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THE RADIUM-BUGS

CHAPTER I

The Freezer

OU'RE under arrest." Two
green-shirted men stopped
Mark Evanthes as he mounted
the porch of his home in Albany.

He leaned a dirt-covered shovel against the wall before he turned his long body to drawl, "I was expecting you, gentlemen. "Come in."

"Expecting us, were you!" The younger man was baffled. "That amounts to a confession."

"I confess I was expecting you. Nothing more."

"The charge is treason," the older green-shirt said gruffly. "Come along!" Then, noticing the dirt covered shovel, asked suspiciously, "What have you been doing with that?"

"I buried my dog," Mark answered.



By HELEN WEINBAUM



"He ate too much of the bread my uncle, the Dictator, feeds the people."

"That's treason in itself," the older man growled. "Now enough of this. Come along. You're as good as frozen already."

MARK EVANTHES moved his long body on the damp floor of the vault. The ice had melted, releasing him from his five hundred year imprisonment, but his mind was not yet working and he could not hear the steady drip of water, nor feel the dank mouldiness of the granite walls, nor see the six others who lay immovable beside him of the floor. So he lay, half limp, half frozen, unaware that for the last few hundred years he had been forgotten, that his potential life had been protected only by random chance, that it had rested on the inertia of a man whose father and whose father's father had tended the machine which kept the ice crypt at a temperature of -273°C, not knowing the why nor wherefore of it, yet tended it, nevertheless, as in ancient days man had put food on the altars of the Gods, not stopping to think that if the God were indeed Godly he could feed himself, yet heeding the tradition unquestioningly which made him serve the same mysterious thing his fathers served.

For Mark Evanthes had been tried and found guilty and been sentenced to the crypt of punishment for having heart enough and will enough and courage enough to rebel against the unbearable Dictatorship of his uncle, the famous dark horse of 1944. So, for five hundred years he had been frozen in a block of ice, life and mind suspended, over his inert body the caption "traitor", though history might term him "patriot."

The water seeped slowly through the drain. Mark opened his eyes, wondering whence came the feel of cold and damp, not yet aware that his life had been suspended these five centuries. For an hour or two, until his blood circulated freely, he had a limp, ragged feeling. His skin was pudgy to the touch, the nerve endings insensible. Memory was not yet awakened. Then, gradually, he remembered the moving belt which had carried him into the crypt, remembered the dart of pain through mind and body as the terrific cold had numbed his senses. Slowly he stirred, thinking that when the ice melted the vault doors should open, when, suddenly, came the knowledge of other living things beside him and he recalled that at the time he had entered the crypt, two others had been already inside: the half mad, half genius Dr. Wade, sentenced for using the "mercy killing" privilege on his wife for, while she suffered from an incurable disease, he was heir to her fortune

and the court questioned his motives; and the notorious Vassa Evens, stocky, dark Communist leader, imprisoned for preaching her ideals by the same Dictator who had called Mark "traitor."

In the dark beside him he heard a stirring and, tentatively, tried his voice. "Our time . . . must be up. . . ." The words came strangely from a throat so long unused. There was a deep sigh, then, "Why don't the vault doors open?" a man's voice asked. From farther down came other murnurings, mutterings, creaky like the sound of a long unopened hinge, and always there was the drip of icy water flowing through the drain.

Slowly they spoke; the ice numbed memory until they willed it to return. So it was that Mark Evanthes, tall, sinewy "patriot," remembered only how his heart had bled for humans suffering under the oppressive rule of a Dictator and, until it was forcibly recalled to memory, forgot the scene outside his house in Albany five hundred years before, forgot the dirt covered shovel and the thing he had been occupied in doing before the evil of his uncle drove him to drop it and fight for human rights.

Now he stretched himself and sat upright, dragging words back to memory. "How many of us are there? I'll start numbering . . one." . . two . . the word came from beside him . . three . . . faint, yet unmistakably a woman's voice . . . four . . . a man's . . . five . . . another man . . . six a woman . . . seven a woman.

That was all then: three women and four men. Gathering his strength, Mark rose, stepping carefully in the dark until he came to a wall. Not a gleam of light shone through, not a creak gave warning of the opening doors. There could be only a few hours of life left! The air would be getting thin soon. He breathed deeply. Funny!

His lungs expanded painlessly. . . .

WHY don't the doors open?" There was panic in the voice. "Let us out! Our time is up!"

"I don't think our time is up," Mark said slowly. "The doors should open before the ice melts. But keep cool," he added hastily, "we'll get out some way."

"How?" the man shouted.

"The air is getting thin," another voice said. "We've been awakened just to die."

Then there was panic; shuffling feet, soft thuds as bodies bumped in the dark, the sound of women's frightened voices, the chattering of a crazed man.

"Be still," Mark cried. "You're using up the air." He threw back his head, breathing deeply. As before, it refreshed him; there was no strain on his lungs. Then, as his eyes swept the ceiling, he saw, faint above, a gleam of light.

Quickly he gathered the men and climbed on their backs, his fingers exploring the region of the crack. A few pieces of stone fell to the floor. As he scratched feverishly at the time-softened granite, he talked, taking pleasure in the use of his voice, silent for he knew not how long. Of Vassa Evens and Dr. Wade he already knew; it was the four sentenced after himself he questioned, hoping to trace the course of the government in their stories.

A woman spoke first. Her name, she said, was Countess di Grazzo, her period the same as Mark's. Her crime, she said wearily, was called the new treason. She had married a foreigner, taking her vast fortune out of the country and giving up her citizenship. Then, forced to leave the land of her adoption, her fortune lost, she returned to America, only to learn she was still under jurisdiction of the United States and that renouncement of citizenship constituted a crime under the Dictatorship, made worse by the fact that she had deprived her native country of the money earned within it.

The voice which had shouted, panicstricken, in the darkness of the crypt spoke next. He was Conrad Wright and, at the turn of the system, when the Dictatorship was giving place to Communism, had been accused of misusing the people's money.

A full, throaty voice interrupted him. "I'm Adria," it said, "Adria, Woman of New York." She paused as if expecting recognition of the name.

"And your crime?" Mark asked.

"Willful waste of lives. Two men killed themselves for love of me." One could almost feel her preen herself in recollection.

"In my day," he said, "women were not ostracized for that."

"Your day," she answered wearily, "must have been long ago. When the people rule, lives become important. At least that was the feeling of the court. Ask Len what it means."

"Well, Len," Mark asked, "why are you here?"

Len's voice was rough, uncultured. "They called it sa-bot-age." He mouthed the word parrot-like, unsure of its meaning. "I worked on a lathe, always I pressed a lever, day in, day out. Then production slowed and I was put in here."

At last, through the efforts of the four men, they opened a hole large enough to admit their bodies. Once outside, they blinked their eyes against the sun, reveling in its warmth and the smell of vegetation. So, for a moment, they did not notice the deep crevice beside the crypt, nor see that the erypt itself was covered by the earth of centuries. It was Mark who saw it first.

"How long we have been gone," he sighed. Above them towered a giant oak, its roots grounded in the dirt above the crypt. At that moment, Conrad Wright pointed to the crevice where, toppling perilously on the edge, was a battered, ageworn engine, with pipes, uncovered by the shifting earth, leading to the crypt below.

"It's the ice machine," Dr. Wade exclaimed, "the machine which kept us frozen!"

"An earthquake must have put it out of order and cracked the crypt," Mark added, looking at the bottomless crevice, running, straight as a ruler, for some hundred yards.

AT THAT moment an anguished cry sounded behind them. From the voice it was Adria, Woman of New York, yet the thought of two men killing themselves for love of this wrinkled, haggard crone was inconceivable. She walked toward them, hands outstretched, thin, claw-like fingers curled upwards in her palms. "Old," she screamed. "I'm old! And I was twenty-five when they entombed me."

"You're plenty more now," Countess di Grazzo said coldly.

"It must have been the ice," Mark reflected.

"But we were all frozen," Vassa Evens objected, running stubby fingers through her short-cropped hair, "and we're no older."

It was true. Countess di Grazzo sighed as she felt the youthful contour of her body; Len flexed the muscles of his brawny arm; Conrad Wright settled his spectacles, running a tentative hand across the pink and whiteness of his face; Dr. Wade tossed the shaggy head so often pictured at the time of his trial; and Mark, stretching his long body, gratefully felt the pull of youth in his muscles.

"Perhaps Adria froze too slowly," he remarked. "Instantaneously frozen ice crystals are cubical and fit closely together—that's the whole theory of suspending life in ice—slowly frozen ones are pointed. Adria's must have been slightly pointed and injured her body tissue."

"Old," Adria repeated. "I'm old!"

"If I had my kit," Dr. Wade said, his voice silkily smooth, ironic, teasing. "But

they took it away when I went on trial..."

"If you had your kit," Adria repeated eagerly. "What could you do, Doctor? Could you make me young again?" She walked toward him, heavy jowls sagging.

"No." He bared irregular teeth in a smile. "I was just going to say that I've never seen a more fit subject for a 'mercy killing.' Any court in the world would acquit me."

"Beast!" She sprang, stretching tense claw-like fingers toward his throat. He pushed her aside and she fell, breathing in hoarse rasps. Mark bent over her, watching the dying of her feeble pulse. "Too bad," he said, "but perhaps she's better off"

"I'm sure she is," Countess di Grazzo said coldly, feeling the contour of her flaxen head with a comforting gesture.

CHAPTER II

The Great Insects

THEY walked through the lushness of what had once been called Death Valley, leaving Adria, Woman of New York, lying near the crypt which had harbored her body so long. Silently, they walked, awed by the miracle of earth and flowering shrubs in the dry wasteland they remembered, aware of the contrast of fresh growing things to that tomb of ice behind them, grateful to the disturbance in the earth which had brought them to life again. Only Len, the worker, felt no sense of restraint. He walked buoyantly, humming a strange melody. Len, congenitally bereft of thought, had been trained to follow, to act upon bidding. Still, human beings who approach the robot state do not commit sabotage. Some keeper-minded man above him must have been to blame.

Mark, however, had been pondering

the changes around him. Part of the lushness of what had been wasteland might be explained by the shifting surface of the earth—the washing away of hills and mountains into valleys—but the change in climate must be due to some astronomical factor. Perhaps the earth's orbit had flattened out because of less attraction from other planets. In that case, this little section of California would have a long, cool summer, just the climate to encourage growth of this sort of vegetation.

Suddenly a vibrant drumming met their ears. Above the brush waved large antennae, dark green and shiny. A gigantic animal—no, insect, it must be—sleek, armor-plated body divided into three sections, sloping wings beating against its sides, broke through the bushes. The head was irregular, strong laterally opening jaws—black extended eyes. Identically, even to the shiny disks of ears in the anterior legs, it duplicated, a thousand times enlarged, the cicada of Mark's civilization. Yet the eyes were different, expressive, inquiring.

The small group huddled about Mark. How could they protect themselves, unarmed, against the strength of that gigantic insect? One leap, and who could escape those mammoth wings!

The fleshless legs tightened . . . the antennae paused . . . the drumming silenced. . . . Suspended in a moment of eternity, the six people waited. . . Then, suddenly, Mark shook himself from his lethargy. To come alive after centuries only to meet death from an insect, however large, was anti-climactical. Mind and body rebelling, he squared his shoulders, staring into the black beady eyes, determined to fight to protect his life.

Under his gaze, the insect seemed to falter. The antennae moved, the legs unflexed. Then, with a whir of wings, it rose, beating its way upward, finally to be lost in the distance.

Countess di Grazzo sank to the ground. Dr. Wade, pale and shaken, scratched his shaggy head, muttering, "The six of us would have made a juicy meal."

"Perhaps he was a vegetarian," Mark essayed, "his ancestor was."

"It's easy to change a vegetarian into a carnivore," Dr. Wade replied, "merely by withholding food for awhile. And if man bred that cicada, which I believe he did, he'd make sure it didn't consume his crops."

As they proceeded, the land took on the appearance of habitation. Following a path, they gazed ahead to see long, straight furrows in the earth and, silhouetted against the horizon, another giant cicada harnessed to a future-looking plow.

"That proves your reason for their being carnivores," Mark exclaimed to Dr. Wade. "They're used to till the fields." Yet, strangely, they noticed, no human being drove the giant insect. Alone it continued, conscientiously, dutifully, to do its work.

AS THEY turned a bend, a figure approached—a girl, slim and lissome, clad in a flowing dress of some spiderwebby material, her patrician head topped by red-gold hair.

"Hello," Mark shouted jubilantly.

She stopped, peering up at him with jade green eyes set above high cheekbones as if he were some queer species from another world. At his disarming smile she eased, saying questioningly, "Hell-oh?"

At her queer inflection, his hope sank. If only she spoke English!

"Spoke English," the girl said.

"Yes," he answered excitedly. "Do you speak English?"

"Yes. Speak English."

"What year is this?

She wrinkled her forehead, as if concentrating intently. "Is it 2150?" That was the year his own sentence should have expired. But it must be later. Len and Adria had lived in the 22nd century. It might be the 23rd now, perhaps even the 24th.

"2450." she said.

Strange. She spoke English yet—it seemed ar if she waited for his mind to work before she answered. Perplexed, he thought of the two giant cicadas: the one about to attack, the other doing the work of a horse, unguided. What had made the attacking cicada leave? It was almost as if it had read the determination to fight in his mind.

"Yes." Her voice broke his thoughts. "Lahra reads your mind. So did the horse."

Horse! He started. That giant insect was far removed from the ancient horse. Then the marvel of Lahra's understanding usurped his mind. Incredible that thought-waves could be received!

Conrad Wright spoke irritably. "How are we to get along? It's unfair," he grumbled, "to be interred five hundred years in one's own land and come out a stranger."

"Think all possible answers," Mark told him. "If you ask about the weather, think of weather—hot, cold, rainy, dry. Watch!" He turned to Lahra, thinking of the centuries they had been in the ice-crypt, of the wish they now had to find a city so they might adjust themselves to life again. Then he told her that they could not read her mind, that she must speak in words.

"Then you must think in words," she answered. "You think in—" she stopped, "Pictures," Mark supplied the word. So he retraced his thoughts and Lahra

answered. "A city is near."

As she walked beside him, her redgold head barely reaching his shoulder, Mark thought he had never seen so perfect a woman. She smiled mischievously and quickly he switched his thoughts to less personal a subject. . . . What marvels must exist in this age of telepathy! Scientific theories caught and understood as the thought crystallized.

"What marvels?" Lahra asked. "What did you have in your time?"

So he strained memory, numbed by the ice, and thought of space ships, how man had visited the dead planets and returned to tell the tale, of medicine, of amusements, of the high level the theatre had attained.

Lahra answered in the words of his thinking. "We have no such amusements. Telepathic thought leaves nothing novel enough to entertain. Humor is valueless if one knows the end of the joke as the beginning is conceived. Thoughts are panoramic—no beginning, no middle, no end.

"Space ships are seldom used," she continued. "When one man has been to Mars, everyone has been. Knowledge is common property. We learn as we sleep, through educators, each of whom specializes in one subject. So, all knowledge, all experience, all emotion, is ours without the necessity of undergoing it ourselves."

How did you attain this state? Mark wondered, thinking in words the answers Lahra might wish to give.

"Survival of the fit." Infallibly she selected the words from his random thoughts. "When we get a throwback who cannot learn by telepathy, it is done away with."

Conrad Wright exclaimed.

"If you cannot learn—" the girl shrugged. "However, the elders will give you tests and, if your aptitude is high, you may continue your education."

"I don't understand," Mark put in.
"How did you learn that word 'elders'?"

"You thought it. You pictured an ancient court when you first asked of our civilization. And," she laughed, "it was not too different from our present court."

Before them was the city, high marble walls supporting a clear glass dome. Inside the gates, square glass houses, alike as beehives, bordered wide avenues. But strangest was the sun! Mark stared unbelievingly at the immense, yellow, glareless ball.

"It is really no larger, Mark." His grey eyes softened at the sound of his name on her lips. "Sunciti is the center of astronomical observation now, due to the changing inclination of the earth's axis which traces out a circle in the heavens every 25,000 years."

"Like the axis of a spinning top as it 'sleeps'," Mark interrupted.

"Yes. So the lens," she waved a tiny hand at the glass dome almost half a mile above them, "aided by powerful telescopes, allows us to observe the Second



Solar System which space ships have never reached and of which even we, with our mechanical aids, can see only the faintest traces."

Now and then they passed fair-skinned, wide-browed people, clad in the same translucent cloth as Lahra wore. A few turned curious glances on the motley assembly of strangers, dressed in clothes of other ages but, for the most part, they passed silently, having learned all they needed to know from the random thoughts of the six newcomers.

Lahra stopped at one of the square glass houses. Inside three greybearded men sat silently around a table. For a moment she stood before them then, resting encouraging eyes on Mark said gently, "Think, my Mark. They wish to know more of you," and, turning, left them alone in the Court of the Greybeards.

As Mark stood before the court, his mind dwelling on his long incarceration in the ice, he wished Lahra had not deserted him so quickly. Responsibility for the other five people made him feel helpless in this strange world without her. He looked at the expressionless faces of the three elders, wondering how well they read his fear, when suddenly, his mind went dead. From far away, came a faint humming, like the sound of an intermittent motor . . . a pause, almost a period, then a recurrence of the sound. Slowly he felt the rhythm of a thought, knew it was a thought, knew it was Lahra thinking it. Desperately he tried to analyze the pounding at his brain . . . the rhythm ... the sentences ... the pictures. ...

One of the greybeards smiled. "We are not barbarians, my friend. You do not need help from the woman, Lahra. If you show aptitude you live; if not—" he waved Mark away in a loose, flowing gesture.

One by one, the newcomers came before the court, knowing neither what tests they were being given, nor how well-they passed them, until finally, they were led away and put each in a separate room, furnished with bed and chair and nothing more. Thus did their education commence.

CHAPTER III

The New Training

A S THE days passed, Mark saw Lahra often. The others had paired off, like with like. Countess di Grazzo and Conrad Wright, both superficial and selfish, found pleasure in recalling other days: Vassa Evens and Dr. Wade—probably drawn by their fanaticism—were a common sight together, their stocky figures determinedly pacing the quiet streets. Len, as always, stayed apart, spending his animal energy in striding outside the city gates, humming always the strange melody from his own civilization.

From Lahra, Mark learned that an educator was teaching them telepathically at night. Yet, so soundly did he sleep, and so little memory did he have upon awaking, that he did not know it until she told him.

"It takes time," she said. Then, reading his discouragement, took it upon herself to teach him.

Outside the city, she had him stretch beneath a tree, had him close his eyes and relax. Then she talked softly, hypnotically, about sleep until at last he lost consciousness and lay, mind open, to receive her thoughts.

At first there were no results. Mark awakened as from a natural sleep, with no memory of the intelligence Lahra sent. But after awhile, came faint memory, as of a dream, until at last he awakened with full knowledge. On that day, Lahra taught him to suspend, Yogi-like, his physical being, so that, without going into the hypnotic sleep, his body and mind were yet quiet enough to receive her message. And,

as Mark grew adept in telepathy, so Lahra learned more of his native language.

Thus it was that he got the feel of the new civilization, though sometimes what Lahra told him was so fantastic that he believed he had not caught her thought aright. The animal world, save for man, was gone. Insects, high in intelligence had been bred to mammoth proportions by injections of a mixture of pituitary and thyroid extract. The people were, of necessity, vegetarians, but the insects, as Dr. Wade had said, were carnivorous, in that they ate their own kind. The horse, as she still termed the giant cicada, had intelligence about the order of Len's-that is, it could receive thought and act upon it. but had no creative intelligence. So it was not strange that Mark had turned away the attacking cicada by merely willing it. Man's will had become supreme.

Human life, Mark learned, was effortless and happy. The wish to perform one service for the community, whether it be mining, educating or making a home (if she be a woman) was given each individual as he slept. So, content to follow his artificially instilled desires, each person fulfilled his destiny, never looking to far pastures where the fields seemed greener.

And you? Mark wondered.

Lahra smiled up at him, green eyes sparkling beneath red-gold brows. My blood is good. I have been trained for marriage.

Quickly he shut his mind. She must read no farther until he had justified his existence in this society. Unless he passed the tests set by the elders, he had no right even to think of Lahra.

Once he asked how it was they had been so long forgotten in the crypt; how, if a man had tended the ice machine, he had been unaware of the reason for his doing.

You were as dead, she answered, and even we have not yet bridged the gap between the world of spirit and of thought.

THE next day Lahra seemed distracted. Two things were wrong, she said. In the first place, their food supply was menaced. The earthquake which had released Mark and his companions from the crypt had spewed up millions of tiny animals from the inside of the earth. Indeed, it was questionable whether they were animals, for all the scientists in the city could not annihilate them. They had tried blasting, burning, drowning, shoveling them back into the crack from which they came and covering them with dirt, yet back they came.

Are they harmful? Mark asked word-lessly.

Yes, and they were strange, Lahra answered. Where they lay the earth dried out, vegetation died, and the air at night took on an eerie glow. If nothing were done there would be no food—and it seemed nothing could be done to stop them.

What are they like?

They hopped over the ground like Mexican Jumping Beans. No one could touch them—one man had tried and his flesh had shriveled and his bones melted away. Indeed, even getting too close formed sores and ulcers on the human body. But as nearly as anyone could tell, Lahra continued, they had metallic beanlike shells, inside each one a blob of life which, no matter how you cut, blasted or tore it apart, lived on.

In despair the people had built a wall, but the masonry crumbled under bombardment of the rays.

Radium, Mark thought. Only radium acts that way!

Yes, Lahra answered, Lah, my father, says they must be a new form of animal life—an animal or worm with a pitch-blende shell containing a great amount of radium. He calls them radium bugs.

That night they walked towards the cut in the earth, from which the bugs emerged. From the city gates they saw queer, green-white rays, emanating from miles away, reaching from earth to sky. Fearing to approach too close, they watched the emanations, sensing the ionization of the air, thinking despondently of the danger to the city if something were not done. Even as they watched, the waves of light drew closer, blocking out a tree which stood high above the rest, fencing it around with light, drying it out with the all-powerful Gamma rays.

Silently they turned, Mark trying to remember something he could not quite recapture. It had to do with dirt. . . . No, not dirt. . . . Yes, it was connected with dirt. . . . He stopped abruptly as another thought drove it from his mind. "Lahra, you said two things were wrong this afternoon. What was the other?"

My marriage, she thought. His face flushed with the beating of his heart as knowledge of the man Lahra had been conditioned by the educators to wish to marry came thrumming into his mind. You can't, he thought desperately, I won't let you. Then, as if she could not read his mind, asked softly, "Do you want him?"

Not now, she thought. Not Not since I met you. But his destiny is intertwined with mine. . . .

He put his arm across her shoulders, drawing her slight figure against him. "Then you can't marry him," he said roughly. "People can't fool with things like love."

"Protect yourself first, Mark," she said. "I don't want to jeopardize your life by holding any invisible strings on it. I speak so there will be no doubt in your mind as to my meaning—so you will know this is no miscaught dream or mistaken thought-wave. I want to marry you, but you must first prove to the elders that you are apt enough to live—if you can't, you must escape—leave, without me."

"Lahra," he said hopelessly, "why without you?"

"Because no matter where I went, I should be found. They might allow you to thwart your destiny; mine is inevitably laid out. And a man's is intertwined with it"

"When do the elders decide?"

"Tonight." She moved closer to him in the dark. "And I am afraid you have not received from anyone but me."

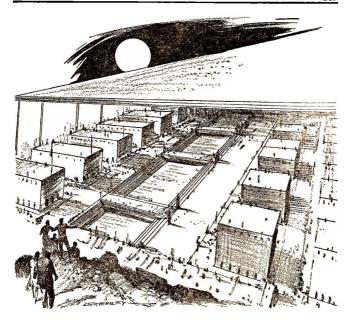
CHAPTER IV

The Tests

IT WAS true, Mark reflected, as he sat in the room of the elders; his night education had had no effect. When he awoke each morning, he knew no more than when he had gone to sleep. Only from Lahra, probably because of the love between them, could he learn without words.

He had been so engrossed in his own affairs that he had had little chance to think of the others who had come with him from the crypt. Now he turned, noting the pale face of Conrad Wright, and the way the Countess di Grazzo nervously twined her fingers in her hair. The others seemed quite calm. Len whistled a soundless tune, Vassa looked as self-satisfied as the proverbial cat and Dr. Wade darted his dark, wild eyes about the room as if he were taking mental notes for someone to whom he expected to tell the whole fantastic tale later.

But the test had started. Something, he knew not what, impelled him to rise and stand before the court. Then came the soundless hum, increasing and decreasing in intensity, forming words, phrases, sentences. He fought desperately to understand them, to resolve them into thought. Only the thrumming continued. Breathing deeply, he tried to suspend his being, to blank his mind as Lahra had taught him. . . At last! They were asking of his native city.



Racking his numbed memory, he pictured Albany as it had been; the excitement of the year man had conquered space. Then he pictured New York where he had attended school, its fantastically high buildings, its auto-skyways, the streets below, set aside for people. Incredibly he learned that New York was gone, that in five hundred years the continual washing away of hills and mountains and filling up of the sea had spread the water and finally drowned the city he had known as the greatest in the entire world.

At that moment, as an expression of displeasure crossed the faces of the elders, Mark realized that Lahra had been receiving their thoughts and relaying them to him. At once the thrumming stopped. For some ten minutes more, he stood helpless, blank-minded, before the court, until suddenly he found Len beside him. Evidently Len had been summoned and the worker, the robot, like the giant cicada, had sensed the bidding of his masters, though Mark Evanthes had failed!

It was small comfort to know that the Countess and Conrad Wright also failed. Vassa Evens and Dr. Wade showed promise and were allowed to continue their night education along with Len. However, Lahra's interference where Mark was concerned had prejudiced the court against him. Already they knew she loved him and feared that, if he were

allowed to live, she would thwart her destiny. So, with the Countess and Conrad Wright, Mark was termed "unfit" and sentenced to die, quite humanely.

Until Mark met Lahra that evening, he did not know he was not to be given another chance.

"You must leave at once," she told him.
"Go east. Live in the forest. What were you before?"

Now, for the first time in five hundred years, he recalled his vocation—the work that had kept him at fever heat for ten years until the rigid rule of his uncle had driven work from his head and forced him to fight for an oppressed people. "I was a scientist," he answered. Then, again, the import of Lahra's words kept his mind from pursuing his past further. "Why must I go East?" he asked. "I could hide here as well."

The radium bugs, Lahra answered. They're moving Eastward. We must all leave soon.

At that, Mark's mind snapped into action. He had been a scientist—mind, body and soul a scientist! Plague the ice which had numbed his memory so long! The Dictatorship was dead, had died without him, but science still lived, humanity still lived, and both should profit now by the fruits of his labor five hundred years before.

IN THE throes of scientific research, before he had given himself to fighting his Dictator uncle, he had, after years of labor, succeeded in isolating the natural element No. 93. True, as far back as 1934, Professor Fermi of the Royal University of Rome had bombarded uranium with neutrons thrown off by radium emanations and called the result No. 93. However, Mark, unsatisfied with this manmade element (indeed some twenty-five years later it was discredited) worked alone and finally succeeded in isolating a small vial of the natural element.

But, feeling as he did about the rule of his uncle, and thinking the new element no fit plaything for a benighted world, he kept his discovery secret until, learning he was suspected of treason, he decided to put it beyond reach of man, hoping that if he were found guilty and sentenced to leave home and friends for the crypt of ice, he would awaken to a government more worthy of receiving his discovery. So they had found him as, dirt covered shovel in hand, he returned from burying his "dog" who had eaten too liberally of the nauseous bread the dictatorship deemed fit for human food.

He turned to the girl beside him. Who is the man who knows most about science, Lahra?

Lah, my father.

Take me to him! If he could find the small vial he had buried five centuries ago, he might buy his life—perhaps even his freedom to marry Lahra.

Standing before the youngish, greytempled Lah, Mark saw in his tall grace the germ of Lahra's beauty. Putting such thoughts aside, he concentrated on the menace of radium bugs, thinking of the indestructability of radium itself, the only element of which man had found no way to hasten the disintegration.

Lah smiled sadly. "Yes, it is true."

"Am I right in saying," Mark asked, "that the disintegration of radium is progressive that, unlike nitroglycerine which explodes as a mass, each atom of radium requires a different length of time to break down?"

"Right," Lah agreed. "The transformation period of half the atoms of a given mass of radium in 2000 years. It takes the same length of time for the first part of the second half to disintegrate, and so on. You see it is hopeless." He shrugged his shoulders and sat down.

"Then we must use an element which acts on radium."

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"If only we had one. But, of the 92 clements...." Lah turned his eyes from Mark as if the conversation were becoming too childish to continue.

Ninety-two! That was all Mark wanted to hear. Strange that in this age of intellectualism, no one had rediscovered the 93rd element. Yet not so strange. No one but himself had known of its existence. No minds had come through the ages to recall it and so inform these benighted intellectuals of a way to save themselves.

Lah sprang to his feet. "You must get it," he said.

If it were only that easy, Mark thought. The vial was buried near Albany, New York. Had five centuries left it there? And if they had, could he find it?

"Albany." Lahra had read his thoughts.
"There is no such place."

"Give me a map."

"We have none, silly. What would we need it for?"

"Draw one then—a map of the Eastern coast. Get in communication with your educator in geography." He paced the floor excitedly.

They had no pencils, no need of them—the age of writing, of reading, of all those slow methods of assimilating learning was long past—so Mark burned a piece of wood and gave Lahra the charcoal end, telling her to draw as she received knowledge.

HE STOOD over her, watching the unfamiliar pattern she traced on the surface of the table. New York City was gone—that he had learned this afternoon when he was in threeway communication with the elders, with Lahra as intermediary. But he had not dreamed the coast line had so far receded. New Jersey. Rhode Island, Connecticut and Massachusetts were completely gone, as well as over half of New Hampshire and Ver-

mont and a large part of Maine. From the names she spoke as she drew their boundaries, he recognized the states which now formed the East coast: Vermon was obvious enough; Newham was undoubtedly a contraction of New Hampshire: New York remained the same.

Eagerly he watched as she put tiny dots to indicate cities: Elmire, Syra, and finally, Alaban. That was the one he was waiting for—Alaban, clearly a corruption of Albany. But it was right on the coast now! Was the site where he had had his laboratory still above ground, or had it been covered by the creeping sea?

He turned to Lah, wondering if the elders would allow him to leave, thinking of the Countess and Conrad Wright who, like himself, were doomed to die. Though he had little love for either, it seemed somehow selfish to buy his own life without insuring theirs.

"You are free to go," Lah answered.
"And if you disintegrate the radium, even your inapt friends shall live."

Reassured, Mark walked with Lahra to the city gates. Feeling his responsibility, he threw back his head, wishing on the stars which shone large and magnificently through the lens which domed the city. Understanding, she put an encouraging hand on his arm. Success, she wished. And he, by the thrum in his head and the thrill at his heart, knew she added the words, my dear...

CHAPTER V

The Final Battle

OUTSIDE the gates of Sunciti, Mark boarded the robot-guided rocket ship which was to take him to Alaban, casting one last look at the shimmering sea of radium creeping toward the city before the ship shot into the isotropic layer.

Before they left the air belt, mammoth insects hurtled past the window and

Mark's ears rang with the rush of air, but above the atmosphere it was strangely quiet and he found himself thinking of Lahra, forgetting the impossible task before him, feeling grateful to his uncle for sending him to that long interment in the ice. Had his life not been suspended, he and Lahra never would have met. Then he thought of the 93rd element, and at once it struck him that it should be called lahrium, after Lahra herself. For, as she was the ultimate in women, so lahrium was the ultimate in elements.

Lah had read his mind correctly concerning the properties of lahrium. Composed of Alpha, Beta and Delta rays (the Delta rays much shorter and more radio active than the Gamma rays of radium) it should easily break down the radium atom by disrupting the orbit of the electron, so causing the radium to dissipate itself quickly. It was fortunate the plague was of radium instead of lahrium. Nothing could hasten the disintegration of that! Now. If only he could find the spot where it was buried!

The rocket ship landed near Alaban a scant five minutes after it had left Sunciti. Mark, following instinct for lack of reason, hurried to the seashore, casting but a brief look at the city of his birth, hoping against hope that some recognizable landmark had survived.

After an hour of walking, of scanning the shore for a familiar tree, he sat down hopelessly gazing out to sea. Once that had been land. Far down the shore, the greatest city in the world had reared its marble head and, for a brief moment, rested on its glory. Now it was gone and with it the things men had built their lives upon, had schemed, struggled, killed to own. Sunciti, even the world, might go the same way—would go, unless he could find his lahrium. He sighed deeply. Let the world vanish a few centuries prematurely. But there was Lahra. He must save it for her!

He rested his face in his hands, hearing the beat of the sea, until finally it resolved itself into the familiar thrumming. . . . Go into the city, Lahra said. Tell the elders what you are searching for. Hurry!

On the way to the city of Alaban, Mark thought how exasperating it was that he did not know the latitude and longitude of his former home. Only in that way could the elders give him the exact location of the lahrium; no landmarks remained for them to identify the picture he carried in his mind of the Albany that was. Ironic that a great achievement like telepathy could be thwarted by mere change in the terrain.

At last he found the court of the elders and anxiously stood before it, thinking of the radium menace, of the lahrium he had buried and of the necessity of finding it. A short, dark man detached himself from the group and led him to a high-ceilinged, vault-like chamber, lined from floor to ceiling with shelves on which stood hundreds of instruments.

SILENTLY he selected a strange-look-ing appliance, one side of which resembled a spectroscope, the other an electroscope, from the bottom of which long, stiff wires trailed. Mark grasped it eagerly. If this instrument were used to locate radio active elements buried in the ground in their natural state, it would serve his purpose admirably. But, as it had been invented since his time, he had no idea of how it worked. Hopelessly, he realized he was being instructed telephatically as to its use. But he could not understand!

Pointing to the spectroscope side, he thought, Nod if I must operate this. The man looked confused, but his head did not move. Likewise Mark pointed to the electroscope side, and likewise the man stood immovable. At last, he grasped the trailing wires. The head nodded vigor-

ously. So, by trial and error, he finally learned that the wires were to be shoved into the ground near where he thought the lahrium was buried.

There was no time to question the action of the instrument when finally the element was located. Hurriedly, he sped back to the beach, marvelling at the science which had discovered a way to induce light waves into the spectroscope without vaporizing the element to be tested.

Hours passed without result.

Once again the familiar thrumming beat his mind and he sat down, allowing it to resolve itself into the intelligence Lahra sent. . . People are moving farther East . . many are dead . . . there has been another erubtion. . . .

Galvanized to action, he worked again. It was almost hopeless: that in a territory of hundreds of square miles, he could hit the one minute section he was looking for, that he could find one ounce of material in the billion, trillion ounces of earth he had to choose from. Almost he prayed, working there in the silence with only the lap of water and a dead instrument to keep him company.

Time, interminable time, passed and still he worked. Then, at last, on the gold leaves of the electroscope, he saw a faint reaction. I must be calm, he thought; it may be only radium. On the spectroscope side he saw the spectrum lines shift slightly toward the violet end. That was a good sign. The spectrum shifted to violet as it approached a source of light, toward the red as it left one. Still, that too might mean radium, not lahrium.

He tested the ground around, sometimes finding more reaction, sometimes less, until finally, he located the spot where radio activity was greatest. The gold leaves snapped apart; the spectrum shifted violently toward the violet end.

Seizing the shovel, he dug feverishly until, yards down, it clanged against a

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metal pipe. He pulled, pried, shoveled,
until he had it loose. Here it was at last:
the lahrium which would save the world
for Lahra.

ONCE in the rocket ship, the precious lahrium beside him, Mark counted minutes until he felt the rush of air which meant the ship was landing. Below was a seething mass, now touching the ruined city gates, and, far beyond, the yawning crack in the earth from which it came. Like a sea in motion its boundaries spread, consuming all they touched, giving to the earth the smell of death. Far Eastward, past the city, herds of people made tiny dots upon the road. Perhaps Lahra was among them!

Momentarily, he hoped the intelligence guiding the rocket ship had not forgotten him, that he would not be landed where he had taken off, a spot now covered by the radium sea. Safely past, however, the ship put down. Running through the East gates of the city, he approached as near as he dared to the creeping border and removed the vial from its casing.

Around him buildings, weakened by bombardment of the Ganuna rays, creaked on their foundations. Now and then a falling piece of granite narrowly missed his head. Above, he felt the beat of wings as herds of insects, terrified both by the unrest they read in man and the eerie feel of ionized air, circled the city. Once two great "horses" collided in their mad flight and fell, five hundred pounds of skin and bone not three feet from where he stood. He jumped aside to escape the range of their thrashing wings.

Setting the vial as close as he dared approach to the borderline of radium bugs, he backed away, hoping no Gamma rays eluded the bombardment of Delta rays coming from the lahrium.

Eagerly he watched, anticipating the destruction of the radium atom almost

before he heard the soft detonation of its breaking. Then, at the edges, motion ceased, there was a surging backward, a soft pfut-pfut, leaving only a silvery powder to settle slowly to the ground.

Backward he drove, keeping always the vial of lahrium before him, hearing the soft sound of uncountable trillions of atoms exploding simultaneously, a sound which man never before had heard. The radium was disintegrating, leaving in its wake only this soft, silvery dust, a handful of which Mark stooped and sifted through his fingers: It was harmless!

Hours later he found himself at the pit. From its black inside came soft detonations, going down into the bowels of the earth, growing fainter and farther away until they ceased entirely. Propping the vial on the edge, he sat down, exhausted, in the silvery dust.

Then into his tired mind came a humming, in it the long forgotten sound of music. Lahra! Putting his head on his folded arms he gave himself completely to its message. There were the Countess and Conrad Wright allowed to live, given time with the rest to adapt themselves to the new order; there was the city. rising from silver ashes to a new magnificence. Then there was something clse, something tempting, beautiful, something about fulfilling a destiny he himself had made. The peace of it so filled him that he could think no longer but, resting his head on his knees, closed his eyes. Then, summarily this time, Lahra's mind called his. . . .

Mark Evanthes, I'm ashamed of you. I've just told you you could marry me. You don't seem too delighted.

Yes, Lahra, he answered sleepily, I am, of course. I just took for granted that—
Took it for granted, did you? . . . well now . . . pay attention to me, Mark

Evanthes. . . .

He did. . . .

THE END