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\*\*\* START OF THE PROJECT GUTENBERG EBOOK THE LIFE WATCH \*\*\*

# **The Life Watch**

**By Lester del Rey**

**Norden could not trust his own  
darkly terrifying thoughts and  
impulses. Yet he kept a life  
watch over the whole human race.**

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*The spread of an alien culture across wide wastes of space, with its almost inevitable, remorseless destruction of human life, has chilling implications even for the literal-minded. When mirrored in the bright, adventurous prism of modern science fiction it offers unparalleled opportunities to a writer of Lester del Rey's stature. We're sure you'll agree that he's scored a triumph in this brilliantly imaginative yarn.*

Norden could feel dread knot his mind as he watched the tiny blue speck against the black sky. It was a senseless, unnatural emotion, and he knew it. The searing blue point of flame could only mean that the approaching ship was powered by atomic rockets—and the Aliens drove their ships in some mysterious manner, without any kind of reaction motor. The object coming down toward the tiny asteroid could only be of terrestrial origin, powered by a human device.

Yet his fear grew worse. He shook his head, wondering again how close to insanity he had drifted. His eyes darted sideways, scanning the wreckage that had been his laboratory, then back to the descending ship. Mercifully, he couldn't remember most of what had happened. He only knew that it had been sufficiently bad to drive any human close to the brink of madness. It would have been torturing enough to be left alone for days in a wrecked and airless dome while the oxygen tanks were used up, one by one. But to have seen Hardwick's face when the Aliens caught him....

He tried to stop thinking about it. The Aliens were only vague shadows in his mind now—the picture of what must have happened as remote and unreal as his memories of struggling free from the wreckage.

Somehow, he'd survived against incredible odds, undetected by the Aliens. He'd dug out the emergency transmitter and tried signaling for help. Now apparently, before the last tank of oxygen on his back had been used up completely, rescue had come. He should have been ecstatic with relief.

The fear remained, some twisted reaction left over from the days of terror and hopelessness. He lifted his hands and studied them. They were steady enough; the fear was having no outward effect.

Already the ship was close enough for Norden to see glints of weak sunlight reflecting from its metal hull. The pilot must have been one of the best, for there was no wavering, or side-jetting to correct the course. It was coming straight down, slowing to a drift. As Norden stared the exhaust hit the jagged surface of the asteroid and splashed out. Abruptly it cut off, and the ship dropped slowly the few remaining feet, to come to rest less than half a mile away.

Norden knew he should start running toward it, and stood up. But he couldn't give the order to his legs. He stared toward the ship, then back at the ruins. Maybe there was something he should take with him. He had air enough for another hour. Surely there was no need to rush things. Men would be coming here for him. And it wouldn't do any harm to put off meeting them a little longer. He didn't want to be subjected to their questions yet.

He started hesitantly toward the ship, trying to force himself to move. Men began to emerge and head toward him. He dropped onto a mess that had been a super-speed tape instrument recorder and waited.

His mind was running a rat-race inside his head, and there was a gnawing tension. He cleared his throat and reached for the switch on his suit radio. The men were almost up to him. He got to his feet again, fumbling frantically with the little switch.

Then the harsh beam of a flashlight picked him out, and a gruff voice sounded in his headphones. "Dr. William Norden?"

He nodded, and rehearsed words stumbled to his lips. "Thank God, you got here! I was afraid the transmitter wouldn't work!"

There was a hint of something like kindness in the voice. "Take it easy, Dr. Norden! It did work, and we're here. What happened to Hardwick? Where is he?"

"Dead, I hope," Norden answered. "The Aliens got him!" He shuddered, glancing at the spot where it had happened.

The man wearing general's insignia nodded, while sickness spread over his face. He motioned to one of the others. "Get pics of the wreck, and collect any records you can. The rest of you give Dr. Norden a hand. And hurry! They may have spotted us already!"

The man with the camera went resolutely to work, flashing his shots with a strobe light that blinked twenty-four times a second. Two others began unrolling a stretcher.

Norden shook his head in feeble protest. "I can walk. And I've already collected Hardwick's notebooks."

They set a pace closer to a run than a walk, bouncing ludicrously in the slight gravity of the asteroid. Norden kept up with them easily enough, trying to make sense of his reactions. Most of the fear and tension had left him, as if he'd passed over some hurdles, and was experiencing a resurgence of confidence. The military efficiency of his rescuers had also a bracing effect. Maybe he hadn't believed in his rescue until now. But he did feel better, though his eyes went on studying the others cautiously, as if looking for any reaction that might inadvertently betray them.

They reached the ship, and began pulling themselves through its flexible hatch. The leader jerked off his helmet and suit, exposing iron grey hair that contrasted rather startlingly with an almost youthful face. It was the face of a man who hadn't let himself grow soft during the years before the Aliens came. He swung toward Norden.

"How much gravity can you take, Dr. Norden?" he asked. "Six g's?"

"In a hammock, for a few minutes," Norden answered.

They were already heading up the ladder toward the nose of the ship. The general ripped a sling out of its case when they reached the control cabin. He snapped it to its lugs, motioned Norden onto it, and bound him in place in less time than he could have ordered the job done. Then he dropped to his own control seat. "Six g's for five minutes, then hold her at four until I order. Up ship!"

Norden didn't black out during the first five minutes, though the pressure was enough to drive the sling to its bottom mark and make its cables groan in protest. As they switched from six to four gravities, the pressure eased a little.

An hour crept by, and another. When the general finally ordered the drive cut, Norden estimated that they had been under acceleration for nearly five hours and were doing about two million miles an hour. Either the general was crazy, or the ship must have been stocked to the last bin with fuel. They were making more than five times the normal emergency speed.

Then the leader came back and began releasing Norden. "Sorry to give you such a beating after what you've been through, Dr. Norden," he said. "But we'll still be lucky if we have enough speed to slip past their detectors before they can trace our orbit and overhaul us. They've been getting worse lately."

He sighed, and his lips thinned. Then he shrugged. "We'll talk about that later. Right now you need food." He managed a smile. "I don't have to tell you that the doctor and psychiatrist will be biting their nails to give you the works. Oh, I'm Armsworth."

Norden felt the chill touch his mind again. He'd expected a doctor, and had been bracing himself for one. But the *psychiatrist*.... He forced calmness into his voice. "I could eat a horse!"

"You probably will," Armsworth told him with quick, automatic humor. "This is the Space Service!"

The little cabin to which Armsworth took him was crowded alarmingly. There were the two men waiting for him, with their specialized equipment. In addition, there was the forbidding bulk of a large recording machine ready to take down every word he uttered. He acknowledged the introductions, and downed a glass of some over-sweetened fruit juice which the doctor held out.

"It will get you ready for some real food," the physician told him. "Would you like to clean up while I look you over, before the main course comes?"

Norden seized on the chance. It would give him something to do beside tormenting himself, and it was obvious he needed grooming. His dark hair was matted, his face marked with dirt that had sunk into every wrinkle and line, and there was a thick growth of stubble on his skin. It was a thin, fairly good-looking face, as unfamiliar as if he'd just seen it for the first time in a photograph. He seemed to have forgotten *himself*, even.

While he washed and shaved, the doctor was busy. But the examination was less detailed than he had expected it would be, and finally the man stood back, nodding.

"For someone nearing forty, you're in excellent shape, Dr. Norden," he said. "You had a rough time of it, but I was sure you'd be all right physically when I heard you hadn't blacked out under high acceleration. Okay, go ahead and eat."

He moved toward the door, but showed no sign of leaving until his curiosity could be satisfied.

Norden had to force himself to eat, for he had no apparent appetite. The psychiatrist leaned forward casually, watching him. "Would you like to tell us about it, Dr. Norden?" he asked. "Precisely what happened to Hardwick?"

Norden shook his head, while the tension mounted again. The man would be on the alert for hidden meanings in his words, and he wasn't quite ready for that. Yet he was afraid to risk putting it off. "I'm not sure I can tell much. I—well, everything's pretty foggy. A lot of it I can't remember at all."

"Partial amnesia is fairly common," the psychiatrist said reassuringly. "In fact, everyone has touches of it. Try going back a bit—say to your childhood—to give you a running start. We've got plenty of time."

Norden had little interest in his childhood, and he skimmed over it with a few words. He'd done nothing unusual until he'd drifted into the new investigation of radiation outside the electromagnetic spectrum in his post-graduate college work. Then he'd suddenly developed, caught fire, and become something of a genius.

He was the first man ever to prove there was more than theory involved. He'd been called to Mars for the Widmark Interplanetary Award for his brilliant demonstration of protogravity after he'd floated two ounces of lead with a hundred thousand dollars worth of equipment that used twenty kilowatts of power.

In fifteen years at Mars Institute, he'd discovered four new types of extraspectral radiation, become a full professor, and had *almost* discovered how to harness nuclear binding energy.

Then the Aliens had come. They had appeared abruptly near Pluto, apparently coming at a speed greater than that of light, in strange globular ships that defied radar detection. Without provocation or mercy, they had sought out and destroyed every settlement between Pluto and Saturn, and had begun moving inward, systematically destroying all life in their path.

Nobody had ever seen an Alien—they invariably exploded to dust before they could be captured—but the horror of their senseless brutality was revealed in the hideous human corpses they left behind them.

Norden had been drafted while there was still optimism. Men could build a hundred ships to the Aliens' one, equally radar-proof, free from danger of magnetic or electronic detection, and nearly invisible in space. In anything like an even battle, men were certain to win. But they soon discovered it wasn't an even battle.

The Aliens had some means of detecting human ships accurately at distances of millions of miles, and blasting them with self-guided torpedoes, while remaining undetected themselves. And behind the torpedoes would come the dark globular ships to spray the wreckage with some force that left every cell utterly lifeless.

Hardwick had been a quasi-scientist, mixed up with certain weird cults, who maintained a private laboratory on an asteroid near Jupiter's orbit. And in the desperation that followed the first foolish optimism, his theory that the Aliens could detect life itself, or the presence of the questionable mitogenetic rays that were supposed to radiate from nerve endings, was actually taken seriously.

Surprisingly, the tests indicated that remote-controlled ships which had been completely sterilized went undetected, while ships carrying rats or other life were blasted. Norden, as the expert on all strange radiation, had been sent to work with Hardwick in attempting to devise a screen for the hypothetical life radiation.

He never learned whether Hardwick was a wild genius, or an even wilder lunatic. While he was wearing Hardwick's improvised shield during one of the attempts to test it, the Aliens had landed and broken in.

"What did they look like?" the psychologist asked casually—too casually, Norden felt.

"Well, they—" He frowned, trying to remember, but a clamp came down over his mind. "I—I can't remember. And they did—something—to Hardwick. I—I...."

Armsworth brushed the other question aside. "Never mind. You were wearing Hardwick's shield. Didn't they notice you?"

Norden shook his head doubtfully. "No, I don't think they did. It's all horribly blurred. I think I jumped for the spacesuit locker when they breeched the airlock on the dome. I must have gotten into a suit, and been hidden by the locker door. And I must have run out after they took Hardwick away."

At least he hadn't been hurt when the Alien bomb ruined the dome. He'd dug out the transmitter, sent the message, and then had spent the agony of waiting in trying to decipher the cryptic code in Hardwick's notebooks.

They went over his account several times, but he could tell them little more. Then there were tests, some of which he could understand and answer without trouble, while others left him taut with uncertainty and etched worried lines into the face of the psychiatrist. But at last the man nodded doubtfully.

"I think he'll do," he reported hesitantly to Armsworth. "A traumatic experience always leaves scars, but...."

"But or no he'd better do," Armsworth said gruffly. "No wonder they ordered us out to pick him up! He was within fifty feet of the Aliens, and they didn't locate him! Dr. Norden, if that shield works and you can duplicate it, you'll be the most valuable man alive!"

"And the tireddest and sleepest," Norden suggested. His eyes narrowed, and his mind darted about, seeking some sign of the wrong reaction. Then he relaxed as the doctor and psychiatrist picked up their equipment and went out with advice he hardly heard. Armsworth lingered, and Norden searched about in his mind for what seemed to be a safe question.

"How long until we reach Mars, general?" he asked.

"We don't!" Armstrong's voice was suddenly thick and bitter. "We've abandoned Mars. The Aliens have moved inward. We—oh, hell, we'll reach our new laboratory on the Moon base in about four days! And you'd better start praying that shield works, or my value to you won't be worth salvaging."

He shrugged abruptly and left, closing the cabin door quietly behind him. Norden slumped down on the bed, not bothering to remove his clothes.

Automatically, he lifted his arms until both his hands were pressing against the nape of his neck, settled into a comfortable position against the automatic straps, and began reviewing all the events of his rescue carefully. And bit by bit, the worry in his head quieted. He'd gotten away with it. What "it" was, he didn't know or even remotely suspect, but the horrible tension was gone.

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It was a short-lived respite, for no sooner had Norden reached the base on the Moon where the frenzied activity of the new laboratories went on than the tension returned.

The taped interviews had been signaled ahead, together with Hardwick's notebooks and Norden's suggested list of equipment. Apparently, the information on him hadn't been satisfactory. He was rushed to a small, rectangular room where three men mumbled and complained unhappily as he was given tests that served no purpose that he could see.

And finally, he was forced to wait in the corridor outside for nearly an hour while the three conferred, before he was given an envelope of papers and led to the office of General Miles, head of the entire Moon base.

Miles skimmed through the reports and reached for the hushed phone. He was a man of indeterminate age, with a young voice and old eyes. There was a curious grace to his gaunt body, and a friendly smile on his rough-hewn face, despite telltale marks of exhaustion.

Norden watched him tensely, but his reactions were not revealing until he turned back abruptly, and extended his hand.

"You're in, Dr. Norden," he said. "What you urgently need is rest. You've had a devil of a time of it, and you show it. But we can't afford to let you go." He nodded grimly. "You're no more psychotic than I am, since you're able to work. And we need your work. The last settlement on Mars was just wiped out before we could evacuate it. Hardwick's notes are pure gobbledegook, so we *have* to depend on your help. Come on."

He stood up and led Norden through a narrow door, and into a tunnel that connected GHQ with a large Quonset-type building to the south.

"We've secured everything we could for you," he explained. "We even got you an assistant, and the exclusive use of our largest computer." He threw open the door to the laboratory, and gestured. "It's *all yours*. I'll be around from time to time, but if you need anything extra-special don't hesitate to ask for it. All of our work is important but you have top priority here."

Norden closed the door firmly as the general left, studying the equipment—more than he'd dreamed they could provide. To them, he was probably off balance. But at the moment, he was convinced they would have given top priority to a man who could do the Indian rope trick. It seemed like a careless way of running things, particularly since they hadn't put a guard over him, or hinted at a penalty for failure.

He moved back through the laboratory, studying the equipment. Again, there was the disturbing sense that his experience had blanked out whole sections of his mind, until he had to puzzle out apparatus he must have used a thousand times. But it was still obvious that the laboratory had everything he could possibly want—and more.

He wandered back and around the big computer, and almost collided with a small, brown-haired girl in a lab smock who looked up at him with eager interest, her slender hands busy with the keyboard.

"Dr. Norden? I'm Pat Miles, your assistant. I hope you won't let the fact that the general is my father disturb you. I had three years of extraspectral math and parapsysics at Chitec, and I'm a registered computer operator in my own right, grade one." She smiled at him.

He knew at once that she was the guard placed over him—an extremely attractive guard who would keep the general informed as to his progress. But a known factor was always better than an unknown one. He offered her his hand, and she took it quickly.

"Glad to have you, Pat," he said. "But until I can decode Hardwick's notes from what little I've learned of them, there won't be much to do."

He'd decided that it was a reasonable job, and one which would take up enough time for him to orient himself. After that... his mind skidded off the subject.

She pointed to the work table by the machine where the notes lay spread out. "I've been systematizing it already. If you can supply half a dozen keys, the computer should be able to translate the rest."

It rocked him for a second. He hadn't thought of the possibility, and it meant an end to stalling, long before he could be ready. But there was nothing he could do about it. He picked up the notes, and began pointing out the few phrases he had learned, together with the only clear memory he seemed to have of his time with Hardwick.

"The last page covers the final test," he told her. "Hardwick had some cockroaches and mosquitoes left over from an experiment with various vermin, and he put them in a glass case. I stood at one side with the screen he'd made on me, and he stood on the other. Apparently he figured the things could sense the human aura, and the roaches should move toward my absence of one, the mosquitoes toward him for food. But there was no statistical evidence of its success."

She began feeding information to the machine, and reeling out the results, checking with him. At first, he begrudged the work, but then he found his interest quickening in the puzzle and its untangling. She was good at the work, though she found it hard to believe that the cult-inspired nonsense could be a correct translation.

He began trying to anticipate the problems of her programming, and to scan the results, cross-

checking to reduce errors from his own confusion.

Finally she nodded. "That's it, Bill. The computer can cross-check the rest itself. All I've got to do is cut the notes on a tape, and feed them in. Why don't you go to lunch while I'm doing it? Dad has you scheduled for his table, down in the GHQ basement cafeteria."

"What about you?" he asked.

She shook her head. "I want to finish this. Go on, don't keep Dad waiting."

Norden found most of the seats filled, but Miles saw him and waved him over. There was a round of introductions to names that were famous in their fields—famous enough for even Norden to recognize, though he'd stuck pretty closely to his own specialty.

"How's it shaping up?" Miles wanted to know.

"We should have the notes decoded tonight," Norden told him. "After that, it's a matter of how useful they'll be."

Miles grunted unhappily. "They'd better offer a more promising lead than the others we've had. And soon! At this rate, in two more weeks at most, the Aliens will be taking over the Moon—and if that happens, we may as well stay here waiting for them."

He turned to the head psychologist, while Norden was still hunting for the meaning of the implied threat he thought he could read into the words. "Jim, what about Enfield?"

"No dice," the psychologist answered. "He's obsessed with xenophobia—he hates the Aliens for breakfast, lunch and between meals. I can't treat him here. Of course, after what happened to his wife...."

Miles put his fork down and faced the group, but his eyes were on Norden. His words had the ring of an often-delivered but still vital lecture. "Damn it, we can't afford hatred. Maybe the mobs need it to keep them going. But we have serious things to do that take sound judgment. Why not hate disease germs or any other natural enemy?"

His voice hardened. "They don't kill for the pure love of evil. They're intelligent beings, doing what they believe *has* to be done. I think they're wrong, and I can't understand them—though I wish I could. I consider poisoning bedbugs a wise move, though no intelligent bedbug would agree with me. This expedition of theirs would be a major job for any trace, and they're going at it just as we would—if we had to exterminate the boll weevil.

"Emotions haven't a thing to do with it. We're in a battle for raw survival, and we haven't the time to indulge our animal emotions. It's a scientific problem that has to be solved for our lives—like a plague."

Norden added another intangible to the puzzle—either Miles was setting a trap for him, or it was hard to understand how he'd gotten the five stars on his insignia. An enemy was an enemy! He decided on silence as the best course, and was glad when the others began to leave. He watched them moving out, shocked again at the pretense that was going on. Did they really think war to the death was a game?

He started to follow, then hesitated, swayed by a sudden impulse. Surely it could do no harm. He located one of the waiters and asked for a package of food to take to Pat. To his relief, the man showed no surprise, and he soon had a bag in his hand.

Pat was still sitting at the machine. She took the food with a pleased smile that told him he'd done the right thing. "Why so glum?" she asked.

"Frankly, I'm puzzled," he told her. On a sudden impulse, he mentioned the lecture and how it had disturbed him.

"Dad!" She smiled, then laughed outright. "He always talks like that to a new man. Bill, did you ever see a little boy fighting a bigger one, wading in, crying, whimpering, but so mad he couldn't stop—couldn't even see where he was hitting? That's hate-fighting. And it's senseless, because the other side may be just as right. Professional fighters don't really hate—they simply do everything they can to win, coldly and scientifically."

She touched his arm. "Bill, be sensible. You act as if we *couldn't* win."

"What makes you think we can?"

"The computer thinks so. I tried it. We'll win because we know how to be efficient. We'll experiment a bit, because we don't have a set pattern—because we've kept individuality. The Aliens act like a preset machine. Like a crew killing pests.

"Start at the outside of a circle and exterminate inwards! Nonsense! They should have hit Earth at once, even if they had to retrace their steps a few times. But they aren't trying to find out whether we act like the enemy they planned on. No—what's the proper way is the proper way. A lot of our nations attempted that once—and look where they are now."

He shook his head, not believing her, but it left him uncertain and disturbed. The fact was that the enemy was closing the net—closing it so fast he'd be a dead man in two weeks, if he couldn't find the solution. As to hatred....

He shook his head, and went into his office. There were copies of his own published works there, as well as magazines he hadn't yet seen. He dropped down to fill in the flaws his memory had developed.

Paraphysics was tricky stuff. For a long time men had known no other spectrum but the electromagnetic, running from heat up through cosmic rays. When atomic particles moved from one energy level to another, they produced quanta of energy in that spectrum, which was limited to the speed of light.

The kinetogravitic spectrum began with gravity and moved up through nuclear binding force toward some unknown band. Apparently it was the product of the behavior of some sub-particle finer than any known, and its speed of propagation was practically infinite. Other spectra were being considered, but no order or logic had fitted yet.

He found an article by a Japanese scientist that suggested there might be a spectrum related to the behavior of atoms in the molecule—with crystals in some cases acting on one level due to the electron drift, and on another due to atomic strains within the molecule. Colloids, polymers and even the encephalograph waves were dragged in, but the mathematics seemed sound enough.

Norden caught his breath, and began digging into the equation. The third manipulation suggested that magnetism might somehow be involved, and that would mean....

He couldn't dig the idea out. Just when it seemed about to open before him, his mind shied away and drifted off to other things. He was still working on it when Pat came in, and dropped a sheaf of papers on the table. Strips of tape had been pasted together to form a crude book.

"The whole thing," she reported. "But most of it's nonsense. There's a page or two about some secret asteroid where the survivors of the fifth planet are waiting for men to mature before bringing the Great Millenium—or pages where Hardwick worked on the numerology of your name before he discovered your middle name had no H in it—or little notes to himself about buying a gross of Martian sand lizards. I had the machine go through it, strike out all meaningless matter, and come up with this."

It was a clip of five sheets. Norden skimmed through them, and groaned. The shield he had tested for Hardwick had been made of genuine mummy cloth, ground mandrake and a glue filled with bat blood.

"Yet you *did* live," Pat pointed out. "And he was right about their being able to detect life. We sent out sterile neoprene balloons loaded with live rabbits, and others with dead rabbits. Every balloon with the live rabbits was blasted—and none with the dead animals. We could use the same test to find out whether any one of those things worked—or any combination of them."

"We'll have to," he decided. "And then it may have been the closet instead of the shield—or an accident to their detector that saved me. Pat, have they got some kind of library here?"

It was already quitting time, but she went with him while he persuaded the library attendant to let him in, before the next shift came on. Mummy cloth, it seemed, might become infused with a number of aromatic preservatives, products from the mummy, and such.

It was ridiculous—but hardly more ridiculous than using the byproducts of mold to cure disease must have seemed. Anything dealing with life was slightly implausible. And when he phoned in the order for the materials to Miles, there were no questions.

"Thanks, Pat," he told her after she'd shown him where his sleeping quarters were located.

She shrugged. "Why? If we *don't* find the answer, I'll be as dead as you in a few weeks."

He shuddered, and then put it out of his mind. Worrying about death wasn't decent, somehow. He found his bunk, stretched out with his hands behind his neck, and tried to review the serious events of the day, without the problem of hatred, over-efficiency, or Pat and her father. He saved those to worry about in his mind after he rolled over on his side, and gave up all ideas of sleeping.

Then abruptly there was a yell from down the hall, and lights snapped on. Norden sprang out with the others, to see the outer lock click shut. In the glare of the overhead lights, he could see a figure running desperately for the edge of a further Quonset—running in the airlessness of the exposed surface without a spacesuit!

More lights snapped on, and a guard in a suit came around the corner, throwing up a rifle. There was a tiny spurt of flame from the weapon, and the running man pitched forward. The guard started toward him just as a few men began to dart out of the huts in hastily-donned spacesuits.

A greenish-yellow effulgence bloomed shockingly where the runner had fallen, and the floor shook under Norden. The guard was thrown backwards, and the others stumbled. When the explosion was over there was no sign of the man who had run.

"Alien!" somebody muttered. "A damned Alien! They always blow up like that before you can get near them! I've seen it out in space!"

And Norden remembered the bomb that had wrecked the dome on the asteroid—a bomb that had flared up with the same greenish-yellow color.

Guards came up to drive the men back to their huts, but Norden seemed to have high enough rating to stay for a while. He learned that one of the workers was missing, and that it had been his badge which the Alien had worn to enter the sleeping sections. Either the Alien had killed and destroyed the worker for his clothing or else he had been the worker!

And he had been discovered forcing the lock on the sub-section of the hut where Norden had been sleeping!



### III

The invasion of the base by the Alien had shocked them all, and few people had slept during the night. On his way to breakfast, Norden could feel the attention that was riveted on him. To the others, he was probably one of the most likely targets for whatever attack had been intended. He'd wondered about it himself, sick with a feeling of close disaster; but he could find no logical basis for the fear.

Miles waited until they had finished with their food, his own face a study in grim anxiety. Then he stood up, and faced them. "No work this morning," he announced. "There's going to be a fluoroscopic test of every person on the base!"

Norden felt a wrench at his mind that left his thoughts spinning. He caught himself, just as he heard a gasp from Armsworth, a few places down. But Miles went on as if nothing had happened.

"The guards have already been checked. They'll lead us all down to the explosive test chamber. We'll go in, one at a time, and stand on a marked square. The fluoroscope results will show on a television screen visible to all of us. If you pass, you'll go across the chamber to the cleared rooms beyond.

"Any man resisting or proven non-human will be shot at once. The Alien last night *looked* human, but he didn't breathe oxygen, so his internal structure must be different. However, if anyone wants to declare that he's an Alien, he'll be treated as a prisoner of war instead of a spy."

Nobody made such a declaration, and Miles nodded to the guards who had filed in, while fear-ridden faces were still staring at their neighbors. Norden wondered how long a confessed Alien would last before the men tore him to bits. Discounting hate was fine at long range—but not when the danger was at your elbow.

Miles and Pat went into the chamber first, with the expected result—human skeletons and shadowy organs showing up on the screen. Norden stared in fascination, while fear built up tensions inside him.

Armsworth passed in and found his position, with a face that was somehow both taut and frozen. The guards took a look at the screen and waved him on. He half staggered to the exit, his features distorted with an emotion that was unreadable.

Norden tried to fight down his own panic. Surely it would be madness to doubt the outcome. But a doubt began to throb in his mind. He could remember so little. He'd thought the Aliens had never found him. But if they had actually captured him, tampered with his mind, and turned him back again, would he know it? Suppose he was an Alien—one given a spurious, hypnotic belief he was Norden until the right signal to become himself again....

It was ridiculous, absurd! But the speculations ran on in his tormented mind. He didn't belong here. Men apparently took it for granted that a confessed spy could keep his life—and Norden took it equally for granted that death was the only answer. He didn't think like the rest of them. There had been that week on the asteroid. His memories were spotty....

"Dr. William Norden!" the speaker announced.

He shuddered convulsively. Then he caught himself, and forced his reluctant legs to move. The door shut behind him, and ahead lay the white square on which he was to stand. He approached the spot automatically, bracing himself to face straight ahead toward the fluoroscopic screen.

*Now!* It was almost a physical voice in his head. And his mind seemed to shift, to shout something down. *Not yet! Look!*

"Okay, Dr. Norden," the speaker said. His eyes flicked to the screen where a human skeleton showed dimly.

Crazy, he told himself. Hagridden with fears no sane human mind could have endured and retained its sanity. No wonder the psychologists had been uncertain about him. Unbalanced—but human!

Pat smiled weakly at him as he entered the room beyond, to join the ranks of the elect. Then they watched as their group passed successfully, to give place to a number of rocket men from the freight gang.

The sixth rocket man came through the door boldly enough—and suddenly leaped toward the side of the chamber where another door was. His hands were jolting at the locked barrier when the rifles sounded. A violent blast of greenish-yellow explosion rocked the chamber and shook the floors beyond. When it cleared, the Alien was dust and vapor, with nothing that could be studied for evidence.

Two workers who had been standing in line in a building beyond broke through the seal together, without waiting their turn, and headed with desperate haste for the shelter of a nearby barracks. A rifle bullet tore into one, and both exploded instantly.

By the time the rest had been proved safe in a testing ordeal as grim as death, it was the hour for lunch—a shocked, silent interlude at first. Then one of the men caught sight of a neighbor busily shaking his fork, and glancing sideways to emphasize some point. A tiny gadget appeared, and was concealed quickly under the steak on the man's plate. Ten seconds later, when the man cut into the meat, there was a cowlike bellow and the meat leaped six inches up, and two feet

sideways. There was a shout of laughter that grew into a roar, and everything was suddenly normal again.

Norden shook his head. The incident appeared grotesque to him. Fluoroscope or not, something was wrong with him. He couldn't have been so different from other men before the ordeal on Hardwick's asteroid. That ruined steak had cost a small fortune to transport from Earth, and the man would lose valuable time while waiting for another to be cooked. And yet, Norden could see that somehow it had been effective therapy, had relieved an almost intolerable tension.

They spent the afternoon sending out the test "balloon" rockets with the various elements of Hardwick's screen. On the way back to the barracks, Norden noticed there were now six guards stationed about the laboratory, two of whom instantly fell into step behind him. He had been shifted to the dormitory over the Headquarters building, where he would be in the least danger—and also have the least freedom from observation!

But he forgot it the next day as the results of the tests came in. The shields had been completely ineffective. Dead rabbits still were unmolested, but live ones had been picked off in everything they had sent out.

Miles accepted the result with a despairing shrug, but Pat was hit hard by it. None of the other research teams seemed to be getting anywhere. There was no way to detect Aliens, and no way to screen humans.

On the fourth day, when the last possible variation of Hardwick's formula had proved useless, and the Aliens had moved their lines up to fifty million miles from Earth's orbit, Pat was down early, re-checking the translation the computer had made. Norden came in, saw the results, and swore.

For three hours, he pored over the Japanese scientist's mathematics—and as before, he found his mind reaching for something, only to begin some useless side speculation that threw him off. It was as if he had a censor in his mind telling him he could go no further. He considered the grim prospect of ten days or more of life for himself, and the men here, until the noonday signal sounded.

Somebody had put a new plastic glue on the handle of his knife and fork, and it was fifteen minutes before he could locate a solvent that removed it. Pat laughed at his plight along with the others. He checked his anger, swallowed it—and suddenly realized that in a strange way, the practical jest played on him was a mark of acceptance.

He went back to the laboratory trying to think of something ingenious enough to enable him to live up to their queer code. An idea that had nagged him tantalizingly, just below consciousness, nibbled again at his mind, but he let it go. If he could fit a protogravity generator under a plate....

And abruptly, he was digging for the complete set of Hardwick's notes, and scanning the nonsense that the computer had declared meaningless. He picked up the telephone and called the library. "Give me what you've got on Martian sand lizards!"

Most of it was useless. They were typical low-grade Martian life, tiny things covered with fur, but vaguely lizard-like. Then the significant part came. "The females demonstrate a remarkable ability to locate the rare males at extreme distances. Janiekowski found that a female with all sense organs removed could locate a male at a distance of five kilometers, even when the male was enclosed in an airtight box of laminated copper and soundboard. No satisfactory explanation is known."

It *had* to be some form of telepathy or sensitivity to the life forces of the male lizards! He went over the work done with the creatures a dozen times, and could find no other explanation. And suddenly his mind was milling about, trying to slide away from it again.

"Taboo!" he muttered. "*Damn* the taboo!" It was too late for a taboo to interfere now, whatever the reasons behind it. And fortified by his growing certainty that something had been done to him, it only served to confirm the fact that he was on the right track at last.

Pat listened to his summary of what he'd found, and nodded hopeful agreement. "A quick test! It's what we need, all right. We still may not find the insulator for the shield, but we can run tests fast enough to have a chance. Metals first, then the other broad classifications, until something vital turns up. Bill, I guess this makes me, and the computer look pretty silly. And after all the yelling I've done about flexibility being needed, too. I hope some zoo or laboratory on Earth has a collection of the little beasts."

It turned out that Harvard was well stocked as a result of a research plan to rework Janiekowski's experiments. In less than five hours, twelve females and two rare males were lying in front of Norden. They looked like small lizards covered with chinchilla hair, and possessing eight legs apiece. The females, with scant modesty, were trying busily to break down the wall that kept them from the males.

Pat had already installed three television pickups and cages at various distant points, doing the work herself to insure secrecy, and picking places most difficult to break into. Now she came back to move the females to their new homes, where they immediately began trying to crawl toward the torpid males, as shown by the television screens. The walls of their cages were equipped with pressure-measuring devices to test the strength of their efforts.

The mummy cloth drew a complete blank, as did the bat's blood. But the ground mandrake set the males to pawing at their cake with their triple tongues out, trying to reach it, while the distant females went berserk.

Pat took the stuff away, snorting at them. "They'll die of frustration in another minute. To them an active male seems to be a combination billionaire, video star, and accomplished Cassanova in the art of love. I guess I know how they feel."

He was getting better at reading her glances, and he frowned as her eyes rested upon him. He liked Pat, but sometimes she—

She laughed. "Forget it, Bill. I was only ribbing you. You have about as much romantic appeal to me as my grandfather."

It was ten minutes later before he realized what a typical masculine *human* reaction to such a remark would have been. He frowned, while his mind chilled at the implications. How could he doubt any longer that the Aliens had caught him and done something to him—something drastic? He wasn't quite human, despite what the bones of his body had seemed to confirm.

And that could only mean that Hardwick's shield had never worked. He stopped short, and then reconsidered. The difficulty he had forcing his mind to think about tests for the lizards still spelled a taboo in his mind—and that indicated there might be a shield. It left him exactly where he was, except for the problem of what the Aliens wanted. If he could solve that, and defeat it...

Nothing they tried gave any positive result, though Pat thought that the variation in the female activity had been slightly more than normal when they'd tried the potassium salt solution around the males. They gave up late, and Norden went back to his bunk, and to the familiar pattern of lulling himself into a semi-conscious condition by the ritual of reviewing the day with his hands locked behind his head.

Then he swore. It was a pointless habit. He returned his arms to his side and held them rigid, while his head squirmed unpleasantly. Habits could be broken—and any compulsion he had as a result of whatever had happened to him was a luxury he couldn't permit himself.

There would be no recovery until he had overcome the taboos and filled all the gaps in his mind with useful things. Perhaps the Aliens had already succeeded. They might have decided somehow that he was the only man who *could* solve the problem, and had tampered just enough to make sure he'd fail, while keeping him competent enough to insure that no other man would replace him.

He yanked his arms down again, and started to turn over. Fifteen minutes later, he came out of a complete blackout with his hands at the back of his neck again and a queer feeling that his mind had remained active, with only his memory of its activities missing. His glance darted to the door, but it was still locked, and his clothes lay on the floor where he'd kicked them.

Apparently he hadn't moved from the bed while he'd been short-circuited from his memory, at least.

He thrust himself up from the bed in disgust, pulled on his clothes, and headed down the hall, back towards the laboratory. He passed the cubicle where General Miles should have been sleeping and noticed a trace of light shining under the door. For a second, he remembered the man's words—a spy who confessed would be treated as an honorable prisoner of war.

Only damn it, he wasn't a spy, whatever else he might be. And there was no time left to find someone else to solve the problem that had been dumped into his lap. He couldn't turn himself in while that problem remained a race with death.

Inside his mind was a slowly growing hatred of the Aliens, and he clung to it tenaciously. They'd denied him his right to be a normal human being—and while their imposed attitudes made it impossible for him to understand the absurd conduct of men, he was beginning to realize that the fault lay with him, and not with the rest of humanity. It was not a pleasant thought.

Fresh guards had replaced the original pair. They swung in behind him, and then stopped at the entrance of the laboratory. He'd insisted that they stay outside, since he wanted no one to watch his experiments with the lizards. Complete ignorance of events was the only sure protection against spies.

He headed around the computer by letting his feet guide him, and reached for the switch. It clicked, just as a voice sounded in front of him.

"Norden, you damned fool! Leave those lights off!"

But they were already on, showing the tall, unmoving figure of Armsworth standing before the cage of the lizards with a knife in his hand.

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#### IV

Norden felt a wave of hate boil up in him, and made no attempt to check it. As he returned Armsworth's stare his mind reacted to the situation before he could realize more than a few of the implications.

Obviously, Armsworth was a spy who knew of the work here, and had come to wreck it. With his rank, it would be easy enough for him to get in. Also, the man stood there with none of the fear he should have shown on being discovered, and Norden felt the sick confirmation of his being a pawn for the Aliens.

But the fact itself gave him some chance. He lifted his arm to the switch, and then dropped it. "The guards would suspect something if I cut it off now," he admitted candidly. "Any suggestions?"

"I could kill the lizards, let you discover me, and chase me out to explode," Armsworth said thoughtfully, without any emotional color to the suggestion. He shook his head.

"I don't know. It's funny they can't trust you to stall off the Miles girl and have to send me here. With replacements scarce, I'd hate to blow up unless it's absolutely necessary."

Then his eyes narrowed in incredulous alarm. "Wait a minute. You weren't supposed to know my identity."

Norden's hand swept up, hit the light switch. His other arm jerked out for the big tongs he had noticed. He heard the spy leap, and recoiled just in time to avoid the rush. His arm came down with the instrument, and there was a solid thud. When he turned the lights on again, Armsworth lay on the floor with a gash across his head an inch deep.

For a moment Norden was only aware of his own harsh breathing. Then, slowly and horribly, the corpse sat up and began hitching along the floor toward the cage of lizards.

Norden bent, picked up the little cage and swung towards the door. He took one step forward, stopped abruptly, and bent again. His hand gripped the collar of the thing on the floor and, straightening, he heaved it up against the light gravity of the Moon.

The thing sailed across the laboratory, heading toward the rear of the heavy protogravity generator. Norden cushioned the cage of lizards against his chest and dropped to the floor in the shelter of the computer.

There was a blast that nearly ruptured his eardrums and the accompanying glare of greenish-yellow light burned through his eyelids into his brain. The floor heaved and shook, while sections of the curved roof began falling. The air gushed upwards, and the floor jarred again as the automatic airseal dropped, cutting off other sections.

Norden jumped toward a plainly marked closet, and threw it open. He yanked down one of the spacesuits stored there for emergency purposes, thrust the lizard cage inside, closed it, and turned on the oxygen.

Adapted to the thin air of Mars, it seemed likely the animals would remain alive. He groped about until he located another suit that would fit, cursed as he found it zippered closed, and finally worked it open. Once in, he sealed it, and headed toward the personnel lock on the big emergency airseal.

He got through just as the guards were about to enter in their own spacesuits, dragging rescue equipment. Miles was with them, waiting impatiently while Norden slipped his helmet off. "Who was it?" he demanded.

"Armsworth," Norden told him. "After he passed the fluoroscope test!"

Miles sighed, but there was no surprise. "Damn! I should have had him checked when he came back from inspecting the other side. They must have had a spy all ready to make the switch as soon as they got him. Or maybe the test doesn't mean anything."

The guards had come back. One of them began to report on what they had seen. Most of the damage had been confined to the roof of the building, and to the big protogravity generator, which apparently had shielded the rest of the equipment.

Norden and Pat, who had finally been called, went inside in their suits to supervise clearing away the debris. Outside, a crew was already erecting a new roof on the laboratory, using prefab sheets. Aside from the generator they had never used, nothing irreplaceable had been hurt. And the two little male lizards were doing well enough. Inside of two hours the laboratory was back in full operation.

By common consent, Pat and Norden abandoned all idea of sleeping. Norden started to draw up a list of new tests, and then went back to the potassium shield. It seemed to produce a very slight quantitative difference in the reaction of the females. He consulted the vague speculations in his own works on possible other spectra, and came back.

The trouble was that he wasn't working with any natural phenomenon, but with life. He grimaced at the twist of his logic, but the sense remained. Something came into the back of his mind from a phrase in Hardwick's notes. It teased him, until his mind almost had it, and then another taboo clamped down on his thoughts.

He fought it out, standing still while Pat stared at him doubtfully. Twice he could feel himself almost black out, but he tracked the taboo down in his mind, pursued it into its lair, and strangled it. It died hard, but left his answer available.

"K-40," he said. His voice was steady, and Pat relaxed, unable to see the complete fatigue inside him. Disciplining himself seemed to be the hardest possible task. "Radio-active potassium isotope. It's supposed to be mixed up somehow with the life processes. Some scientists claim it's essential to life."

She reached for the phone, and spoke into it briefly. Then there was a wait, before she handed it over, and a voice came on. "This is General Dawes at Oak Ridge. Who's calling?"

"William Norden, Project A-sub-zero, Moon Base. I want five pounds of K-40 up here in four hours. Use my top priority and mark the shipment for delivery to me only."

There was the usual few seconds of waiting while the message traveled to Earth, and back. "Five pounds?" the voice asked, incredulously.

"Five pounds! And I may want more as fast as it can be gathered."

Pat was on another phone. Before Earth could answer again, there was a click, and General Miles' voice broke in sharply. "This is Miles, Dawes. *Give Norden what he wants.*"

A sputter of protest began, but it ended abruptly as Miles' voice reached Earth. The silence was broken by a sigh. "Okay, Norden, we'll get it to you in four hours somehow."

It arrived in less time, and Norden and Pat began the tricky job of getting the highly active elements into a container which was both chemically and radio-actively safe. They clamped it over the cage at last, and watched the pressure on the female cages.

The results weren't spectacular, but they were unquestionable. And later, when they had reduced the amount of K-40 to a thin coating, it still worked. The quantity of potassium made very little difference beyond a certain minimum.

The effects still weren't good enough. They tried painting various substances with the chloride of the potassium, with equally good results and much greater ease of handling. The nitrate was even better to work with.

But it took them until late that night before they learned that coating the nitrate over cleaned iron was a major step forward. Until then it had been all hit and miss, except for vague directional hunches.

Norden looked at Pat, who seemed ready to drop. "Better go back for some rest," he suggested. She shook her head, but did agree to lie down while he began re-checking their results to date. Their best efforts had quieted the excitement of the females by no more than ten percent.

He reduced everything he could to a consistent basis, and added other formulae which might apply from the incomplete relationship tables that strove to reconcile the two recognized spectra. Those might also indicate something about any third spectrum. Either his memory was coming back or his reading of the books and articles was beginning to take effect, he was pleased to notice.

Pat worked the computer, which had fortunately suffered only minor damages, and had been repaired. From the computations, they made the indicated experiments, and fed the results into the machine. This time, it gave only seven suggested answers, with a rough weighing of them. The second one called for one of several organic substances soaked in potassium ferrocyanide and grounded.

While they waited for the chemistry shed to handle that with due precautions on the radio-active isotope, they tried the others. One gave a better than fifty percent reduction, which meant that the females were only mildly crazy.

"Don't they ever relax?" Pat wondered, unwrapping one of the sandwiches Miles had ordered sent in to them.

The female sand lizard's libido mattered less than nothing to Norden at the moment. He was staring at the work he had done in relating hints and fragments of information with pure hunches to get new facts, and realizing that he could never have done that, even before the Aliens had tampered with him. Either he was mysteriously more capable, now that he'd managed to overcome a few of the taboos in his mind, or else the loss of so much of his memory had left his thoughts freer to operate.

"We'll call this the Hardwick spectrum," he decided aloud. "The man was a crackpot cultist, but he was a genius, all the same. And with this, we'll pay those damned Aliens back for what they did to him."

"We wouldn't be able to if you hadn't had time to get the males and yourself into oxygen suits before Armsworth exploded," Pat told him. "They're the only males left alive, now that Mars has been scoured by the Aliens."

He swung around in surprise. "I never...."

The phone saved him from finishing. He hadn't had time to get into a space suit immediately. After the blast he had fumbled around searching for one. And he'd arrived outside the lock without ever having felt discomfort from living in a vacuum for *five full minutes!*

His self-satisfaction vanished, and revulsion took its place. He stared at his body in horror. No human body could have endured such punishment. But he had taken it without noticing it!

Pat came back at a run. "Come on, Bill. A messenger just arrived from Earth with five hundred pounds of K-40!"

"Five hundred?" Norden could almost hear again the amazed voice of General Dawes when he asked for a mere five pounds—a quantity nearly impossible to secure.

Pat's face confirmed his suspicions. Earth couldn't have made five hundred pounds so rapidly.

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They found the guards already waiting to take them to where Miles was, and followed them down to the entrance of the explosion testing chamber. Miles was smiling and chatting with a man who

appeared to be a perfectly normal rocket pilot, and who seemed bored until he saw Norden. He consulted a picture on some kind of tape recording and stepped forward.

"I have orders to deliver the K-40 to you, Dr. Norden," the pilot said. "But it's pretty bulky in its containers. If you'll come out to the ship and okay it...."

Miles cut in blandly. "I've been explaining the new regulations, Dr. Norden." He winked slightly, with a faint motion toward the chamber.

"Go ahead and clear through," Norden told the pilot. "I'll wait, and then we can look at your cargo. It's a damned nuisance having to hold things up while everyone is X-rayed. But we've new regulations now." He caught Miles' look of approval, and he knew he'd reacted correctly.

The pilot shrugged. "Why not? Let me know if you find any dangerous diseases." He chuckled, and stepped through the entrance, and out toward the fluoroscope set-up.

The picture on the screen was satisfactory and the guards started to relax beside the slits where their guns projected into the chamber. Miles glanced at them, and his voice was urgent, commanding. "*Shoot to miss. And keep getting closer.*"

Another screen showed the pilot turning to leave, just as the first bullet splintered the floor a yard from his boots. He jumped back with a terrified gesture. Another bullet came closer, and a third barely missed him. Shock hit his face, and vanished as he turned into a bright splash of greenish-yellow light.

"They over-estimated our production and under-estimated our ability to bluff," Miles said. "Good shooting, men. I'm glad he decided he'd failed the test before you had to shave it closer."

Norden stood staring at the blasted area and back toward the screen that had shown the image of a normal human standing before a fluoroscope. Breathing vacuum for five minutes hadn't hit him as hard. Subconsciously, he'd counted on the fluoroscopic evidence—and it had proved to be a lie.

"He couldn't have been an Alien with that kind of a skeleton!" he whispered.

Miles shook his head. "He wasn't. As near as our cyberneticists could gather, he was some kind of a robot, designed to mix with us. We left automatic televisors on Mars to catch a few telephotos of the Aliens, and they look a little like octopi on stubby legs. Nothing could make them look human."

"But a robot with a human skeleton?" Pat asked.

"It's possible, with enough advanced development. Hide the metal works in the so-called bones and skull, and shape everything else to the right form and transparency. Probably the first ones we caught were meant to mislead us. Hughes swears that any race capable of developing such an advanced cybernetic brain could handle the rest—down to letting him get his energy out of our food."

Miles' face was more fatigued than ever, but he found enough strength for a smile. "Thanks for playing along with me, Bill. Now get back to work, if you can stand it. The chem lab delivered your stuff while you were coming here."

The stuff from the chemists looked like wool, impregnated with the K-40 salt. Pat slashed off a yard of the coarse cloth and draped it around the cage, after a quick check with the Geiger-Mueller counter. She formed a rope of it and connected the cage-cover to the nearest pipe.

And the images of the females in the screens were suddenly still, as if all of them had gone to sleep at once. Pat yanked the cover off and instantly the females were dashing at the gates of their cages again.

Pat let out a yell and reached for the phone. Norden tried to echo her enthusiasm, but there was no resiliency left in him. He stared at the answer to their problems, while part of his mind estimated that the pilots could stand the radioactivity from suits of such cloth long enough to accomplish their purpose, if an undersuit of lead-cloth could be worn also.

But the rest of his mind was in his own private hell. *Robot*, it shouted at him—*robot and spy!* It was plain enough now that his periods of "relaxation" and review of the day's events had been a mechanism for leaking information to the Aliens. His unexpected and rebellious attempt to end it had been the signal to send Armsworth against the male lizards. Hands-behind-the-head-Norden, he thought—the robot too dumb to recognize the working of an automatic transmitter switch.

He fondled the cloth cover slowly, tasting the anticipation of revenge. The Aliens had taken a man named William Jon Norden from a lonely asteroid, and had drained him of his life history and knowledge. They'd built a poor dupe of a robot, and had sent it out to spy for them, and to believe for a while that it was human and alive. Now let them feel the defeat they'd earned when they built their robot too close to the original.

Then he considered the thin thread on which his hopes rested. He had something that stopped some form of energy from being detected by the lizards—an unknown band-width of an unknown spectrum which might not even be the right one.

He swung around to check Pat's call, but it was too late. The word had already spread, judging by the whoops or rejoicing coming from beyond the laboratory.

Norden broke away from the men who refused to listen to his warnings as quickly as possible. Pat had already gone to her bunk, worn out completely by the brief burst of hope, and he headed for his own cubicle. There was no physical fatigue—how could there be in a robot? But his mind was dulled with too many shocks. He dropped to the bunk, and his arms came up automatically.

He forced them down, and this time he was ready when his brain tried to black out on him. The compulsions that acted on him to make him pass on his information to the Aliens were partly under his control.

He managed to sidetrack his thoughts before blacking out, and to keep his arms down. He lay there, cursing himself and the things which had created him, fighting his battle silently, until he knew he had won.

His legs were unsteady when he finally stood up. The effort of will had shocked even his motor control impulses, but the damage was not permanent, and by the time he passed Miles' darkened doorway, he was moving smoothly enough again. He saw surprised looks exchanged by his guards as they followed him back to the laboratory.

"You might as well come in," he told them. "I'll be here all night, and there's nothing secret about my work now. I think there's a deck of cards in the desk over there."

One of them looked and came back, holding the deck and grinning. "Thanks, Doc," he said. "You're all right."

For a second, Norden experienced a warming glow as he turned into his office. He could find some acceptance among men now. Then he grimaced bitterly, as he realized what they'd think of him if they knew the truth about him. It was one thing to ape humanity, quite another to belong.

The article on speculative spectra by the Japanese scientist was still on his desk, and he began poring over it. Almost at once, his mind swerved away on a flight of curiosity about the card game the men had been playing. He pulled it back, and his imagination started in on hatred of the Aliens.

He fought against that too, tempting as it was. He'd licked the compulsion to communicate with them in two hours. There was hope that he could lick the taboo against investigating into a forbidden field. The fact that it was forbidden made it doubly worth studying.

Bit by bit he traced down the mathematics, but in the end the taboo threw him. It required all the effort he could bring to the problem to follow the tricky formulae, and it couldn't be done while fighting the treachery of his own mind. He gave up in disgust, and turned to the computer.

He'd seen Pat use it often enough, and apparently his robot mind was good at memorizing. He searched through the available tapes of information until he came to one that covered the more vital aspects of Einstein's unified field theory.

He fed it in, and began adding the spectra relation data from the books, carefully storing them in the memory circuits of the machine. The mathematics of the article went in next. He made sure the material they had used to locate the screen was still active, and brought it up to date.

Finally he set the machine to deriving all possible extensions of the mathematics he couldn't handle himself.

When that was finished, there was no longer any need to worry about the taboo. The computer had done what he had failed to do, and more. He stared at the sheaf of papers. The assembled material would save years of work on extraspectral radiation. And his suspicion that magnetism was the vital link seemed to be confirmed. It appeared to be something of a universal transformer, when properly handled.

But the machine couldn't tell him what section of the Hardwick spectrum involved life. The field used by the lizards to locate each other lay well up in it, in a band relationship somewhat analogous to the X-rays of the normal spectrum. But if that failed, there was no clue to what might work.

In any new field, one fresh fact could open up tremendous stores of knowledge—but there would always be even greater ones awaiting discovery.

He put in a call to the library for more material on Janiekowski's work with the lizards, and was told that they'd have to secure a tape from Earth. Earth promised a ship with the tape, and other material he'd requested within three hours. There was no questioning of his priorities this time.

Then he glanced at the clock, and was shocked to find it already past noon. He got up impatiently, heading toward the lunch room. It was strange that Pat had failed to join him.

He found her and Miles searching for him in the cafeteria, and one look was enough. Miles motioned Norden to follow him, and led the way to his office. Once there, he closed the door, and threw the decoded dispatches down for Norden to see.

"The Aliens have narrowed the invasion area to ten million miles from Earth," he said wearily. "We've been holding out by a clever tactical subterfuge. Send out a hundred ships near each other, and the Aliens can't handle them all at once. If we're lucky, and spot the first torpedoes, we can trace them back and a few ships may survive long enough to send visual, pattern-seeking atomic torpedoes toward the Alien ship.

"But we can't get closer than a few hundred thousand miles with any life aboard a ship, because

the radiation—or whatever it is they use—is fatal so long as they can detect us. You can see why Command rushed through all the screen suits they could, and struck this morning. They had to."

Norden picked up the dispatches, and scanned them grimly. Seven hundred pilots out of twice that many thousand had been screened. A third of the total number had returned—but none of the spared ships had been theoretically protected.

The Aliens had apparently not only spotted all of the protected ships, but had concentrated their torpedo fire on them. The experiment was a complete failure!

There was no use in reminding Miles that he'd tried to warn him. Earth hadn't been able to heed such warnings. He handed the papers back, his mind tormented by a picture of seven hundred men—men probably like the guards who'd called him all right—who had lost their marginal chance to live because a robot had failed. It was nonsense, his mind told him. Soldiers were meant to die. But the picture remained.

"So what happens to me now?" he asked.

"You'll try again, of course," Miles answered, apparently surprised at the question. "At least the fact that they worked that hard to eliminate the ships with the screen indicates you're on the right track."

Norden stared at him despairfully. "It's like tracing a single drop of water in the ocean—or looking for a trace of life that can be detected for millions of miles when you're in the middle of hordes of living creatures. I've been working on that already. And the only reason we *could* detect and screen the lizard signals was because they were unique.

"Hardwick was right about that, too. You have to look for life forces where they're scarce. I need isolation from people, animals—even from germs and viruses, probably."

Pat gestured to a map on the wall. "There are the mine installations on the other side of the Moon. Would they do?"

He had no idea, but it was the best he could hope for. He nodded slowly, and she turned towards the door.

"Then what are we waiting for?" she asked. "We've got too little time now."

"You're not going, Pat," he told her. "Nobody is. I need isolation from life, remember! Besides, if there's any means of communication between here and there, I'll need you here to work the communicator."

There was a television link that was still useful, as a quick check showed. And there were ships to carry as much equipment as he needed, including two rabbits, and a male and female sand lizard in little airtight cages where oxygen could be supplied from tanks. He had no idea of what he might need, and had to take everything he could imagine as being useful.

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## VI

Three hours later, he stood alone in the building that had served as a barracks for a mine crew. He watched the rockets leave, and began opening the airlocks to space. Any bacteria left by the former men would quickly perish, he felt sure. But he had to be thorough.

He had no hope of success yet. He might be keeping a death watch over the human race as the Aliens moved in—or a life watch, since he was seeking life while they were intent on ending it. But he, at least, was no living thing, and the life detectors of the Aliens should miss him. Somehow, he'd learn enough to seek vengeance among them.

They'd made a mistake in creating him with all the ability of the original William Norden, and the thinking speed of a robot. They'd made a bigger mistake in assuming that a robot was only a robot, and that orders in the form of compulsions would be followed without question.

For their mistakes, they'd pay. He had twenty-four hours out of each day for work, and, until they caught him, to learn their further weaknesses.

He flooded the front entrance, where the television link to Moon base stood, with air to make speech possible, and rigged up a flexible seal to the rest of the building.

Janiekowski had dissected countless sand lizards, and the pictures were included in the reel of tape from Earth. He studied them, digging into what the calculator had supplied about radiation, and its behavior in the third spectrum. He found, as he had expected, that a tiny bit of radio-active material lay at the base of the microscopic receptor in the female, and that a similar mechanism was to be found in the organ which the male used to generate the force.

There was a tiny helix of super-fine, wirelike construction around the radio-active material, but he had no idea of what the conductor was composed, or how the animals generated the faint currents of electricity they'd need. He was only sure the helix was a tiny electromagnet.

He built a model as best he could, and tried to find some indication that it picked up a signal from the male. Finally he was forced to anesthetize the female and remove her receptor for examination under the portable electron microscope.

It took eleven tries before he was able to detect anything of importance. Then the result surprised him. The faint, almost invisible glow from the radio-active disintegration in his device



abruptly faded. He had been expecting it to increase, but whatever force the male broadcast seemingly acted to decrease the "unchangeable" rate of decay of a bit of K-40.

He called Pat, asking for information. Her face was haggard with worry, and her anxiety to remain constantly vigilant and alert. She wrote down his questions, and cut off without wasting time. Half an hour later, she called back.

"You're right. Uranium-bearing ores from far out in space contain much less uranium in proportion to lead than similar ores on Earth. Geologists say it's because those space-borne rocks are older, and cosmic radiation acts on them more continuously."

"They're wrong," he said flatly. "It's because radioactivity is inhibited by the life processes. I don't know how. But I do know I need that data fed into the computer."

It meant they'd have to revise all of their figures about the age of the Earth upwards. Since the beginning of life on Earth and Mars, no radio-active half-life had been natural. Probably the rate of decay had varied slightly with each century, as the amount of life changed.

He fed her a list of calculations, and waited while the machine ground out its answers. Pat came back to the screen while it worked on automatically.

"They're bombing the base now," she reported dully. "We've been able to miss being hit by keeping a cover of volunteers up to attract the seeking units before they reach us. And the Aliens are within three million miles. We can't hold out much longer."

"Don't forget your optimism," he said. He'd meant it for reassurance, but she stared back as if he'd slapped her. "I mean your computer calculations on victory for Earth. How come they moved in so quickly?"

"It's been three days," she told him. "Don't you know how long you've been out there?"

He hadn't kept track. The cluck of the computer ending its work interrupted them, and she held the results up to the screen for him to copy with the camera at his end.

He studied the formulae for long, wasted minutes before he could accept them. Then he went on to other work.

There was no shield possible for any object bigger than about twice the size of the cage they had used. There could never be any way to protect a man from the Aliens.

It was to be a death watch he kept, apparently. And Pat must have known it when she saw the formulae, since she had picked up sufficient basic knowledge to read it.

He stood staring up at the space above him, letting the hate harden inside him, while he pictured the base in the hands of the invaders! Humans were beyond saving, according to the figures he had now. But it was still not too late for vengeance.

This time he deliberately sought for a taboo in his mind to discourage thought along hindering lines. The forbidden topic was the question of why the Aliens had to exterminate life as they advanced. He wrestled with it briefly, rejoicing in the knowledge that he seemed to be gaining ease in overcoming the compulsory behavior which had been imposed on him.

Life must be poison to the Aliens! Probably it was for that reason that they had been able to detect it in the first place. And they could never rest until it was wiped out to the last living cell. He glanced at his formulae again, and nodded. If their existence were somehow based on the breakdown of radio-active isotopes, and if protoplasmic life slowed up that process, then they *had* to exterminate it.

How? He asked it automatically, remembering the force they used to sterilize space before them. And that had an answer, too. Even protoplasmic life apparently needed a tiny, incredibly small amount of radioactivity to function. Blast enough of the raw life-force against it, and all nuclear breakdown would stop—and with the stopping of that, there would be no life.

It was logical that the weapon of the Aliens should be the one thing which they themselves feared most.

Tiny—incredibly weak—as the energy of those life forces were, they could do more in their inhibiting of the great force of nuclear readjustment than ten million atomic bombs!

He drew up his plans this time with sureness. He was no longer amazed at the progress he'd made in understanding extraspectral phenomena. It might very well represent the work of generations of scientists, but he was a robot designed to understand human science, even from the few smatterings the Aliens had been able to learn before he had been created.

He finished the designs, wrote down the proper formulae, and stacked the paper in front of the television pick-up, pressing the call button. Without waiting for an answer, he went back into the workshop, and began assembling the tiny, radio-active strontium batteries and tubes of protein plastic, wound with layers of iron wire. He had enough for what he needed.

The device was set to work both as a detector and a generator of the radiation involved. He tuned one, setting it to receive. It took a few minutes to replace the antenna of the small radar set with the new device, and he forced himself to work faster by the sheer drive of his will.

Then he stepped aside, letting mechanism revolve on the antenna mount. He began increasing the current that controlled the degree of electromagnetism in the wire which served to tune the device.

A pip appeared on the screen, pointing toward the cage where the male and crippled female lay

peacefully together. Norden raised the frequency until another pip appeared, this time pointing to the rabbits. He adjusted it for maximum brightness. In the section which should cover the direction of Moon base below him, a brilliant glow sprang up, indicating radiation that cut straight through all the layers of the Moon. He adjusted the instrument again.

He found the exact frequency, and the whole screen suddenly blazed, blanked out by overloading of the amplifier. Apparently all life of terrestrial origin radiated at the same frequency. He cranked up the control, expecting nothing more. Then he bent sharply forward as other pips appeared, indicating objects far out in space!

The Aliens also radiated in the same spectrum—but at such an incredibly high frequency that no atomic nucleus was small enough to be affected by the radiation.

As Norden watched, the central pip suddenly began to grow brighter, holding its position in a way that indicated a straight descent toward his detector! Terror struck at his nerves.

Obviously the Aliens had detectors for every frequency, and his detector was just crude enough to radiate a faint trace of its own. He'd been located, and the exterminating force was on the way.

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## VII

Norden cursed his own stupidity, and estimated the time it would take. If they decided to come in, and spray the area with their own force, or to capture it, he had several minutes. If they sent one of their super-speed torpedoes, he was on borrowed time. His mind raced furiously.

With a few minutes to spare, he could tune the tube he'd designed as a weapon, and spray them with that. Its straight-line efficiency would insure that no dangerous amount of its radiation would reach the men two thousand miles away. Vengeance was his for the taking.

He reached for the other tube, hesitated, and picked up a piece of paper and a pencil. The men at the base had the working plans of his device by now. They had to be warned how dangerous it would be not to make absolutely sure that their radiation generators and detectors couldn't spill dangerous radiation at random. Also that the Aliens could detect an inefficient search ray.

Norden headed for the flexible seal at a full run, while his steady hands pencilled the final information on the radiation frequencies needed. He broke through into the air of the entrance, yanked the diagrams off the pick-up rack, and snapped in the new instructions. He turned with a single motion, and headed for the workroom again. And stopped!

Beyond the entrance, the gleaming fins of a rocket were visible. And the red light on the airlock indicated someone was coming through. As his eyes focussed, he saw the inner lock open, and Miles and Pat emerged in the red glare.

They started to shout something, but he cut them off. "For God's sake, stay here. There's no air beyond. Alien ship!"

He jumped through the seal. His hands swept up the tube that was to be a weapon, and his eyes darted to the screen. The pip was bigger now, and at maximum brightness. The Alien ship must be only tens of thousands of miles above, braking down to attack with deadly precision.

Less than a hundred feet away, the two humans waited, at the mercy of any energy that might spill from his weapon! He would have to score with a perfect piece of marksmanship, with all the radiation directed in a straight line.

The formulae of its propagation seemed like an endless belt in his mind. He tightened the helix of wire about the radio-active lode, trying to be sure they were even. With time, there were a number of things he might have done, but he had no time to spare. He might harm Miles and Pat—but the Alien beam would leave nothing to chance.

The thought of Miles and Pat jolted through his mind in a delayed reaction. They'd seen him come into this airless space without a helmet. They knew now he wasn't human! Discovered! *Explode the ...*

"No!" he shouted silently into the airless room. He had to get the Alien first!

He had no idea how much time he had left as he snapped a flashlight battery into place, and tried to line the weapon into resonance with the detector settings. He lifted his eyes, to stare up through the open roof of the building. He knew there should be a faint black dot in the sky, but he couldn't see it against the blackness of space.

He lifted the weapon, pointed it toward where the Aliens should be, and depressed the little trigger, moving the rheostat back and forth to be sure he had the lethal frequency well covered.

He felt a tremor on the floor beside him, and his eyes caught a glimpse of Pat at his side before he could force his gaze toward space again. She was shouting something inside her helmet.

Then he caught the first visible sign of the Alien ship, already within miles of the building, and big enough to show in the side-light of the sun. It came rushing down in an unchecked plunge, apparently heading straight for him! He strained his eyes, tracing its path. Then he relaxed. It was moving sideways and would land a mile away. *The weapon had worked.* No ship would have risked such speed so near the surface if the pilot had been alive.

He gripped Pat by the shoulder, and dragged her to the floor, away from the threat of falling

debris. There was no sound, but a tremendous jolt rocked the floor of the building, and for a terror-fraught moment the ground seemed to dance madly. A shaft of greenish-yellow radiance merged with a glaring red that lit up the sky for miles. The ship had struck at a terrific speed—fast enough to reduce everything inside it to a pulp. The instant everything was quiet, Norden sprang to his feet.

*Now! There is no time to be lost!*

He caught the thought in time. He couldn't let himself explode in the workroom. He had to get outside, away from the two humans. The compulsion squeezed and writhed in his mind, and he could not throw it off. It was tenfold as strong as the previous commands—and the need to overcome it a hundred times as great.

He stumbled toward the seal as Pat stood by. His body slipped through the seal, and he almost bumped into Miles, who was apparently waiting for him. Norden had no spare effort for speech or thought. He headed dumbly for the airlock, determined to get outside as quickly as possible.

"Norden!" The general had grabbed his arm, and was following him. "Norden, if you go out there, I'm going with you. Whatever happens will happen to me, too. *You've got to listen!*"

He tried to force his way ahead, shaking his arm to free it. The other arm was also carrying a dead weight, and he could see Pat's face close to his own.

She was screaming at him. "Bill! Bill, you must listen! We knew it all along! We *knew* you were a robot! It doesn't matter. If you explode, you'll take us with you!"

He hit the lock in savage desperation and the words froze meaninglessly in his ears as he held back the driving urge until he could escape from them.

Miles clung grimly. "It's the Aliens, Bill! They want you to explode. The damned Aliens who want to kill you! Do you love them so much you'll kill us all? Or do you hate them?"

Slowly it penetrated the red haze of torment in his mind. The Aliens wanted to kill him. They'd played with him, had turned him into a monster to do their malicious bidding. They'd given him nothing in return. And now they wanted everything. His own life, worthless though it might be—and the life of his friends.

The hate washed through him—the cold, hard hate that had a greater strength for its very lack of endocrine instability.

"I'm all right," he said slowly. "You're safe. You can go back to the base."

Miles stared at him with a warm and friendly understanding. "We really did know about you, Bill," he said. "That business about your being the only undetected human on the asteroid looked suspicious, and the psychologists weren't fooled. We were gambling on a chance to get some information on the Aliens' detector out of you before you could do anything dangerous.

"Hardwick was the only man who could have known enough to have any chance. With him dead, we had to hope they'd give you information enough to act in his place. Pat volunteered to watch you. And we had ultra-violet cameras in every room where you ever were, watching you every second."

He paused, but Norden could think of nothing to say. He looked at Pat for confirmation, and she nodded. "We set the whole thing up for you, Bill. But we found we were wrong. The Aliens had done too good a job on you for their own good. They made you too human—so human that you had to begin thinking *our* way. After that business with Armsworth, we stopped worrying."

"But you came out here ..." he began.

"Not to spy on you, Bill," Miles told him. "Earth's evacuating the Moon, now that you found us weapons to handle the Aliens. We're needed to supervise things back at the factories. Pat and I just came to pick you up, when you wouldn't answer your calls. We're taking you home."

He stared at them silently, and there was a complex of feelings in his mind that made thinking almost impossible. Bitterness was heavier than anything else.

"That's fine for someone who won't hate an enemy—though you're quick enough to employ hate when it's useful." He looked at Miles steadily. "What about the rest of the world? Will they welcome a bomb-carrying robot monster as a friend?" Bill Norden wanted to know.

Miles put his hands on Norden's shoulders, while Pat went back into the workroom. "Sit down on the desk, Bill," he urged. "The only people who know are the two of us, and Jim—the psychologist who predicted exactly how you'd react from the beginning. He also gave you a test that first day that involved our top-grade X-ray machine—not one of those fluoroscopic toys. It's a good thing you've got your brains all through you, because when I get done, you'll be literally empty-headed."

Pat came back with a collection of equipment. Norden stared, trying to sit up. "You must be insane. Do you want to be killed if I blow. Are all humans crazy?"

Miles tightened his grip on Norden's shoulder. "Hold still. It shouldn't hurt. We're going to leave the communication gadget where it is, as it may be useful, later. But that bomb must come out." He smiled abruptly. "As to humans—well, you should know."

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Three days later Bill Norden took his hands from the back of his neck, and sat up. He joined Miles and Pat at the screen of the big life-force "radar." Far out in space, a group of swiftly moving objects were drawing together, according to the pips that traced their course. They formed into clusters and began heading outwards.

The pips grew dimmer almost instantly, though they should have lost only half their brightness after a billion miles of traveling.

"Obviously faster than light, and heading straight toward Sirius," Miles said slowly. "The poor devils! Until some darned fool from Earth goes there one day to try to make peace with them, they're going to live every hour of their lives in the horrible certainty that we can wipe them out whenever we choose—and that the best their race could do was a total failure. They'll probably have sunk back to being scared, unhappy savages before we reach them."

Norden thought of the charts that had been shown him while he lay in the communicating position. Earth had enough life-force projectors to sweep the skies with lethal radiation already, and she had just begun to tool up.

The Aliens had guessed wrongly about every step—they'd followed a logical pattern against a race that defied logic.

And somehow, his hatred of them was gone. "You'll have the superlight drive next year, probably," he guessed. "There are enough of their ships out there now with Aliens who died before they could set off their bombs for you to figure that out. Earth will be sending a ship there before they can revert to complete savagery."

"And I suppose you want to be on it?" Pat asked. She looked at her father, smiling thoughtfully as he grinned in answer to her lifted eyebrow. "I imagine the three of us could swing permission, at that."

Norden nodded. He'd planned it all out. He'd have to go back to university work, pretending to explore the new trails of science that had opened with the discovery of Hardwick's spectrum. The formulae he'd developed had been destroyed, but he could always remember enough to keep up with the eager young men who would go plunging into the field.

Maybe, that way, by the time the probable levels of telepathy and other psi-phenomenon had been discovered, the world would be ready for them. He had no intention of acting as a super-brain, however well equipped he might be. With the emergency over, the human race could discover enough by itself.

Miles and his daughter would be busy with the long and difficult job of trying to re-settle the planets that the Aliens had despoiled. But all three of them would be ready when the first ship capable of reaching the stars had been built.

Norden drew himself up.

"Yes," he said. "Yes, I guess I want to be on it. I helped teach the Aliens enough about human beings as enemies. Now I'd like to teach them about us as friends."

\*\*\* END OF THE PROJECT GUTENBERG EBOOK THE LIFE WATCH \*\*\*

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