cave he had just finished examining, and chewed a few bars of the food concentrate, washing the dry mouthfuls down with some water from the little brook. Several times he thought he heard the rustling of the approaching cloud but it was probably just the echo from the Sisyphus-like labors of the Arctane reverberating from the upper regions of the ravine. After he had finished eating his meager provisions, he felt much better. What surprised him most was the realization that he was less and less worried about his dangerous surroundings, the black thicket that extended over all the slopes, wherever he looked.

He climbed down the rocky promontory in front of the cave after resting there for a while, and perceived a thin, rusty streak that extended across the dry stones to the opposite side of the gorge floor. As he reached the spot, he saw that they were traces of blood. They had dried completely and faded, and had it not been for the unusually bright white color of the limestone-like rocks, he would most likely have missed the tracks. He tried to determine which direction the wounded man must have taken, but it was hopeless. So he marched up the valley arbitrarily, driven by the thought that the blood must have come from someone who was

wounded during the battle between the Cyclops and the cloud, someone who had tried to leave the battle scene. The tracks intersected and broke off in places, but eventually they led him toward a cave which was one of the first he had searched before. He was all the more astonished when—directly by the entrance to the cave—a vertical, shaft-like narrow cleft opened, which he had failed to notice earlier. The blood ended there. Rohan kneeled down and bent over the shadowy hole in the ground. Although he had been prepared for the worst, he could not suppress a stifled cry when he saw Benningsen's head staring at him with empty eye sockets and bared teeth. He recognized the man by his gold-rimmed glasses, whose lenses had remained undamaged by some fluke of fate and now sparkled brightly in the light reflected from the limestone slab that tilted over the stone coffin. The geologist was wedged between boulders, his shoulders jammed into the natural lining of the rocky shaft, so that his body had remained upright. Rohan did not want to leave the man's remains behind, but when he gathered up his courage and tried to lift the body, through the thick material of the protective suit he could feel the corpse disintegrating under his touch. Decay had already done its work, accelerated by the effect of the sunrays that penetrated this spot every day. Rohan finally zipped open the breast pocket in Benningsen's suit and removed the scientist's dog tag. Before moving on, he gathered up his last ounce of strength and rolled one of the nearest rock slabs toward the shaft to seal the rocky tomb.

The first man had been found. Not until Rohan was a good distance away did it occur to him that he ought to have tested the corpse for radioactivity, for the degree of contamination might shed some light on the fate that had befallen the geologist and his friends. A high radioactive count would have proved that the dead man had been near the scene of the atomic battle. But he had forgotten to make the test, and nothing could have induced him to roll the coffin's stone lid aside again. At the same time, Rohan became aware how important a role chance was playing during his endeavors, for he had undoubtedly made a thorough search all around this spot when he had first been there.

Inspired by a new thought, he now hastily pursued the blood trail in order to find its beginning. The trail led almost in a straight line down into the valley, in the direction of the atomic battlefield. But after just a few hundred paces, the trail made a sudden turn. The geologist had lost a great deal of blood; thus it was all the more surprising that he should have come so far. The stones, which had not been touched by a single drop of rain since the catastrophe, were covered with blood. Rohan climbed some large wobbly boulders and found himself in a spacious, basin-like trough below a barren cliff. The first thing he saw was the huge metal sole of a robot. It lay on its side, evidently split down the middle by a Weyr gun. Off to the side, farther down, a man was leaning against a stone in a half-seated position, his body almost folded over in two halves; his helmet was blackened by soot. The man was dead. The Weyr gun still dangled from his limp hand, its

glittering barrel touching the ground. Rohan did not immediately dare to touch the man; instead, he knelt next to him and tried to look into his face, but it was just as disfigured by decay as Benningsen's had been. Just then he discovered the broad, flat satchel of the geologist hanging over the shrunken shoulder of the corpse. It was Regnar himself, the leader of the expedition that had been attacked in the crater. According to the radioactivity readings, the Arctane had been wrecked by the charge of a Weyr gun: the indicator registered the characteristic isotopes of rare earth. Rohan wanted to remove Regnar's dog tag but he could not bring himself to do it. He simply unbuckled the satchel, so that he did not have to touch the corpse. But the satchel was crammed full with samples of various minerals. He hesitated briefly, then with his knife cut off the geologist's initials which were fastened to the leather. He put the metal initials in his pocket. Then, standing on a tall rock, he surveyed the entire scene once more, trying to comprehend what actually had happened here. It looked as if Regnar had shot at the robot. Had the Arctane perhaps attacked the geologist or Benningsen? Was it even possible for an amnesiac to have fended off an attack? He realized that he would never find the solution to this mystery; he had to continue his search. Once more he glanced at his watch; it was almost five o'clock. If he had to rely on his own oxygen supply, then he would have to start back now. But it suddenly occurred to him that he could remove the oxygen container from Regnar's backpack. He lifted the entire apparatus from the dead man's shoulders and found that one of the

flasks was still full. He exchanged it for his empty container and started to pile up stones around the corpse. This took nearly one hour, but he felt that the dead man had more than paid for it by handing over his oxygen supply. When the stone mound was complete, Rohan considered that it would have been a good idea to equip himself with a weapon, and the Weyr gun was probably still loaded. But again he had thought of it too late and had to leave the scene empty-handed.

It was close to six o'clock. He was so tired that he could hardly drag his feet. He still had four stimulant tablets in his possession. He took one of them and after a minute felt sufficiently revived to get up from the ground. Since he had not the faintest idea where to press on with his search, he simply walked forward in the direction of the rock gate. He was still more than half a mile away when his geiger counter warned him of increasing radioactive contamination. For the time being the contamination was fairly mild, and he walked ahead, keeping the surrounding terrain under observation. Since the ravine had many turns, only some of the rocks showed traces of the melting process on their surfaces. The farther he advanced, the more frequently he encountered the characteristic cracked glaze, until eventually he saw entire boulders congealed into one single, huge blister, where their rocky surface must have boiled when the thermal explosions hit. Actually there was no reason for him to stay here any longer; yet he kept walking on. The counter on his wrist gave off a light ticking sound that gradually picked up speed, until the instrument hand danced

madly across the scale of the dial. At long last he recognized, far off in the distance, the remains of the rock gate, which had collapsed into a trough-like crater. The crater resembled a small lake whose waters, as a result of the tremendous impact, had splashed out over the shoreline, where they had become solidified in weird shapes. The base of the rock gate had changed into a thick lava crust and the formerly black pelt of the metal shrubs had turned into a uniformly ragged rug of ashes. Between the rock walls in the interior of the ravine glistened gigantic clefts of lighter coloration. Rohan swiftly turned back again.

Once again chance came to his aid. As he reached a second, considerably broader rock gate behind the scene of the battle, nearby, on a spot he had previously passed by, he noticed a sparkling metal object. It was the aluminum reductor of an oxygen container. In a shallow crevice between the rock and the dry bed of the brook he saw a man's dark back clad in a spacesuit blackened by smoke. The corpse had no head. The terrible air pressure had hurled the man across a stone heap and dashed him against the rocks. To the side lay an undamaged weapon holster with a Weyr gun firmly wedged inside, gleaming brightly as if it had only recently been polished. Rohan picked up the gun. He wanted to identify the dead man, but it was impossible.

He continued to march up along the ravine. Over on the eastern slope, the light was already red and glided up like a flaming curtain as the sun sank behind the mountain crest. It was a quarter to seven. Rohan was faced with a real dilemma. So far he

had been lucky—in one sense, at least: he had carried out his task, had escaped safe and sound, and could now return to the space cruiser. He was convinced that the fourth man was no longer alive, but they had assumed as much back aboard the *Invincible*. His duty now was to make sure that this was really the case. Did he have the right to turn back now? The oxygen supply from Regnar's tank would last another six hours. However, a whole night lay before him, and he would be unable to undertake anything, not just because of the cloud, but simply because he was almost totally exhausted. He swallowed another pill, and while he waited for its effect to take place, he tried to design a halfway reasonable plan for the rest of his mission.

The blood-red glow of the setting sun now bathed the black jungle on the mountain ridge high above him with ever-deepening shades: the sharp points of the bushes sparkled and shimmered in deep violet hues.

Rohan still could not make up his mind. As he sat there under a huge boulder, he heard in the distance the full-toned hum of the approaching cloud. And strangely enough—he was not frightened. Throughout the course of this one day his relationship with the cloud had undergone strange changes. He knew—or at least he believed he knew—how far he could go, like a mountain climber who has no fear of the death lurking on the icy walls of a glacier. In point of fact, he was not fully aware of this inner change, for his mind had not consciously registered the moment when his senses first opened to the somber beauty of the black brushy

growths that shimmered in opalescent tinges of violet on the slopes. But now, even as he caught sight of two black clouds swarming out off the opposite slopes and coming closer, he did not move at all, nor did he try to protect himself by pressing his face against the rocks. After all, it made no difference whatever he did as long as the hidden instrument was working properly. He fingered the thick cloth of his protective suit, trying to locate the coin-like disc sewn into his collar, and with his fingertips he felt a delicate vibration. In order not to challenge fate, he settled in a more comfortable position, to avoid shifting his body unnecessarily. The clouds now occupied both sides of the ravine. Some kind of an order-creating stream seemed to flow through the black globular densities, for now the clouds thickened at the edges, while their interior surfaces arched out steadily, reaching out toward each other. As if a giant sculptor were shaping them with swift, invisible strokes. Brief discharges flashed through the air between the closest points of the two clouds. They seemed to race toward each other, yet each remained on its own side, and only the spherical condensations in the middle fluttered in an increasingly violent rhythm. The glare of these bolts of lightning was strangely dark. Both clouds flared up in this light for a few seconds, like myriads of silvery-black crystals arrested in their flight. Muffled thunderclaps bounced back and forth a few times from the rock walls, which suddenly seemed covered by some sound-absorbing material, and then both sides of the black ocean met, quivering and tensed to the utmost, and flowed into each other. The air



underneath grew dark, as if the sun had set, and at the same time blurry fleeting lines made their appearance inside. It was some time before Rohan understood what it was that confronted him there: the grotesquely contorted mirror image of the bottom of the valley. In the meantime, the mirage below the cloud bank surged and expanded, until all at once he perceived a gigantic human figure whose head projected into the darkness. The figure stared straight at him without moving, although the image itself quivered and danced ceaselessly, flaring up and dying down in a constant, mysterious rhythm. And once more several seconds passed before he recognized in it his own mirror image, a fata morgana floating in the empty space between the lateral lobes of both clouds. He was so amazed, so paralyzed by the inexplicable activity of the cloud, that he forgot everything. He thought that perhaps the cloud was aware of him, of the microscopic presence of the last living human being in the midst of the rocks: however, even that thought did not frighten him. Not that it seemed too unlikely—nothing was impossible at this point—he simply felt an urge to participate in this murky mystery, whose significance, he was quite sure, would forever remain beyond his understanding. His gigantic mirror image, through which he caught faint glimpses of the distant rock walls, became diffused in the upper parts of the gorge, where the shadow of the cloud did not extend. At the same time, innumerable arms extruded from the cloud. As soon as it had reabsorbed some of these projections, new ones appeared in their place. A black rain began to fall, constantly growing heavier. Tiny crystals dashed

over him, brushed against his head and slid down along his protective suit, accumulating in the folds of the garment. The black rain kept falling and the voice of the cloud swelled to a crescendo, to a raging sound which apparently filled not only the valley, but the entire atmosphere of the planet. Individual whirlpools formed inside the cloud, like windows through which the sky could be seen. The black cloak tore right down the middle and two mountainous clouds sailed sluggishly toward the brushwork, submerged and finally vanished in the motionless, rigid thicket.

Rohan still dared not make a move. He could not make up his mind whether it was advisable to shake off the crystals that were strewn all over him. They lay everywhere on the stones, and the entire bed of the brook, that heretofore had glistened as white as snow, seemed sprayed with ink. Carefully, he seized a triangular crystal between thumb and forefinger. Suddenly it appeared to come alive, brushed against his hand with a delicate breath of warmth and rose into the air as Rohan instinctively opened his fist. All of a sudden, as if on cue, the whole surrounding area began to crawl like an anthill. The movement was chaotic for a bare second, then black points formed a kind of misty layer hovering close to the ground, concentrated, grew dense, clustered and climbed skyward like pillars. It looked as if the boulders themselves had turned into gigantic, sacrificial flameless torches. At this instant an incomprehensible maneuver took place: while the ascending swarm hung exactly above the center section of the gorge, hovering there like a cumulus cloud, there emerged, pitted against

the gradually darkening sky the gigantic black balloons of those clouds that but a short while ago had vanished in the brushy growths and now raced with incredible speed toward the first cloud suspended quietly in mid-air. Rohan thought he heard the peculiar grinding noise of colliding air masses, but it was probably just a delusion. He was all ready to believe that he was witnessing a battle, that the clouds had managed to expel the dead insects they had wanted to get rid of and dash them to the bottom of the valley—and then it all turned out to be nothing but a false conclusion on his part. The clouds parted and nothing remained of the puffed-up sphere. They simply had swallowed it. Soon after, only the mountain tops bled as before in the last rays of the setting sun, and the wide basin lay quiet and deserted.

Rohan got to his feet and stood there on shaky legs. Suddenly he felt ridiculous standing there with the Weyr gun he had taken so hastily from the dead man: he felt so superfluous in this realm of perfected death, where only dead forms could emerge victoriously in order to enact mysterious rites never to be witnessed by any living creature. Not with horror, but rather with numbed awe and great admiration had he participated in the fantastic spectacle that just had taken place. He knew that no scientist would be capable of sharing his sentiments, but now his desire was no longer merely to return and report what he had found out about their companions' deaths, but to request that this planet be left alone in the future. Not everywhere has everything been intended for us, he thought as he slowly descended. There was still some light in the

sky, and he soon arrived at the scene of the battle. There he had to speed up his pace, because of the increasing radiation from the glassy boulders, which whizzed by like eerie silhouettes in the descending dusk. The rock walls picked up the reverberation of his steps and passed it on, and accompanied by the sound of this endless echo, summoning him to a tremendous haste, he jumped from rock to rock, straining to the utmost, ran past fragments of machines, molten beyond recognition, and reached a winding slope—but here too the dial glowed ruby red as he checked his radiation counter.

He dared not stand still, although he had become short of breath. Without slowing down his pace he turned the reductor of his oxygen tank almost all the way over to stop. Even if he used up all his oxygen by the time he arrived at the end of the ravine, and then had to breathe the air of this planet, it would certainly still be preferable to remaining here longer than absolutely necessary, where each square inch of rock emitted deadly radiation. The oxygen pounded against the inside of his mouth like a cool wave. He raced easily over the surface of the congealed lava stream, which the retreating Cyclops had left behind along the trail of its defeat. The path was smooth, in some places even glassy. Fortunately he wore well-fitting shoes with rubber-tread soles and did not skid. In the meantime it had grown so dark that he could make out the downward road only by occasional brightly gleaming pebbles which peered out from under the layer of glass. The path led downhill all the time. He knew that there was at least another

mile and a half of such road ahead. It was impossible during this wild chase to make any calculations but now and then he nevertheless managed to glance quickly at the pulsating red dial of his radiation counter. About one hour would be the upper safety limit for staying here among these rocks, bent and cleft due to the annihilation; then his exposure to the rays would not exceed 200 Roentgen. An hour and a quarter would still be acceptable, but if he should not reach the desert's edge by that time, there would no longer be any reason to hurry.

About twenty minutes later Rohan reached the crisis point. His heart felt like a cruel insuperable entity that alternately tried to push his chest apart from the inside and then squeezed it together again. The oxygen burned his mouth and throat like raw, liquid fire; sparks danced before his eyes. The worst part, however, was that he began to stumble more and more frequently. Although the radiation had diminished somewhat by now and the indicator barely glimmered in the dark, like a dying ember, he knew that he must hurry on despite all, had to keep running, while his legs threatened to give out. Every muscle fiber had had enough by now; every cell of his body was screaming for him to stop and throw himself down onto the seemingly cool, harmless, cracked glass sheets on the grounds. He tried to glance up to the stars but he tripped and fell headlong onto his outstretched hands. Sobbing, he gasped for air. He scrambled to his feet again, staggered on for a few steps, until the rhythm returned and carried him along. By now he had lost all sense of time. How could he find his way

around at all in this gloomy blackness? He had forgotten the dead, the bony, sardonic grin of Benningsen; Regnar, resting under the heaped-up stones next to the demolished Arctane; the man without a head whom he had been unable to identify; he had even forgotten, yes, the cloud. He was totally crushed by this darkness; it had forced the blood into his eyes that, in vain, looked for the big starry sky above the desert—the sandy wasteland seemed like a port of refuge to him now. He hurried on blindly, his eyelids smarting with sweat, driven by some inner force whose undiminished presence kept amazing him from time to time. Would this ceaseless running, would this night ever take an end?

His eyes no longer saw. His feet made headway only with the greatest effort and kept sinking into the soil. In a last fit of despair, he raised his head and realized in a flash that he had reached the desert. He saw the stars on the horizon, and as his legs began to give way under him, his eyes sought the dial of the radiation counter, but in vain: it was dark and silent, he had left the invisible death behind him in the congealed lava bed. That was his last thought, for as he felt the rough, cool sand on his face, he did not fall asleep, but into a kind of stupor, while his body kept laboring desperately, his ribs twitched, his heart beat wildly. Then, from the twilight zone of total exhaustion, he slipped into another, even deeper state of semi-trance, until, finally, he lost consciousness.

With a start he regained his senses again, though he had no idea where he was. He moved his hands, felt the cool sand, which

trickled through his fingers, sat up and moaned involuntarily. He felt hot. Slowly he returned to a state of complete consciousness. The phosphorescent hand of the manometer pointed to zero. There were still eighteen atmospheres left in the second container. He opened the valve and got to his feet. It was one o'clock. The stars stood out sharply against the black backdrop of the nocturnal sky. With the help of his compass he found the direction he had to follow and started out. At three o'clock he took the last stimulant tablet. Shortly before four the last of the oxygen was depleted. Resolutely he threw away the container and walked on, at first breathing almost reluctantly. But soon the fresh air of the approaching dawn filled his lungs; he quickened his steps, straining to think of nothing but this march through the sand dunes, where at times his legs would sink in up to the knees. He felt slightly intoxicated, but he could not tell whether this was due to the gases in the atmosphere or simply lack of sleep. He had figured out that he would need to do between two and three miles per hour in order to arrive at the space cruiser by eleven o'clock.

He tried to regulate his speed with the pedometer then, but it was no use. The firmament was divided into two uneven parts by the immense whitish streak of the Milky Way. By now he had adjusted so well to the sparse light of the stars that he was able to steer around the biggest dunes. He trudged along, wading through the sand until he suddenly noticed on the horizon a strangely even patch without stars, an angular silhouette. Without knowing what it might be, he ran toward it, paying no attention to the fact that

he was sinking deeper and deeper into the sand. Then, as he plunged forward like a blind man, his outstretched hands hit against some hard metal. It was an overland vehicle, vacant and deserted. Maybe it was one of those that Horpach had sent out the previous morning, or perhaps a different one, one from Regnar's group. Rohan did not stop to think about the car's origin. There he stood, panting, and embraced the machine with both arms. His fatigue drew him towards the ground. Just to sink down next to the vehicle, to fall asleep and march on after sunrise...

He climbed slowly onto the armored hull, hand over hand, his fingers searching for the handle, and opened the hatch. The lights went on. He slid down onto the seat. Yes, now he knew that he was in a state of intoxication—poisoned by the gas in the atmosphere, no doubt—for he was unable to find the switches. He could not remember where they were located, he no longer knew anything... Finally his groping hand accidentally bumped into the worn-out knob and pushed it to one side. The engine emitted a slight noise and started. He unclasped the lid of the gyro-compass. The one number he still remembered clearly was the direction for the return trip. For some time, the vehicle rolled along in the dark; Rohan had forgotten that there were headlights.

It was still dark at five o'clock, when suddenly in the distance, between the white and bluish stars, he perceived a ruby-red star, quite low above the horizon. Rohan blinked his eyes in confusion. A red star? Unthinkable... He imagined that someone was sitting next to him—Jarg, of course—and he wanted to ask him what kind



of star it was. Suddenly he came to with a start. He was thunderstruck. It was the headlight of the *Invincible*. He traveled straight toward the ruby droplet in the darkness. The light gradually climbed higher and finally turned into a bright sphere, in whose reflection the spaceship's hull gleamed softly in the dark. The red eye between the clock dials flared up; the buzzer rang, indicating the vicinity of an energy field. The vehicle rolled down a sandy slope and came to a halt. He was not certain that he would have enough strength to climb back into the car once he had left it, so he reached into the tool compartment, pulled out a Very pistol and—since his hand was trembling—leaned his elbow on the steering wheel while he steadied his right hand with his left and pulled the trigger. An orange-red streak raced through the dark. The short trajectory of the flare ended suddenly in a burst of stars—it struck the barrier of the energy field like an invisible glass wall. He shot again and again, until the magazine rattled drily. The ammunition had been all used up. But he had been spotted. The first to sound the alarm were most likely the personnel on duty in the control center, for almost simultaneously two giant kleig lights flared up under the nose of the spacecruiser; the white tongues of the kleig lights licked at the sand and their beams crossed above the vehicle. At the same time, the ramp was lit up by a powerful floodlight and the entire shaft of the outside elevator glowed like a cold flame in the splendor of the neon tubes. Within seconds, the gangways were swarming with men, the sand dunes around the *Invincible* flared up in the glaring cones of the rotating

searchlights; soon the lane of blue beacons indicated that passage through the protective barrier was clear.

The Very pistol had dropped from Rohan's hand, and he did not register the moment when he had slid down to the ground over the vehicle's side. With unsteady, exaggerated strides, stiffly drawn up to his full height, his fists clenched in order to suppress the unbearable trembling of his fingers, he strode straight towards the twenty-storey-high spaceship that, bathed in a blaze of light, stood outlined before the paling sky. There it towered, majestic as ever in its motionless grandeur—as if it were indeed invincible.