

ROAR
of the
ROCKET

Oscar J. Friend

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Title: Roar of the Rocket

Date of first publication: 1940

Author: Oscar J. Friend

Date first posted: Mar. 29, 2019

Date last updated: Mar. 29, 2019

Faded Page eBook #20190402

This eBook was produced by: Al Haines & the online Distributed Proofreaders Canada team at <https://www.pgdpCanada.net>

[Source: Thrilling Wonder Stories, April 1940]

ROAR OF THE ROCKET

By

Oscar J. Friend

**Strange cosmic drama
unfolds when seven
daring spacefarers rocket
off on a star-spangled
passage—the first non-stop
flight to the Moon!**

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CHAPTER I

Special Assignment

When Colonel Ormsley, head of the new branch of U.S. Espionage, cocked his bushy gray eyebrows and stared at me, I knew I was in for a tough job.

"Come on in, Armitage," he said. "Sit down."

"Yes, sir," I said, giving him a naval salute and then drawing a chair up to his desk.

"Never mind the salute," he said sourly. "From now on you are no longer Lieutenant Jack Armitage of the U.S. Naval Intelligence. You are E-Twenty-nine of the F.B.I."

"Yes, sir," I answered dutifully.

The colonel leafed through the file of papers before him in

silence. It wasn't like Ormsley to be gruff and ugly. Something was troubling him.

"Armitage," he said, "after we went to the trouble of transferring you from Naval Intelligence, you may have wondered why we sent you down to investigate the mystery submarine *Squid* before the salvage crews brought her to the surface."

"Not exactly, sir," I answered. "Having been in the navy, and being an expert in deep-sea diving, I took it as a matter of course."

"Humph!" he said. "I have here your report. All in all, you made three descents. You found evidences that two bombs were exploded *within* the ship, causing her to sink to the bottom with a loss of the entire crew. Have you any idea what caused this sabotage of America's new type undersea boat?"

"No, sir," I answered truthfully.

"Well, we have," he assured me grimly. "The Heidendorf Ring!"

I just stared at him.

"Listen, Armitage," he went on earnestly. "Do you remember the Osborne-Malvern expedition to the Sahara Desert? They intended to experiment with that new type of Osborne sun engine to tap solar power."

"Who doesn't?" I replied, nodding. "The entire party was wiped out—massacred by the Arabs."

"That was the account given to the public," said Ormsley in a grave voice. "In reality, the expedition was wiped out by the Heidendorf Ring—and the plans of that solar engine were lost. Do you remember the Gernshaw expedition to the North Pole? They hoped to establish an electrical station to generate power by tapping the flow of magnetism from the field of the magnetic pole."

"Yes, sir," I said, and stopped.

"The next spring, the relief ship found the entire party frozen to death. This was attributed to the breakdown of their heating equipment. But the plans of Dr. Gernshaw and certain parts of his delicate equipment were missing. The answer? The Heidendorf Ring! And now this submarine disaster—with its loss to our government of William Fitzmorrow's new radio torpedo!"

Colonel Ormsley consulted a card on his desk, then went on.

"How many bodies did you find down in the *Squid*, Armitage?" he asked.

"Thirty-three, sir, counting that of Mr. Fitzmorrow."

"Armitage," said the colonel impressively, "there were thirty-four men aboard the *Squid*. One of them escaped before the explosion, stealing Fitzmorrow's secret invention, which had not yet been turned over to the War Department. The Gernshaw expedition was short one body—a mechanic by the

name of Merle. One body was shy in the tally of the Osborne-Malvern party—a mechanic by the name of Chatterton. Isn't this beginning to look fishy?"

"It certainly is, sir," I agreed.

"We have plenty of reason to suspect the Heidendorf Ring, the greatest and most deadly spy ring in modern history, to be responsible for these disasters," Ormsley told me gravely. "It specializes in military activities, armaments, and scientific inventions. Headed by a diabolical genius, the Heidendorf Ring is working for the ultimate success of a certain European dictator who hopes to control the entire world. Ruthless, merciless, smashing, the Heidendorf Ring is composed of men of undeniable brilliance and ability.

"Dr. Heidendorf is just a name to us. About him personally we know absolutely nothing, save that he must be as cunning and ruthless as his master. But we do know this—he has a positive genius for planting his men on the inside of big things. And the other day we had a lucky break. A man working in the Bascom Steel Mill was suspected of being one of Dr. Heidendorf's spies. We intercepted an innocent looking message to him. It was in code. It was broken down for me this morning. Here's a copy of it. Read it."

I accepted the sheet of paper and read:

Z-213:

Am making progress on Dorrance case. Drop your present

work and report to Dorrance as skilled mechanic. A-111.

I looked up. Colonel Ormsley made a grimace.

"We didn't even get to arrest this Z fellow," he said. "He faded like a wraith. But we have this meager evidence. And I think we'll take a leaf from Dr. Heidendorf's notebook and try his own tactics. Have you ever heard of Dr. Alfred Dorrance, Armitage?"

"Dorrance ... Dorrance," I reflected. "Is he the man who is working on some sort of hydrogen rocket?"

"Exactly," nodded Ormsley. "Only he is doing more than that. Our information indicates that he is building a rocket ship for stratosphere flight. If that is successful, it will mean the biggest step in science since the invention of the airplane. And already Dr. Heidendorf is sending his wolves in for the kill. And that's where you come in."

"I see. You want me to apply for this job as one of the Heidendorf spies?"

"I do not!" snorted Ormsley. "You wouldn't last as long as the proverbial snowball in Hades. I want you to get on the inside as a bona fide mechanic and then put your finger on the Heidendorf agent that we are certain is already on the ground. We must close down on the Heidendorf Ring and crush it!"

"Yes, sir," I answered earnestly.

"I'll arrange to get you a job with Dorrance," went on the colonel. "It will be up to you to stay there. You're to protect Dorrance's life, prevent another disaster, and get the Heidendorf agent that we are positive is there. You will be in constant danger. No one must know you are a secret agent—not even Dorrance. He might accidentally give you away. Remember, his closest intimate may turn out to be his deadliest enemy. I have chosen you because you are really a good mechanic, and you'll be able to play such a role. Do you accept?"

I thought of those thirty-three still forms I had seen in the holds of the *Squid*, and I nodded firmly.

"Yes, sir. I'd like to have a hand in bringing the Heidendorf Ring to book," I said earnestly.

"You've got it," Ormsley said. "A successful stratosphere ship will revolutionize industry and warfare. It would be a terrible weapon in the hands of a ruthless nation. And, like other inventions I have named, Dorrance has kept his plans and specifications to himself. If the Dorrance ship works, and the Heidendorf Ring steals it and kills its inventor, the Whole world will be at the mercy of Heidendorf's country.

"You will be strictly on your own. When you need us, we'll supply you all the help you want. Until then it's up to you."

"Yes, sir," I said. "I will do my best, Colonel Ormsley."

CHAPTER II

Stratosphere Ship

That espionage and sabotage must have been the furthest things from the mind of Dr. Dorrance was obvious in that no guards seemed to be posted about the great hangar in the rear of his stately home. The whole place was cradled in quiet as I got out of my car, picked up my heavy kit of tools and walked boldly to the side door of the mansion.

Because Dr. Alfred Dorrance had not been under direct surveillance until now, the information furnished me by Colonel Ormsley was meager. I had nothing to go on but a list of the scientist's closest associates.

I ran over this list mentally now. First, there was Martin Powell. Powell, a man of fifty, short of stature and powerful of frame, was an eminent geologist and engineer. He had a couple of university degrees and was outstanding in his field.

Second came Tom Joyce. He was a blond young chap about my own age and size. A pupil and disciple of Dorrance, he was the scientist's laboratory assistant and a superb draftsman. He was able to put on paper the dreams of his mentor so that other men could understand them and create them in concrete form.

Third, there was Diana, Tom Joyce's sister. She was Dorrance's secretary. Also his fiancée, although fully twenty years his junior. Both Tom and Diana had been put through university by Dorrance and seemed to be under some sort of obligation to him.

Fourth was Professor Etienne Parneau, the renowned Alsatian astronomer, author of a couple of excellent books on the stars, and discoverer of Parneau's Comet. Parneau traveled all over the world, photographing eclipses and gathering astronomical data of every possible kind.

And fifth, there was George Adams Quincy. Of them all, Quincy seemed the most out of place in this group. He was a millionaire sportsman and big-game hunter, about thirty years of age, reckless and adventurous, and a firearm expert.

That was the crop out of which I was to select a deadly agent of the mysterious Dr. Heidendorf—unless there were others, such as servants and minor technicians of staff, whose existence was yet unknown to the F.B.I. Not a very promising group to work with, all of them established and above reproach. But Ormsley had cautioned me that the agents of the Heidendorf Ring were well concealed and might be found in the most unexpected places. Any one of these five might be my man!

Either the doorbell was out of order, or nobody heard my ring. At least, it wasn't answered, and I knocked briskly. Still no result. All about me was silence.

In exasperation I tried the door. To my astonishment it opened under my touch. I hesitated, and then walked in. Not counting what was contained in my tool bag, I was unarmed—as befitted the role I was playing—and I wasn't sure that I

wanted to prowl this particular house.

Then I heard a man's voice coming from the direction of the library, and I walked along the carpeted hall in that direction. On the threshold of the room in question I paused. Standing before a long table was a slender man in a white laboratory smock. His back was toward me and he was speaking to a young woman, who was seated at the table.

"Checked my figures last night, and he agreed with me. Together we will use the electroscope to make sure. But, Diana, beneath Tycho there is wealth and power untold for the use of mankind."

"I knew it, because you have already told me so, Alfred," said the girl in a soft voice which set silvery bells to chiming for me. "Now that the professor has corroborated your figures, why delay any longer? As soon as the *Icarus* is stocked and provisioned, why not leave?"

"You forget the radium," reminded the man sadly.

The girl bit her lip quickly. I could see her in profile.

"What a shame!" she said, quickly. "Pounds of radium for the taking, and we are baffled over the attainment of four little grams of the stuff. But surely George Quincy will be able to —"

The unmistakable feel of a small, round, metal circle

suddenly manifested itself at the nape of my neck.

"All right, mister!" said a hard voice. "Start walking on into the room, and no tricks!"

The girl started sharply and looked toward the door with widening eyes. The man in the white coat turned his head in mild annoyance at the interruption. Then he saw me and the man I couldn't see, and his annoyance was replaced by consternation.

"Good morning," I said brightly as I obeyed my unseen captor and marched carefully forward; "This is the home of Dr. Alfred Dorrance?"

"It is," the man before me answered. "I am Dr. Dorrance."

"I'm the man from the National Oxygen Company," I stated in an even voice. "If the gent behind me isn't nervous with his trigger finger, I've a work order in my pocket which I'll get out."

"I came along the hall to find this man eavesdropping at the door," said the man behind me. "So I collared him."

"The National Oxygen Company?" Dorrance caught at that. "This is the man we are expecting, Tom. You can put away your gun."

"Not until he explains what he was doing inside the house," said Tom, but he drew back a step and removed his weapon from my neck.

"I rang the bell," I obliged immediately. "Nobody answered, so I started to shake the door. It opened under my touch, and I just walked in. I came straight to the sound of voices here. I'm no housebreaker. Here's the work order."

Dr. Dorrance extended his hand for the sheet, and I gave it to him. I knew there'd be no trouble about that. It was bona fide. And the coupé outside belonged to the National. I even had a union card and a social security number. The department is very thorough about such things.

I sized up the scientist as he looked over the work order and then passed it to the girl. He was in his early forties, with graying hair and fine, large, speculative brown eyes. Clean-shaven and faintly lined, his was essentially the face of a thinker.

Now he smiled in friendly fashion at me, taking in my strapping six feet and broad shoulders, black hair and blue eyes, and general husky appearance approvingly.

"Ah, yes, of course," he said. "That bell. I intended having it fixed, but I forgot about it. I've been expecting you, Mr.—"

"Armitage," I supplied. "John Armitage."

"Mr. Armitage," he finished. "My associates and I are conducting an experiment which requires—"

"Just a minute, Dr. Dorrance," interposed the girl coolly, her

violet eyes searching me up and down. "May we see your identification papers, Mr. Armitage? Just a matter of form, but necessary."

Silently I passed my wallet over to Dorrance. He handed it to the girl. She proceeded to examine its contents in a brisk, businesslike way. I set down my bag and waited. There was a moment of silence. Then the girl took up the telephone on the table and dialed the National Oxygen Company. She established the identity of one John Armitage. Satisfied, the girl replaced the transceiver.

"One last formality, Mr. Armitage," she said. "Kindly write your name and address on this sheet so I may compare with your signature on your driver's license."

Wordlessly I complied, and all the time I was wondering if she and her brother were mixed up in the Heidendorf Ring. If not, their present actions were a bit queer, to say the least.

"Everything is in order, Dr. Dorrance," said the girl finally, relaxing.

I transferred my attention to the girl. Diana Joyce was just—well, exquisite. She looked up to catch my admiring eye, and she colored faintly. Dr. Dorrance began speaking again as calmly as though nothing out of the way had happened.

"Mr. Armitage," he said, "I could not explain in detail over the phone to your company just what I required. Before we go further, let me ask—are you familiar with air-purifying units of all kinds?"

"Most of them," I answered. "Such as what?"

The three of them glanced at each other. Then Dorrance plunged.

"Such as oxygenators used in modern—submarines?"

"Yes," I replied without batting an eye but I was secretly astounded.

Dorrance appeared vastly relieved.

"This is a matter of life and death," he went on gravely. "Mr. Martin Powell and Tom, here—by the way, this is Tom Joyce, my invaluable assistant. And his sister, Miss Diana Joyce, my secretary."

"Jack Armitage, mechanic, at your service," I said, responding.

"Powell and Tom have already installed the apparatus in question," resumed Dorrance. "It simply requires a check-up by an experienced man. You see, our experiment deals with a sealed chamber which must have its own oxygen unit to remove carbon dioxide from the air. If you won't object to being blindfolded now, we will conduct you to the unit you are to inspect."

"What is all this?" I demanded, in character as a puzzled and honest workman. "Where is the plant?"

"You will be at work in less than five minutes," promised Dorrance.

"Okay," I agreed curtly. "It's all in the day's job, I guess."

"Diana, the blindfold," said Dorrance.

The girl picked up some bandaging from the table and came forward. I stood docile while her nimble fingers deftly hoodwinked me.

"Tom will carry your tool kit for you," Dorrance then said, taking my hand. "Come this way."

The four of us moved out of the library down a flight of steps to the basement, and through a tunnel that was dank and musty. After proceeding about the right number of steps to put us under the huge hangar I had already noted, we ascended to ground level. The doctor still guiding me, we approached the ship he had been building and I was led inside through a low ground port.

Finally I was halted and my blindfold removed. I stood in the windowless interior of what Dorrance expected me to believe was an experimental chamber of some sort.

"Here you are," said Dorrance, indicating a compact mass of familiar machinery—pumps, compressors, chemical tanks and filters. "For your information, this unit must keep the air breathable in a chamber of approximately twenty thousand cubic feet."

I could have laughed aloud at his naiveté. To expect me to

swallow that! For I knew that I stood within the hull of the Dorrance stratosphere rocket ship—the *Icarus*.

CHAPTER III

Four Grams of Radium

By the appearance of the wide, flat ceiling overhead I knew Dorrance's ship was double-decked. While I could only see a limited portion of this lower level, I estimated the ship to be about seventy feet long. It seemed to be built in the conventional torpedo shape. I wondered how heavily it was motored and what the wing spread would have to be.

Now, however, wasn't the time to get inquisitive. I opened my bag, laid out some tools, and set to work checking the oxygenator. Dorrance had certainly spared no expense in his equipment. An hour's work proved to me that this outfit would have handled the air for a hundred-foot submarine without the least bit of trouble.

"Where are the batteries?" I asked.

"There are no batteries," was Joyce's surprising answer as he watched my face. "The electric power supplying the motors and pumps will be constant."

No batteries! That seemed phony. Suppose the electric

power supply failed? I shrugged my shoulders.

"Well, come on," I said. "Let's check the air ducts. This unit will do twice the work required as long as it gets the juice. Where's the control room?"

"Hold on!" said Joyce sharply, halting me. "This is all you need do."

"But I can't okay the job unless I know the ventilating system is—" I began.

The return of Dr. Dorrance and Diana prevented further argument. With them came an amazing looking man. He was short and wide, with great muscular arms. Lacking a good six inches of my height, he must have been fully that much wider than I. He had to move along the narrow corridor on the bias. But he was not simian in any respect. He had a long and highly intelligent, if sad, face and piercing gray eyes. I placed him instantly—Martin Powell, mechanical genius and geologist of note.

"Armitage is through," announced Joyce. "He okays the job."

"I said the oxygenator itself is all right," I corrected drily. "I can't okay the entire system unless I'm permitted to go over it carefully."

Dorrance looked hesitant. "That is a vital point. What do

you think, Powell? He doesn't necessarily have to enter the control room."

The geologist looked at me shrewdly, and I experienced a vague thrill as I wondered if he could possibly be the agent of the Heindorf Ring, and if he knew who and what I really was. Then he shrugged.

"No harm, I suppose," he said in a deep, sad voice. "He won't make head nor tail of the rest of the machinery on this level."

"I vote against it," put in Tom Joyce positively. "This man's convinced me he's highly intelligent."

"Tom's right," said Diana Joyce quickly. "You can't afford to take any chances with strange—"

"That's all, Armitage," said her brother crisply. "You needn't okay anything but the oxygenator. Put on your blindfold and I'll take you back to the library."

Seeing that they were about agreed to dispense with my services, I threw caution aside. Ormsley had told me that it was up to me to stick on the job once I had got in.

"What's the idea of all the secrecy?" I asked boldly. "Are you people trying to conceal from me that this 'experimental chamber' is really a hydrogen rocket stratosphere ship?"

All three men looked startled. Diana Joyce gasped faintly, her eyes going wide in that lovely manner of hers. There was a painful silence.

"I knew it!" finally exclaimed Tom Joyce in a bleak voice. "He is a spy!"

I was treading on thin ice now, but I had to win the confidence of these people.

"What do you mean, Armitage?" asked Dorrance, perplexed. "What is a hydrogen rocket ship?"

"You ought to know, sir," I answered promptly. "You've built the first one."

"See?" said Joyce bitterly, "We don't dare let him go now."

"Who sent you here, fellow?" demanded Powell in a curt tone. "Are you a spy?"

"No," I said gravely, "I'm not a spy. I'm a mechanic, and I use my eyes. Who hasn't read about Dr. Dorrance and his gravity nullifier? And at National we've heard the rumors of his water electrolysis machine which reduces water to its two component gases—hydrogen and oxygen—and his rocket-tubes which use the oxygen to fire the hydrogen. Any fool can see this is a craft of some sort. So, putting two and two together, I guessed that it must be a stratosphere ship."

"Just who are you, mister?" demanded Powell, his gray eyes cold and piercing.

"An oxygen expert for the National Oxygen Company," I replied steadily. "By profession I'm a deep-sea diver."

"Deep-sea diver?" exclaimed Dorrance, his eyes lighting.

"Tom! Martin! This is a god-send. He's just exactly the man we need. Deep-sea armor is astonishingly similar to—"

"Wait!" cut in Tom Joyce sharply. "I want to know more about this man."

"Well, the cat's out of the bag," said Powell sadly. "Let's go back to the house and cross-examine Mr. Armitage."

Tom Joyce drew his automatic. He menaced me with it. Powell scooped up one of my wrenches.

"I don't know what your game is, fellow," he said, "but you won't live to make any funny moves. Head back along the corridor behind Martin Powell. You can leave your tools here. You won't be needing them for some time."

With Dorrance and Diana leading the way, sandwiched in between the mighty Powell and the armed Joyce, I followed out of the ship and down through the tunnel to the house. I didn't even get a chance to examine the craft from the outside.

As we ascended to the hall of the house, we heard the squealing of brakes and the skidding of tires on the gravel of the driveway. A car door slammed, and footsteps came running toward the side entrance.

Two men dashed into the house.

The first was a small and slender man who seemed to be a

bundle of nervous energy. He was dark and bright-eyed as a fox, his trim little beard giving his features an alert and pointed look. I recognized him from news-reel pictures. He was Professor Etienne Parneau.

Behind him came a man who was even larger than I. He was almost staggering under the weight of a handbag he carried. There was a smile about his handsome lips and a reckless, daredevil expression on his handsome features. George Quincy, the millionaire sportsman.

"Dr. Dorrance!" cried Etienne Parneau in high excitement. "The deal fell through. They wouldn't let us have the radium at any price. We were desperate!"

"Parneau!" exclaimed Dorrance, paling. "What do you mean? We had arranged for it."

"I know, I know," babbled the little astronomer, almost wringing his hands. "And Mr. Quincy had a certified check made out for the entire four grams—two-hundred-fifty thousand dollars—but, at the last minute—"

"The Federal Government blocked the deal," Quincy finished in a booming, jovial voice. "They wouldn't permit the private purchase of that much radium—on top of the single gram we had already bought—on the wild promise of double the quantity in return. So we held them up at the Foundation and took it. I guess we're in for it now. The police—"

"Hush, hush, for heaven's sake, hush!" cried the girl, gesturing toward me.

But Dorrance was not to be sidetracked. "You—you *stole* a quarter of a million dollars' worth of radium?" he demanded, aghast.

"Sure," panted Quincy, laughing as carelessly as a college student who had just been guilty of a campus prank. "We *had* to have it, didn't we?"

"Alas!" chattered Parneau. "There can be no turning back now. The police will be here as soon as they pick up our trail. I—*sacré bleu!* Who is this man?"

"A prisoner—oxygenator man," explained Joyce harshly. "What difference does it make—now? Quick! Go to the library where we can tie him up."

"Got to get rid of this radium," said Quincy. "I'll take it to the *Icarus*."

"But—but—" protested Dorrance weakly.

"The die is cast, *mon ami*," cried the voluble Alsatian. "This epochal flight is greater than mere governments and a paltry bit of radium. Your work must be crowned with success. Not a one of us but would sacrifice anything to insure your achievement. The *Icarus* is ready for her maiden voyage, *n'est-ce pas? Voila!* All that remains is to take off."

On top of the Heidendorf Ring had come this criminal theft of a quarter of a million dollars' worth of radium. And now the

entire group must be on the verge of fleeing to Europe in the Dorrance stratosphere ship. I knew that I had to prevent that—quickly.

Desperately I dived for Tom Joyce. I grappled with him and twisted his gun wrist to his side before he could recover. He was helpless as a baby in my powerful grasp. I was going to take that gun away from him and get out of here in time to prevent their escape.

The idea was good, but Martin Powell was equal to the emergency. He must have been quick as a cat on his feet. He leaped toward us and slammed me across the back of the head with the spanner he carried.

The world exploded silently, in a flare of orange-colored light that quickly blacked out into oblivion. My last conscious impression was a vision of Diana Joyce staring at me with wide and frightened eyes, her lovely lips parted in a scream I did not hear as I plunged senseless to the floor.

CHAPTER IV

Shanghaied

I came to my senses to find myself on a comfortable bunk in a tiny cubicle of metal shaped something like a Pullman car section. A low, two-drawer chest bolted to the wall did duty as

a sort of window seat and a cabinet for personal belongings. But there wasn't any window. And there was no other furniture in the room.

Spartan as this cell was, there was an electric light in the curving ceiling and a small electric heating unit in one wall, and an unmistakable little loud-speaker in the opposite bulkhead. Inside the wall was a shallow recess containing a water faucet, soap, toothpaste, and so forth. The only real openings in my tiny world of metal were the metal door in the one straight wall and a foot square aperture covered with a grill high up in each bulkhead. This was the ventilating system.

But I discovered all this later. My first conscious thought was about my splitting headache. Then I found that my noggin had been neatly bandaged and that I was neither bound nor gagged. Next, I learned that my watch had stopped. It had run down. This indicated that I had been out more than twenty-four hours, for I had wound the watch before setting out that morning for Dorrance's place.

While I wrestled with the time element and the headache, I became aware that the roaring in my ears was not the blood rushing through my head, at least, not altogether, but was the muted roar of something like a combustion engine without a muffler. With a thrill of alarm I knew what it was—hydrogen rockets! We were in flight. I listened in vain for the faint thunder of radial motors with props clawing at thin air. There was no such sound, or else it was swallowed in the roar of the rockets.

I guess I must have made some noise coming out of my

coma that was picked up by the two-way speaker in the wall. For abruptly the door slid open, and two men crowded into the cell. They were Dr. Dorrance and Martin Powell.

"Ah!" said Dorrance gently. "So you are awake at last."

"Yeah," I said thickly, sitting up and gripping my head. "What time is it, and where am I?"

"You are aboard the *Icarus*, and it is nearly twelve o'clock, noon, Eastern Standard Earth Time."

"*Earth* time?" I was faintly puzzled. "I've been out only two hours?"

"You've been out twenty-six hours," said Powell ruefully. "I fetched you a harder crack than I meant to. I'm sorry."

I was plenty sore, but this was no time for me to start anything.

"Skip it," I said. "I'll even things up some other time."

"You are entitled to plenty of explanation, Armitage," said Dr. Dorrance apologetically. "And you shall have it—now."

"All right," I said sourly. "Start talking."

"In the first place, this is Professor Martin Powell, an eminent geologist. I don't think I introduced you before."

"We've met," I conceded. "He borrowed one of my wrenches."

Powell nodded at me sadly and rubbed his long chin. Dorrance went on gently.

"You see, it was not what you overheard in the house that brought you here. It's what you said in the oxygenator room. You had just proved you knew machinery, and you said you were a deep-sea diver. Well, Mr. Powell needs a relief man, and we all need an armored suit expert, so you just naturally fitted into our plans. Working in armor under water pressure is much like working in a space suit under air pressure in a vacuum. We didn't have time to consult you, so we—ah—"

"Shanghaied me," I finished for him. "I guess that's luckier than getting my throat cut over four grams of rad—what? *Space* suits? What kind of talk is this?"

Dorrance and Powell glanced significantly at each other. Then the scientist fixed his soft gaze on me.

"Prepare yourself for a slight shock, Armitage," he said. "The *Icarus* is not a stratosphere ship. It is really a seventy-foot projectile with a rubber-insulated triple shell. On the lower level is all of the machinery, the space suits, and the air-lock. On this level are the living quarters, supplies, and control room. Including yourself, there are seven of us. But we are not making a stratosphere flight. We are headed for—the Moon."

Slight shock, he said.

"*What?*" I ejaculated. "Are you crazy, or am I?"

"Show him," Powell suggested lugubriously. "He can stand it."

"Come," said Dorrance. "The artificial gravity in the keel is set at Earth constant. Feel up to walking a few steps?"

"Lead the way," I answered, getting to my feet.

In a daze I followed the two men out and along a narrow corridor which had rubber matting cemented to the floor. There were doors like mine, four on each side, breaking the severity of the corridor. Each door was a sliding affair. We walked toward the nearer end of the electrically lighted passageway.

"The sleeping quarters," explained Dorrance, gesturing. "At the rear of the ship—accommodations for eight people."

The corridor terminated in an oval-shaped room like the small end of an egg. It was equipped with several chairs, a table, and a couple of bookcases. But none of this caught my eye for the time being. Near the end of the room was nothing more or less than a glassed-in observatory. The curved, thick, but transparent glass was in sections—panes in metal casements. The breast-high central section was of metal. Mounted on a ball-bearing universal joint was a Milligan electro-telescope, its large end sticking out into space two or three feet.

Space was right! My eyes bulged as I stared through those curved glass panes. I am at a loss to describe what I saw first and just how it affected me.

I guess it was the Sun. That was the most normal thing I

saw. Sunlight streamed in and brightened the observatory. But the space outside the windows was not the blue I was familiar with. It was like translucent black—nothing to impede or reflect the rays of the Sun. It was sickly, ghastly. And scattered around the visible sky were the twinkling points of myriad stars.

The Sun was shining through a nightmare night!

But that wasn't the worst. Hanging there in space between us and the Sun, a bit to one side, was a huge greenish-gray globe that swam in a hazy mist and revolved lazily on its axis like a great ball. I felt like the first time I had visited a planetarium, like the first time I made a descent to the bottom of the sea—only worse.

"What—what—" I articulated helplessly.

"Take a look through the telescope," said Dorrance, indicating the stool before the eyepieces.

I sat down weakly and looked. Instantly the great ball leaped so near that I could see only about half of it. And the half I saw distinctly had the familiar outlines of the Western Hemisphere upon it—America—floating in a sea of gray. As I stared it was slowly but visibly shrinking.

"Earth," murmured Dorrance at my ear. "At a distance of about twenty-five thousand miles. With the naked eye we are viewing it about as a microbe would view a basketball three

basketball diameters away. We are traveling away from Earth, at the rate of one thousand miles per hour."

I didn't faint, but I felt terribly sick. I removed my eyes from the eyepieces of the telescope and stared through one of the curved windows. Among the thousand conflicting thoughts and emotions which raged in my brain, the first impression that became clear was the sense of orientation. In spite of its proximity, the Earth did not seem to be beneath us, but to one side.

That sensation, when finally accepted, never left me. Due to the artificial gravity in the keel of the *Icarus*, down was always the keel of the ship. It made no difference how we traveled through space in relation to other objects, unless we were landing on a planet, down was ever the floor of the ship.

Then the irony of something struck me. I began to laugh a bit hysterically. I was thinking of what Colonel Ormsley had promised me. "When you need us, we'll supply you all the help you want," he had said.

Twenty-five thousand miles out in space and traveling onward at a thousand miles per hour. The entire world couldn't help me now. But with this came a sobering thought. Could I help the world? Dr. Dorrance's mystery ship was a weapon for good or evil far beyond the wildest dream of the U.S. Secret Service. To what lengths would the Heidendorf Ring go to possess such an instrument?

The next thing I became aware of was the utter absence of the sense of motion. Save for the steady firing of the rockets, whose yellowish-red glare I could see when I glued my forehead to the most convex pane, there wasn't the slightest sensation of movement. We seemed to be fixed in space, with the Earth shrinking smoothly away from us.

Dorrance and Powell waited. They didn't bother me with a lot of talk, simply allowing me to make my own readjustments. At last I turned away from that appalling vista and grappled with the solid reality of the observation chamber of the *Icarus*. Mathematics helped me.

"Is a thousand miles per hour our maximum speed?" I asked.

"Just about," Powell answered me.

"Then how did you take this ship off? To escape gravitation, a projectile's minimum speed must be about seven miles per second. That would be at least twenty-five thousand miles per hour."

"That's right," said Powell with greater animation than I had yet seen him show. "You have a head for figures, Armitage, but in this case you don't have all the facts. You don't require that speed if you can neutralize the force of gravity."

"But who can do that—altogether?"

"Dr. Dorrance," said the geologist simply.

I turned toward the scientist, mentally groping for comprehension.

"The actual principles behind the gravity nullifying process are too complicated to explain briefly," Dorrance explained. "But I can tell you about the kind of fuel I used. Nature has already stored tremendous energy in a substance which far transcends the weight and volume of the substance itself."

"You—you don't mean atomic power?"

The scientist smiled and shook his head. "Alas, no. I mean radium. The slow decomposition of radium is speeded up immeasurably in the Dorrance Radium Engine; It furnishes enough power from three grams of radium to take a hundred-ton space ship to the Moon and back. That leave an ample margin for hydrogen rockets and a ballast tank of water for the same."

"Impossible!" I cried.

Martin Powell tapped me lightly on the shoulder and pointed out into the void at the weirdly terrifying spectacle of Earth adrift in space. That argument was unanswerable.

"And it was Quincy who stole the necessary radium to power your engine," I said reflectively.

"Yes," Dorrance admitted simply. "The end sometimes justifies the means. And we need you. We've checked and rechecked and tried to anticipate every possibility, but there is so much to a pioneer voyage that we may yet find we have failed to take into account everything. Will you accept my deepest apologies for—for kidnaping you, and take part willingly as a member of our expedition?"

The faces made must have been comical. What alternative had I? I couldn't jump ship out in the middle of space. Here I was, bottled up with Dorrance and five other people, one of whom was undoubtedly a ruthless agent of the deadly Heidendorf Ring. The slightest misstep on my part—and I could imagine the subsequent details.

"What else can I do?" I said aloud.

"Nothing," agreed Powell drily. "Sometimes a man talks himself into a situation by being too smart."

I heartily concurred with this, but I didn't like the way he said it.

"All right, I'll be good," I capitulated. "What do you want me to do?"

"Take over control of all space-suit expeditions, and relieve Martin Powell when necessary as engineer," answered Dr. Dorrance.

"And," I added to myself grimly, "protect your life and ferret out the Heidendorf agent—if any. A sweet job." But aloud I only said, "Okay. I'll play out the string under your leadership. But why in thunder are you going to the Moon?"

"That," promised Dorrance, "I will explain to you in good time. Come along now to the control room and meet our entire company as a bona fide member of our expedition."

CHAPTER V

Rendezvous in Space

It was like a phantasmagoria, watching that huge silvery-gold disc rushing toward us out of the black depths of space. Sliding slowly across the forward observation port like a big, round cookie against a sequin-spangled drop of sable velvet, the Moon swept majestically onward at her steady pace of 2100 miles per hour in her orbit around Earth.

Right now she appeared to be approaching us far more swiftly than she seemed to be making her transit across the face of our control room port. She was looming so rapidly that it seemed she must surely slide by to one side and fall behind, putting us in the position of a torpedo which has overshot its mark, and facing us with the unknown perils of outer space.

This was illusory, of course—or Parneau had made a bad mistake in his calculations. Spatial navigation was worse than in its infancy. It hadn't even been born. It seems so simple now, that pioneer voyage to the Moon, but at the time I could liken it only to the voyage of a submarine in the middle depths of a vast ocean—three-dimensional travel toward bases that were mobile and moved at a greater speed than the space mariner.

I could readily understand why Dorrance had included

Etienne Parneau in his party. Parneau, world-acclaimed astronomer and physicist, was the navigator of the *Icarus*. Out here in space he appeared in an altogether new light—as did each of us—and he was a wizard at mathematical computation.

There was a carefully calculated reason for every member of our expedition. Martin Powell's mechanical genius had built the *Icarus* from the blueprints drawn by Tom Joyce. He was chief engineer and, being a geologist, he was going to be invaluable when we reached the Moon.

Tom Joyce, assistant to Dorrance, had the ability to follow his mentor's progress and transmit his ideas to paper so others could interpret them. He was a scientific draftsman.

George Quincy was more than a financial backer. Being a gun and ballistics expert, and having hunted practically every kind of game Earth offered, he was in charge of the arsenal.

Diana Joyce's position was a bit less important, but if Dorrance had not brought her along, a man would have been needed to fill her place. She was by way of being the supercargo. She had checked all supplies and equipment, and it was her duty to record all data and notes for future study.

Dorrance himself, inventor and leader, was the figure about which everything revolved. He was the dreamer of dreams, and the rest only helped him make the dreams possible and practical.

I? Outside of being relief man, I was the shanghaied sailor who was going to take the primary risks and do the dirty jobs, if any. But this was no new experience for me. I'd been

cleaning up dirty jobs for a long time. This was just a different kind of one. Earth and the menace of the Heidendorf Ring faded into the background.

Ten long days had passed since I awoke aboard the space rocket, and I had been very busy trying to catch up with the many things I had to know. Under Powell's tutelage, I had mastered the operation, if not the principle, of the radium engines, hydrogen rockets and gravity nullifiers.

There was a distributor, not unlike that on a motor car, which automatically fired the rockets in proper sequence and order, although there was an emergency panel in the control room which would permit the navigator to take over a manual manipulation of rocket blasts should the need arise.

There were gauges all over the ship for every conceivable purpose, from temperature and air purity to gravity and rocket firing, and it was the duty of every man to read each one of them once every twenty-four hours and submit the collective readings to Dr. Dorrance for constant check-up.

Diana had charge of food and water, although we took turns at cooking on the hot plates. Nothing was wasted. There was plenty of water for drinking and washing purposes, and the used and dirty water was carefully drawn into the electrolysis tank for fuel. The only inconvenience we experienced was that there were no baths. We did not dare spare the water.

That was one of the first questions I propounded to

Dorrance.

"I've always understood there is no water on the Moon," I said. "Suppose we run out? How will we get back to Earth?"

"A good question," he answered me. "We computed how much water is needed for the rocket-tubes at cruising speed all the way to the Moon and back, and doubled the quantity. By saving every drop, even after it is used, we will have plenty for the *Icarus* and enough for human needs for three months. In case we've misfigured or have an accident, we will simply use the gravity nullifiers to leave the Moon, use enough water to rocket our keel toward Earth, and reverse the field of the nullifiers so that Earth will pull us in. It would take longer to get there, but it would be much easier than trying to go the other way. For the Moon's surface gravity is only one-sixth that of Earth."

"You seem to have thought of everything," I said admiringly.

"I'm afraid not," he answered, "but we've tried to."

Parneau showed me how to read the navigation chart and how to manipulate the ship from the control chamber. I didn't like his air of condescension, but I never let on. He was smart, and I had lots to learn. But I did ache more than once to have him with me down in the murk of twenty fathoms in diving armor and see how smart he would be there.

George Quincy seemed the most human of them all, outside of Diana, of course. Self-confident, always used to plenty and having his way, I was surprised to see how well he behaved under the leadership of Dorrance. I could see he was falling under the spell of Diana Joyce, and I smelled trouble there, for she was engaged to Dr. Dorrance. But that was none of my business.

From Quincy I learned about the weapons aboard the *Icarus*, taken along just in case. And again I was amazed at the genius of Dr. Dorrance. Quincy had brought along his entire gun cabinet, which contained everything from a light fowling piece to an elephant gun, and he had an astounding variety of shot and shell for his arsenal. However, there were also six peculiar looking pistols in the rack.

"These," he told me, handing me one for examination after showing me how it worked, "are ray-guns. The weapon was developed by Dorrance. There is a minute charge of radium in a little chamber in the butt. It's an adaptation of the radium engine. Pressure on the trigger sets up action on the radium, and a pencil ray of pure radon shoots out of the muzzle like a flame of pale fire. It is deadly to all organic life at a distance of twenty yards. They'll probably prove of greater service on the Moon than all of my other weapons, but likely we'll not need any weapons at all. The Moon is airless, waterless, and lifeless."

I admired the entire assortment of weapons and watched him lock them carefully away.

"I guess you and I are slated to be the gun bearers and the

general explorers, Armitage," he said. "I'm ready to take space-suit instruction from you any time."

"We'll get around to it as soon as I have mastered their tricks myself," I promised.

I went down to the lower level that same day and, when I had the private opportunity, dug into my tool kit, which had been undisturbed. From the false bottom I exhumed a pistol of my own, and I placed more confidence in this than in Quincy's whole stock of guns.

This was a .480 automatic pistol which fired an explosive shell. It was a new invention. The initial charge of powder was sufficient to drive the projectile fully four inches into hard oak at fifty yards, and then the shell would explode, shattering the timber to pieces. Dum-dum bullets were humane compared to it.

Making sure that this secret compartment had been undisturbed, I put the gun back with the several other items I had there. I went to resume my study of the space suits.

There were eight of these grotesque looking objects in a cabinet on the lower level near the sealed exit port, which had a small air-lock. They stood erect like suits of medieval armor, but there was a vast difference.

For one thing, each suit weighed six hundred pounds. It was startlingly like the deep-sea tackle with which I was familiar,

with this difference: There were no lead weights. Lead was used, however, in their construction throughout. Tom Joyce explained them to me. He had drawn the specifications.

On the back was a regulation oxygen tank with a six-hour supply. The suits were fleece-lined. At the belt of each was a metal-covered valve to regulate the flow of oxygen, a rheostat to adjust the electrical heating unit, and another to control the refrigerating unit. There was a reason for this, as Joyce pointed out.

"This suit," he told me earnestly, "was designed for use on the Moon only. The temperature there in the sunlight reaches a point approximating two hundred and sixty-five degrees—more than fifty degrees above the temperature of boiling water. That's the reason for the refrigerating plant on the back. In the crater shadows, the temperature is cold enough to freeze alcohol—about a hundred and eighty degrees below zero. That's the reason for the heating element. And all those things add up to the ponderous weight."

"Not counting the pick-ax and drill and wire cable I see clamped to each belt," I commented. "And how about the guns and other items we might want to carry? Is there a gravity nullifier built into the suits?"

Joyce smiled faintly as he shook his head.

"No," he said. "Don't forget that the surface gravity of the Moon is only one-sixth that of Earth. These six-hundred-pound

suits will weigh about one hundred pounds there. Let's see, you weigh about a hundred and eighty pounds?"

"One-ninety," I said, beginning to see the answer.

"You'll weigh the equivalent of thirty-two pounds on the Moon. Encased in one of these suits, with all the extra equipment you may carry, you'll weigh less than your normal weight on Earth."

"I see," I answered humbly. "But why the lead in the suits?"

"That's for another reason," he said. "Lead is also fused in the entire helmet. We had them made specially at Corning, New York."

I examined the heavy, solid glass globes which constituted the helmets of the space suits. They looked like nothing so much as inverted fish bowls.

And thus I went on for ten days, acquiring and absorbing knowledge of the *Icarus* and of my companions. Until this moment that all seven of us were crowded in the control room, watching the rushing approach of the Moon.

Back on Earth I knew that people were seeing the Moon waxing past the gibbous stage in the eastern sky about now, almost at the end of her second quarter, or the state of full moon. In exactly ten hours, she would reach that state. That meant that we were, or should be, approximately ten thousand miles from the Moon's orbit and roughly fourteen thousand miles from her pockmarked surface. An interesting little problem in solid geometry figured with the Moon following

the arc of a curving hypotenuse. It was a bit deep for me.

I wasn't alone in my anxiety. Dr. Dorrance, who was not an astronomer, either, put my thought into words.

"You are sure, Parneau," he asked quietly, "that your figures are correct? There's no need to change our course a bit?"

Parneau's lips parted in a thin smile. Thoroughly competent and inordinately superior because of his mathematical genius, he glanced at the instrument panel and then at Dorrance. Perhaps his own slight anxiety or tension over the accuracy of his figures being tested practically for the first time made his reply a trifle sarcastic.

"Certainly I am sure, Dr. Dorrance," he answered in his faintly accented English. "But for the benefit of all who may feel slightly alarmed"—and here his sharp, black eyes darted like rapiers from face to face, sneering at mine and softening as they rested on Diana's blond loveliness—"I will explain as simply as I can.

"Making allowance for the Moon's variation of five degrees and nine minutes from the plane of the ecliptic, I figured the time from the moment we left Earth to when the Moon would reach the full. This was by sidereal and not synodic computation. That is, from fixed star back to fixed star.

"As our speed is, in relation to the Earth and Moon system, one thousand miles per hour, and the Moon's orbital speed is

twenty-one hundred miles per hour, and the distance from Earth this month to full Moon is two hundred and forty-eight thousand miles, I plotted our course by Polaris and headed us for the exact point in space which the Moon will reach in two hundred and forty-eight hours.

"Using Polaris as a spatial compass like mariners use the magnetic pole, I simply planned a rendezvous some ten hours hence with the Moon. Here we are. There comes the Moon. That is all."

"Thank you, Parneau," said Dorrance, not even noticing the irony. "That is sufficient. The actual navigation is in your competent hands. There have been so many things to consider and plan for—that I wonder at times if I have made any stupid blunders."

"Of course you haven't!" said Diana quickly. "I'll bet Columbus didn't think of everything when he set sail across an uncharted ocean."

"At least, he didn't take into account all the possible difficulties he was going to run into," commented Powell thoughtfully.

"Such as—the human equation," suggested Quincy, looking at the girl. "Mutiny and so forth. My history is better than my science."

Dr. Dorrance cleared his throat as he glanced from Parneau to Quincy and then to Diana, on whom he smiled tenderly.

"I don't think we need worry about the personal equation,"

he said calmly. "I considered that in selecting this group."

"Except for Armitage," reminded Powell dourly.

Dorrance went on as though there had been no interruption. "I also tried to think ahead for every possible eventuality. With such men—and such a woman—to check me, I don't think we've missed any important details."

Diana gave him a swift smile and patted his hand. Dorrance unfolded like a flower. I cocked an eye at Martin Powell and wondered. Dorrance was going to have trouble with Parneau and Quincy. Was I going to have the same with the formidable geologist? Was he the Heidendorf agent, and did he really know who I was? Was he laughing up his sleeve at me?

CHAPTER VI

Below Tycho

Some thirteen hours later we were headed directly toward the Second Quadrant, not a thousand miles out from the Moon's surface. Parneau's calculations were vindicated. It was positively uncanny to watch that huge spherical ball expand there ahead of us in space and subtly change from a ball to a disc and then to a great bowl which was no longer ahead of us, but down.

"The Moon has kept her rendezvous with Etienne Parneau," said the astronomer proudly. "Dr. Dorrance, will you take over?"

"Take the controls, Tom," ordered Dorrance crisply. "Land in Tycho Crater as we planned. Powell, start magnetizing the nullifier field. Cut the rockets, Parneau. Diana, you and Quincy start checking supplies and equipment. Armitage, come with me. As the first man ever to set foot on the Moon, it's time you knew why we have come here."

I followed him to the living quarters, torn between the fearful spectacle of watching us land and the pent-up curiosity I had concerning this expedition.

"Armitage," said the scientist, as the muffled roar of the rockets died into silence and Parneau came into the room after us, "the various theories advanced to account for the Solar System do not matter here. Let it suffice that the Moon is composed of the same elements as Earth—in different proportions.

"The Moon, to be exact, is a dead planet, a child of the Earth. It formed and cooled and lived its allotted astronomical day and died before its mother, Earth, felt the first wriggle of primordial life in the ooze at the bottom of the sea. But all this you have been studying for the past ten days. It is beside the point.

"The truth of the matter is that one of the rarest elements of Earth is—radium. This precious element is procured from several ores—carnotite and pitchblende, for example—and by

the decomposition of uranium. To power the Dorrance engine we need radium in quantity. And with my electro-spectroscope I discovered months ago that the Moon is honeycombed with pitchblende. Below Tycho is a veritable mother lode. Can you understand what this means?

"It means that the Moon can supply mankind for untold centuries with enough radium for all conceivable medical purposes, and still produce enough to power thousands of space ships and permit the exploration of the entire Solar System! Have you the vision to carry on from there?"

"Anyway, that is why we have come to the Moon, to prove two things. First, that spatial flight is possible—that the *Icarus* is a practical success. Second, that radium can be reclaimed in large quantities. Man is no longer bound to his native planet. The Moon is virtually a gold mine for man beyond the dreams of avarice."

Things began to fit into a rounded and complete picture for me.

"So that's why the lead is in the space suits and helmets," I said. "Radioactivity."

"Precisely," agreed Dorrance. "I don't think the emanations will be strong enough to be dangerous, but I am taking no chances on anything. That's why Quincy has brought so many weapons. We know the Moon is dead and lifeless, but I can take no foolish risks. After you test the efficacy of the space

suits, we will establish a base in Tycho and mine enough radium to replace that which Quincy took by force—twice over."

"We will be millionaires!" breathed Parneau. "*Mon Dieu*, I can hardly believe it."

Quincy and Diana came in at that moment, the girl laughing gaily at some remark her companion had made. I listened silently while the four of them talked excitedly.

"Aren't you excited, John?" Diana demanded of me. "I don't believe you've voiced an opinion thus far the entire voyage."

"Yeah," I answered laconically. "I'm thrilled to death."

Quincy cocked an eye at me.

"Getting cold feet, Armitage?" he asked, chuckling. "I'll make the first sally outside if you're afraid."

"A man who wouldn't be afraid is a fool," I said curtly. "I never made a descent without wondering if I was going to get back to the surface without an accident."

Quincy laughed, fairly blooming under Diana's admiring glance. "Better let me make the first try, Dorrance. Armitage is in a funk."

Dorrance looked at me dubiously, while Parneau openly

sneered. I felt Diana's violet eyes searching my face for signs of cowardice, but I made no attempt to explain or justify my natural feeling.

"I'm going to watch Joyce land this thing," I said, making for the control room. "You can go along with me, Quincy, since you're so anxious to cover yourself with glory—only if you are willing to obey my orders."

I went out before the millionaire answered. They all trooped after me to the control room.

The picture had changed during the interim. Instead of the muted roar of the rockets, there was now the steady hum of the dynamos pouring the power to the gravity nullifiers. The *Icarus*, under Tom Joyce's skilful handling, had turned her keel to the lunar surface and was settling rapidly.

Under the momentum of our flight, we were still traveling at a terrific speed at an oblique angle toward the face of the Moon. The huge crater that was Tycho was dead ahead—fifty-five miles in diameter and twelve thousand feet deep. Instead of the soft yellow luminance we see from Earth, the lunar landscape was like a bad dream. Because of the airless condition, everything was revealed in stark relief. It was a world of crags and craters marked by sharply defined shadows and dazzling sunlight. There was no intermediate shade between black and dead gray white.

Tom Joyce braked our forward speed with a red blast from the forward rockets and then set us down almost in the center of Tycho as lightly as a feather. There was the dull crunch of

rock beneath our hull, a slight lurch, and the *Icarus* was at rest.

Joyce adjusted several controls, flipped a switch which started the refrigerating apparatus of the ship—for the temperature would start to rise immediately with the reflection of the Sun from the terrible surface about us—and turned to shake hands with Dorrance.

"Alfred," he said heartily, "let me be the first to congratulate you. Your dream has come true."

In a moment they were all shaking hands and talking. Dorrance, tears of happiness in his eyes, stood with his arm about Diana's shoulders and accepted the shower of praise.

"Thank you, thank you," he said in a voice that trembled a little. "You people have been instrumental in making the dream come true."

"Come on, Quincy," I said at last. "We've got a job to do."

Maybe I was like a glass of cold water, but why not? I wasn't really an integral part of this crew. I was actually an outsider, and I felt like one about now. I dampened the enthusiasm. I was wondering if there was for a fact a Judas in this crowd.

"So the deep-sea diver is afraid," said Parneau nastily. "Out of his depth, eh?"

"Out of his element, rather," chuckled Quincy. "Let's go, Armitage."

"Wait!" said Tom Joyce, glancing at Dorrance. "Perhaps I ought to make the first test. After all, you and I designed these suits, Alfred."

"This is my job," I said shortly. "I never dodge jobs. I go first. I'm taking Quincy along only because it seems safer to work in pairs. But I'll lead."

To tell the truth, I'd much rather have had Powell than any of the rest, but I hadn't made up my mind about the geologist yet. I figured the powerful, dour Powell as the best man to have at my side in an emergency, but we had a personal equation to settle between us.

Dorrance and Joyce helped Quincy and me into our space suits while the others stood by and watched. I had already carefully tested the equipment of every suit, but I methodically went over all the controls at my belt before letting Dorrance seal the globular helmet on for me.

"I'll go out first," I said. "If everything is okay, I'll signal for you to come on, Quincy."

"Good luck," said Diana softly, just before Dorrance lowered the helmet over my head.

I adjusted my oxygen valve, set the refrigerating unit at sixty degrees, and signaled for Powell to close the air-lock on me. In a moment the ponderous outer lock opened before me and, with the escaping air, I stepped out upon the rocky lava of the

Moon.

In spite of the prodigious weight, I felt pounds lighter than usual. I moved easily out from the shadow of the long, cigar-shaped *Icarus* into the full sunlight and got my first exterior view of the craft which had brought me two hundred and forty-eight thousand miles from home.

The *Icarus* glittered in the sunlight, a long and slim beauty of a torpedo of space. I made my first note for subsequent correction. In the full sunlight we needed smoked glasses or a visor arrangement on the helmets that we could adjust with our hands. It was impossible to stare toward the Sun. Otherwise everything seemed to be functioning perfectly. I knocked three times on the hull for Quincy to emerge.

Quickly he joined me, and we started walking in a wide circle about the space ship.

"What say we make toward the mountains on the left?" suggested Quincy through his radio phone, becoming bold with his habitual recklessness. "This ring-around-the-rosy stuff is childish."

I agreed. I wanted to investigate some black spots over there a couple of hundred yards anyhow. The soil of the Moon was harshly gray. It seemed volcanic in origin. Certainly it was waterless. But that would be Powell's job.

Impatient to explore, Quincy set out at a brisk pace toward

the distant crags. I, perforce, followed more rapidly than I wished. At that Quincy reached the first of the black spots on the ground before I did. He halted abruptly and stared down in perplexity. I'm sure he hadn't even noticed them until now.

The first spot was an almost perfect circle, looking like a disc of black velvet stretched flat; on the surface. It was perhaps ten feet in diameter. It was so black that we could distinguish nothing within the circle.

I raised my gaze to stare beyond, and I counted six more of these queer spots ahead of us, in a straight line and apparently regularly spaced. Then I turned to touch Quincy and speak to him. I was just in time to see him place a foot tentatively within the perimeter of the black spot. Before I could grab hold of him and jerk him back, he flung up his arms wildly, like a man off balance, and toppled forward, to disappear from sight exactly like an object being sucked under extremely liquid quicksand.

Without wasting time cursing his confounded impetuosity, I snatched the pick from my belt and thrust one end of it out over the black spot. Nothing happened. I prodded at the spot—and nearly lost my own balance. Nothing had resisted my poking. And I understood with a sinking heart. The spot was not a spot. It was a hole, a Stygian funnel without a ray of light to reveal it for what it was. Only when the Sun was directly overhead did any light shine down the sides of this cylindrical shaft. Such was the deceptiveness of light and shadow on the

Moon.

I grabbed my hand torch next and switched it on. At once the stark and horribly smooth wall of a perpendicular shaft leaped into relief for me. I lay down and carefully thrust my arm and head over the edge. Far below, perhaps thirty feet, like a specimen upon the field of a giant microscope, lay the figure of George Quincy. He was sprawled out on a level enough surface, but he appeared unconscious. Rapidly I tried to compute how hard he could have fallen in six hundred pounds of space suit at one-sixth of Earth's gravity and at, to me, an unknown rate of speed.

All the time I was feverishly at work. I used my hammer to drive my short drill into the hard but crumbly rock close to the edge of the hole. Then I fastened one end of my wire cable to this anchor and swiftly lowered myself down the shaft. I suppose Quincy's magical disappearance and my own subsequent actions must have looked crazy to the rest of the party in the *Icarus*, and I could well believe they must have been frantic with anxiety—Diana, at least—but I hadn't time to think of them now. If Quincy had cracked his helmet....

The wire cable was fortunately the right length, as if it had been measured. Otherwise, I don't know how we could have reached the surface again. When I got down to Quincy, he was already stirring. I knelt and hurriedly examined his suit and helmet. They were intact. I stood up and flashed my torch around.

To my amazement I found that I was standing in a tunnel, a circular shaft of incredibly smooth sides that led downward at a gradual angle from this hole in the outer skin of the Moon.

Quincy sat up, unable to rub where he ached. There was a rueful expression on his face and his lips were moving. I gave him a hand to his feet as his voice sounded in my earphones.

"Silly sort of trick, wasn't it? Reminds me of a tiger pit in India. Never thought I'd fall into such a trap."

"Yes," I said, answering his first remark as I switched off my refrigerating unit and turned on the heating element. "Better change your temperature control. It's a hundred and eighty below down here. Feel able to climb?"

"Climb? What for? Let's explore this crazy shaft, now that we're here."

I didn't say anything to him. What was the use of an abstract argument about the danger of exploring such an artificial tunnel with a man as courageously foolhardy as he? Besides, who knew how old this tunnel was? What creatures or beings could possibly live on an airless, waterless world?

We set out along the tunnel, I in front, torch in one hand and ray-gun in the other. Queerly, I found myself wishing for my own .480 automatic back on the *Icarus* in my tool kit. Quincy was all for pushing ahead recklessly, arguing that we only had six hours of oxygen, which meant less than three hours forward travel if we expected to return.

But I wasn't figuring on getting lost in a lunar labyrinth that had likely been here before mammals appeared on the face of Earth. As we proceeded, other tunnels began to run into the one we were following into the bowels of the Moon. They all forked in like the branches of a tree toward the bole, but I called a halt methodically at each juncture and used my pick to cut an arrow in the floor of the branch out of which we came.

"Why all the precaution?" demanded Quincy impatiently. "We're traveling in a straight line, and all of the side tunnels join this one and lead downward. The other way, they all lead to those surface holes."

"We may want to go back in a hurry," I reminded him grimly, "and I want to go back to the hole where my cable will hoist me to the surface."

This silenced him. We kept on until we had penetrated about ten miles and must have been half a mile deep. The way had become monotonous, and I saw by the electric watch at my belt that we were dangerously close to the half-way mark.

"This is as far as we go," I said, reaching out to grip my companion's arm.

"You're worse than an old woman," responded Quincy. "We've still got ten minutes before we reach the three-hour mark. Looks like a curve ahead. Let's push on for five minutes more."

Shrugging, I led on. Quincy proved right at that. Three

minutes later we rounded a wide curve in the inexplicable tunnel and found ourselves on the threshold of a huge sublunar cavern. There were numerous shafts leading off from this chamber, and I carefully marked ours with an arrow. Then we started to make a hurried circuit of the immense enclosure which our hand torches could not span.

The walls between the mouths of the queer shaftlike tunnels were rough and irregular, seamed and veined with various strata of brown and black which wickedly reflected the beams of our lights. We couldn't have made a circuit of more than a quarter of the roughly circular cavern when something white moved in the ray of my torch.

We froze in amazement. Life—here? The thing was shaped like a log, about six feet long and a good foot through. It lay against the wall, one end in a sort of alcove *which it had eaten out of the wall* with a pair of mandibles similar to those of a tiger ant.

As we watched, it dug into the hard rock of the wall like a mouse biting into cheese and shoveled the rubble into its maw. It moved sluggishly, as though it had all the time of the ages. Under the glow of our torches, it was dully white and seemed surrounded with a faint, pale blue aura—like a sickly ectoplasm.

"Good God!" Quincy's voice sounded in my earphones as he clutched my shoulder. "A giant termite that's a rock eater!"

He released me and drew his ray gun. I grabbed him.

"Don't!" I commanded, flashing my torch along the wall.

In the glow we counted not less than a dozen of the weird things, working away in little niches of their own. The light seemed not to bother them at all. Experimentally I switched off mine, telling Quincy to do the same. In the resultant pitch darkness, each of the gigantic slugs emitted a faint bluish glow. There were hundreds of them!

"Glow-worms!" whispered Quincy. "What *is* this?"

I switched my torch back on. "We've got to get out of here. Time's up. Let's see what this thing is eating."

At my suggestion, Quincy instantly stepped forward with his usual fearlessness and flashed his torch against the alcove. His foot touched the side of the slug. The thing didn't move, and he drew back his metal-encased foot and deliberately kicked the thing gently.

"Feels like metal," he said to me. "Try it."

"No, thanks," I answered, staring at the queer veins of stuff in the alcove. They were brown-black metalliferous veins with a pitchlike luster.

On impulse I scooped up a chunk of the stuff and put it in the specimen case attached to my belt.

"Whatever this thing is," announced Quincy, who had gone on with his risky examination, "it's insensate and blind. Damned if I don't believe it's a metallic form of life."

"Powell or Dorrance may be able to tell," I said. "Come on!"

We got out of that ghastly cavern and headed up the tunnel toward the surface at a fast pace. The arrows I had cut in the mouths of the tunnels now stood us in good stead. Our oxygen was almost exhausted by the time we reached the end of the shaft and found the wire cable. Two figures in space suits were weirdly outlined in sunlight at the top of the hole. They proved to be Powell and Joyce, come to see what had happened to us.

We got back to the *Icarus* at once, and Quincy told our story.

"We wouldn't even have gone that far if I'd listened to Armitage," he concluded in his bluff way. "But I goaded him on until we ran into that alien life-form. What do you think it can be, Dorrance?"

"I don't know—yet," admitted the scientist. "Since the grubs seem harmless, we'll go have a look at them. Powell and I."

"I'd like to know what they were feeding on," said Powell soberly.

"Here," I said, remembering. "Here's a chunk of the stuff."

Powell and Dorrance took one look at the stuff I pulled out of the specimen case on my space suit.

"Pitchblende!" they both shouted together.

"What did I tell you?" added Dorrance. "I knew the electroscope was right."

And then I remembered the fragment of conversation I had overheard upon first entering the Dorrance home, when Tom Joyce walked up behind me with a gun. Dorrance had been telling Diana about Parneau checking his discovery, and I had been too dumb to grasp his meaning.

CHAPTER VII

The Lunar Borers

Forgotten was any thought of exploring the surface of the Moon. It was worse than a gold strike in Nevada. Radium was dearer than life or scientific knowledge to this expedition, more precious than water or oxygen—of which we had sufficient quantity. All of them went mad over our discovery, even Parneau, who should have been in an astronomer's seventh heaven, studying the Universe with the telescope of the *Icarus*, unhampered by an atmosphere.

Only Quincy and I were the least affected, for reasons of our own. I knew Quincy's secret, but he didn't know mine. Quincy was already rich. He could easily pay for the four grams of radium he had hijacked and thus buy his way out of trouble.

He was a pagan at heart and an insatiable adventurer. All he asked of this expedition was excitement. All he wanted was Diana Joyce.

I had indisputable proof of this during one rest period, when just the three of us were aboard the *Icarus*. The others were down in the Tycho cavern, manning the mining machinery and refiner. This was three days later. I was making coffee on the electric hotplate in the little galley, and Diana and Quincy were together in the observatory at the rear of the ship. The telephone system was open, and they didn't know it. Without intentionally eavesdropping, I overheard an interesting conversation.

"But, Diana, aren't you sick of this monotony?" Quincy was saying, and a tender, possessive quality came into his tone. "Don't you feel the urge to explore, to investigate? Let's leave those moles to grub away at their pitchblende, while you and I see what's on the other side of the Moon."

"What in the—Moon are you talking about, George?" asked Diana, her voice trembling a little.

There were sounds of quick movement, a slight scuffle. Then:

"Diana," came Quincy's voice, vibrant with passion, "you know I'm mad about you. Why don't you tell Dorrance? He's twenty years older than you and all wrapped up in his science. We're young and—"

"Don't, please," the girl gasped. "Let me go, George. You don't understand. Tom and I owe a great deal to Alfred Dorrance, and he loves me."

"But you don't love him!"

"But I do," she corrected swiftly. "And I respect and revere his work, helping all I can. We cannot jeopardize what he is doing by setting out on a mere adventure. The Moon can be explored on subsequent trips."

"Kiss me," demanded Quincy, "I dare you to kiss me and then talk like that."

"Please! I don't want to kiss you, George."

There were unmistakable sounds of a kiss, and an exclamation from the girl.

"See?" exulted Quincy. "You are blushing. Now say that you don't want to chuck all this and go exploring—even down through those inexplicable tunnels."

"But I don't," she protested angrily. "I want—"

I put my lips close to the loud-speaker in the galley.

"Perhaps the lady wants a cup of coffee, Quincy," I said. "It would be more satisfactory."

Utter silence answered me. In a moment the two of them came into the living quarters. Neither of them looked greatly disconcerted.

"So you heard?" said Quincy, laughing slightly. "I suppose you'll run to Dorrance."

"People as indiscreet as you, Quincy," I answered, "shouldn't be around telephones or microphones. There's nothing for me to report to Dorrance. Cream in your coffee, Diana?"

The girl looked steadily at me. She offered no excuses or apologies for Quincy's actions, and I liked her for that.

"Yes—cream," she replied. "Are you a mechanical robot, too, Jack Armitage? Don't you ever have human emotions?"

I looked deeply into her eyes and then glanced at Quincy.

"You'd be surprised," I said, and didn't add what I was thinking about fools rushing in where angels feared to tread.

But I'm getting ahead of myself. Immediately upon Quincy's and my return from our discovery of the cavern under Tycho, nothing would do but that we move the *Icarus* over to the black hole and make a permanent camp there. Within twenty-four hours, the entire seven of us were ready to return to the spot of the feeding grubs.

Loaded down with machinery parts, extra oxygen tanks, supplies, we all went down to the sublunar cavern. Diana wouldn't hear of remaining behind, and everybody was needed to carry equipment, anyhow. So seven fools left the

comparative safety of the *Icarus* and descended a wire ladder into the entrance to hell.

Before I made my first return trip, I went to the oxygenator room and dug into the false bottom of my tool kit. I removed a couple of items, including my gun, and stowed them in the belt pockets of my own space suit. From then on I felt a trifle better during my various excursions to the rich deposit of pitchblende.

Powell studied the curiously glazed walls of the tunnel carefully on that first trip.

"Igneous rock," he announced. "Patently of artificial formation. Fused in a glaze under intense heat. Age indeterminate under these waterless, airless conditions. Think those slugs of yours could have made these tunnels, Quincy?"

"Don't see how," responded the millionaire. "These tunnels are too big."

We moved forward. Without incident we reached the cavern. Here, to my uneasy surprise, there wasn't a sign of the giant slugs Quincy and I had seen there not much more than twenty-four hours ago. Nothing remained but dozens of alcoves and pockets in the irregular perimeter of the cavern. As though by some preconcerted signal, possibly because they had been disturbed after all by the two of us, the huge slugs had disappeared.

Quincy was all for trying to trace them through the numerous cavern and tunnel mouths, but Dorrance and Powell saw the veins of pitchblende—and that precluded all other exploration.

"They'll likely return at their next feeding time, whatever they are," said Dorrance. "We're here for radium. Let's set up our equipment and start mining. Later, perhaps, we'll have time for other things."

And that's the way it was. For four days we packed supplies to the cavern, set up Dorrance's machinery, and mined in shifts with the monotonous regularity of a Pennsylvania coal mine crew. Man the digging screw and the engine, carry supplies, eat and sleep. Dorrance and Powell handled the refining process of the ore and stored the radium in heavy lead cartridges, which we carried back to the *Icarus* and stored in a special rack.

It settled into a humdrum business. And there was no reappearance of the queer slugs. No wonder Quincy got ants in his pants.

Dorrance himself precipitated matters the fifth day with an announcement.

"We've got nearly a pound of pure radium," he told us. "The Moon is incredibly rich in the ore, and my adaptation of refining through the radium engine has speeded up the process until it is simple to reclaim the radium from the pitchblende. But we are not prepared to spend much longer time here. The lunar night will be upon us in two more days. So we shall head

back for Earth the day after tomorrow morning. On our next trip we can bring a larger ship—a dozen of them—with plenty of supplies and men for mining and exploration."

This announcement caused very little discussion. Parneau was astonished at the amount of radium recovered and he remarked about that. Quincy said nothing. He had been oddly quiet since that scene with Diana, but I knew that he must have felt a big sense of disappointment over the tameness of what he had expected to be a great adventure.

Powell and Tom Joyce, closer in the confidence of Dorrance than the rest of us, must have known of the decision before. At least, they did not seem surprised or disturbed. Diana was patently relieved. As for me, I wasn't going to breathe real easy until I set my foot back on Mother Earth.

Upon moving the small radium engine down to the cavern, Powell had made temporary wiring connections to hook up the big engine, to take over the necessary duties aboard the *Icarus*. Now Dorrance decided to leave the small engine set up as it was against his return on the second expedition. Thus, the fifth morning I stayed with Powell to help make the wiring change permanent and secure aboard the ship. Diana was busily checking supplies. Joyce and Quincy took the first shift below.

Later, Dorrance and Parneau went down to relieve them. After an interval of several hours, Powell told me he could finish up alone. So I sought Diana and, after a bite of lunch for

the three of us, she and I went down for our last turn at pitchblende mining.

We strode, glove in glove, down the now familiar tubular ramp. As usual I moved in taciturn silence, but I was pleasantly aware of my companion's nearness, in spite of the intervening thicknesses of two heavy space suits.

"You don't like any of us, do you, Jack Armitage?" she broke the silence at length.

"On the contrary," I said, slightly startled. "I simply have a job to do, and I'm doing it to the best of my ability."

"Obviously," she said a bit shortly. Then: "You haven't talked about yourself at all. Do you know, you are almost a stranger to me—even after this close association on a voyage which should bind us all closer than—than relatives."

"Even after your check-up on my credentials that first day?" I asked dryly. "You know a lot more about me than I know about you."

"What—what would you like to know—about me?" she asked hesitantly after a long silence.

"Right now, nothing," I said. And I was telling the truth. I had too much to think about without complicating my thoughts with the fiancé of Dr. Alfred Dorrance. I was satisfied in my own mind that neither she nor her brother were mixed up in a European spy ring.

This rebuff shut her up. We walked the rest of the way in

silence. I think she would have pulled away from me in anger, had it not been for the ghastly loneliness of marching through that bizarre tunnel in utter silence and without the contact of a fellow human being in that alien world.

We reached the cavern to find Dorrance and Parneau busily at work with the machinery. A string of lights had been erected for visibility, and it was easy to distinguish identities through the transparent globular helmets. Dorrance was bending over the engine, while Parneau was watching the boring screw and the disappearance of the ore into the tank where it was refined.

I touched Dorrance on the shoulder.

"Where are Joyce and Quincy?" I asked.

He looked up. His eyes widened as they rested on me. Then he glanced swiftly around the huge cavern.

"Aren't they at the ship?" he demanded. "They left here together hours ago."

Because she was still gripping my hand, I felt Diana jerk in alarm.

"George Quincy!" she exclaimed. "He wanted to explore. I heard him talking to Tom yesterday about penetrating deeper along these queer passages. When you said we were to leave tomorrow, Alfred, he—"

She broke off in dismay. I almost groaned aloud. Parneau came over and made contact with us.

"What is it?" he asked sharply, his eyes darting from face to face.

"Tom and Quincy have disappeared," explained Dorrance.

"They can't be far away," said Parneau. "They went through that fifth tunnel yonder, now that I think of it."

He pointed to the shaft almost opposite the one we used to reach the surface. Grimly I examined my hand torch and other equipment.

"What are you going to do?" Dorrance wanted to know.

"Go after the fools," I said.

"I'm going, too," declared Diana.

"No!" I ordered tersely. "You stay here. I won't be long—I hope."

I trudged out of the cavern, the three of them watching me go in troubled silence. Boldly I plunged into the darkness of a tunnel which might lead me to the very bowels of the Moon, and inwardly my heart was quaking.

I must have progressed all of five miles without incident. The queer treelike pattern of forking tunnels continued in mathematical precision just as on the upper side of the huge cavern, all converging into one and leading downward. It was

borne in on me with crushing force that, not only had these tunnels been built artificially, they had been constructed by creatures of intelligence.

At each branch I stopped to cut an arrow in the curving floor, and I found it unnecessary. Quincy and Joyce had been along here ahead of me, and Quincy had had sense enough to employ this simple method of marking.

Then I found it. *It* was nothing more nor less than one of the six-foot slugs. It lay lengthwise along the corridor, a rock drill driven into its head end just behind its queer armlike mandibles. It was dead, and I recognized the Quincy touch.

"Fool hunter!" I muttered to myself.

The thing was pointed the other way, as though it had been trying to escape when Quincy and Joyce overtook it. I halted long enough to examine the unearthly grub. Quincy had been right about its texture. Its body seemed to be composed of serrated rings of metallic tissue. When I tried to remove the drill, it was like trying to pull a wrecking bar out of a sheet of armor plate. It took all of my considerable strength to remove it.

A thick, viscid, dark liquid welled out of the hole, hardening to stone almost instantly as it met the terrible cold which existed here. Its nature was indeterminable, but it was oddly iridescent, like tar. I wasn't surprised. Anything that could live on pitchblende would have a queer sort of life blood.

At that moment I felt the tremor through the floor of the tunnel. I couldn't hear anything, but I felt the faint vibration. It didn't have the feel of a quake, rather more like a passage of a heavy body across a bridge. I threw down the drill and went ahead at a dog trot, anxiety and fear gnawing anew at my vitals. I found time to wonder if Quincy had killed the slug with his ray-gun and then had tried to perform an autopsy, or if he had simply driven the drill into the creature to administer the death blow.

Suddenly I had no time to wonder anything like that. I rounded a curve in the descending tunnel and came upon another cavern. But what a difference from the upper one! Around the walls, as far as I could glimpse, were hundreds of the six-foot slugs busily gnawing away, serenely wrapped in their faint mantles of bluish aura and impervious to all that went on about them. But my eyes were fastened on a more terrible sight.

Out from the mouth of my tunnel about fifty feet stood two space-suited figures, Quincy and Joyce, wildly raying a nightmare before them with torch and ray-gun. The thing they confronted was a huge worm with pale underbody and greenish back. It was like and yet unlike the little slugs.

It was all of thirty feet long and fully eight feet in diameter, more like a fabulous sea serpent than a worm. Reared up so that it towered above the puny figures of the two men, it had a head like a bad dream. The face of a dragon, with two

enormous red eyes that stared into the blinding light of the torches, without blinking or flinching. From the wide slit of a mouth flickered living flame. Two armlike mandibles writhed from its face like the mustache of a Chinese mandarin and with the agility of eels.

The streams of pure radon seemed to have not the slightest effect upon the hideous monstrosity, but that was not the worst. Crawling forward upon its hapless victims with the ponderous speed of a freight train, it had a gleam of awful and malignant intelligence in its red, foot-wide eyes.

"My God!" I cried, reverting to my childhood fairy tales. "A fire-breathing dragon!"

CHAPTER VIII

The Heidendorf Agent

Horror-stricken, I stood there in the mouth of the tunnel for an instant. Why didn't those radon beams kill that awful thing? There wasn't a chance for Quincy and Joyce to run. Their only hope of escape was attack.

Then I dimly understood. Quincy had been right again when he had called the slugs giant termites. They were the larvae of the intelligent serpents—those grubs. I began to comprehend the system of tunnels that had been constructed by these fire-

breathing borers, which lived and bred within the crust of an airless, waterless world.

No wonder the surface of the Moon looked like the face of a gigantic beach just after sea-worms have burrowed in. In the dim and distant past, these Gargantuan borers must have lived on the surface. Maybe they still used it. I thought of those holes which dotted the floor of Tycho.

How did these things exist? Only a ghastly marriage of the mineral and animal kingdoms could have produced this animate but alien life that lived upon pitchblende. That was the reason radon had no effect upon this worm-dragon! The accursed thing was radioactive, of course. No wonder the grubs had that ghastly emanation. Radon to the borers must be like concentrated glandular extracts to humans.

Just then the borer thrust forward its dragon head. Flame leaped out like a lance from an acetylene torch. The blue fire played upon the figure of Tom Joyce, outlining him in an aura of ghostly splendor. Then he simply melted—melted down like butter under a blaze! It was horrible!

Quincy turned to run, his face twisted in revulsion and despair. At that instant I had my .480 in hand and was leveling it squarely between the soup-plate eyes of the borer. I squeezed the trigger. There was no sound, of course, but I felt the recoil.

The borer's head quivered back, and I swear I saw a look of surprise in its huge eyes as it focused its basilisk gaze on me. There was only time for a fleeting impression. The next instant, before the thing could overcome the shock of the

physical blow of that penetrative bullet, its head simply disappeared—blown to pieces by the explosive shell.

The creature flopped flat in the grip of a convulsive death struggle that made the floor of the cavern tremble beneath my feet. I was conscious of a fleeting sense of pity for the horror. After all, Quincy and Joyce had been guilty of killing one of the slugs for no reason at all. And all around the perimeter of the cavern, the hundreds of blind slugs calmly ate away at the veins of pitchblende, serenely unaware of the death of one of their progenitors.

I don't think Quincy saw me until he ran into me. Then he grabbed me in sheer hysteria. I was feeling mighty shaky by then myself.

"Armitage!" he croaked. "Poor Joyce! Let's get out of here. Quick! We can't kill that salamander. I—"

"Get a grip on yourself!" I said tersely. "It's dead. Look."

Quincy took one glance over his shoulder and shuddered. But he began to calm down.

"Explosive shell?" he guessed at once. "Where'd you get the gun? These damned ray-guns didn't even bother it."

"Of course not," I said. "These things are radioactive. We'd be full of radium burns by now if it weren't for the lead in our suits and helmets. Come on. There isn't enough left of Joyce to

take back. You were right about this being some kind of a termite nest. They let us take over the upper cavern without protest, but you and Joyce went a step too far. Who killed that grub up in the tunnel?"

"I did," admitted Quincy. "I had to use the drill to do it."

"Fool!" I almost snarled, and he blinked at me unresentfully.

That borer I had slain had had intelligence. I was now sure that there must be a sort of telepathic bond between grub and borer. And man, with his usual crass presumption, as typified by Quincy, had declared war by making the first kill. I knew that not only did we have to get back to the *Icarus* in a hurry, but that our lunar expeditions might be altogether at an end. Indeed, we might not live to reach the surface of the Moon.

"Let's get out of here," I said, "before more of these things show up."

We started rapidly up the incline toward the first cavern.

"Joyce and I wanted to have one look at these lower tunnels before we left the Moon," Quincy began explaining. "Joyce wanted to see some of the slugs if we could find—"

"Save it!" I cut him off. "Do your explaining to Diana."

That got him, but I wasn't sorry for him. He needed a hell of a good lesson. If we hadn't been incased in space suits, and in

such imminent danger, I would have worked him over on general principles myself. But I was thoroughly satisfied about him now. Such a reckless idiot could not possibly be an agent of the Heidendorf Ring.

With Quincy using his torch, to light the way and search out the proper tunnel, I covered our rear and watched for any evidence of hellish pursuit. That flight up to the first cavern was quite horrible. The death of Tom Joyce weighed heavily on me. The whole thing was a nightmare.

It was the silence that distressed us. Any tremor of pursuit we could not feel, because of the vibrations of our own passage, and we could hear nothing in that airless catacomb save the sounds transmitted over our radio phones. I think I never liked Quincy after that because of the sounds of his labored breathing which wheezed asthmatically against my earphones.

But nothing appeared to follow us up the long, shaftlike corridors. Quincy had practically regained full control of himself by the time we burst into the mining cavern. And here an amazing tableau greeted us.

Standing with his back to us, under one arm the most recently filled lead cartridge of radium, was Etienne Parneau. In his right hand he gripped his radon gun with which he was menacing Dorrance and Diana. He was unaware of our approach, the vibration of the machinery covering the tremor of our arrival.

From one kind of horror to another. I motioned Quincy to

silence and indicated that we were to sneak up on the little astronomer and grab him. Quincy didn't understand the situation, but he could act in a normal sort of emergency. He started to launch himself forward, but Diana proved our undoing.

At sight of us her great eyes widened in that characteristic mannerism of hers, and Parneau whirled like an oiled swivel. He leaped backward to bring both of us within range of his arcing ray-gun.

Quincy stopped dead. He had long ago lost his own ray-gun in that sublunar chamber of horrors. I couldn't fire at Parneau with my own .480 because I knew it would kill him even if I only punctured his space suit. And I didn't want to do that. So I hooked my insignificant looking weapon to my belt and cast hurriedly about for some way to terminate this crazy impasse before it was too late.

"So you two came back!" snarled Parneau. "Get over there with Dorrance—quick! You had just as well die here with him. Armitage must have got lost trying to find you. It's just as well."

Obviously he mistook me for Tom Joyce. Warily we moved out and circled around him to approach Diana and Dorrance.

"Fool!" Parneau resumed, speaking to the scientist. "Do you think I would let you take back this discovery and give it to all the world?";

"Are you mad, Parneau?" asked Dorrance in consternation. "What have I done to cause you to—"

"What have you done, *Dummkopf*?" cried the astronomer! "It's what you intend to do. Prating about building dozens of space ships and bringing hundreds of men here to steal this radium. Was it not crazy enough to dream of giving your radium engine and gravity nullifier to the whole world? You —"

"What the hell's eating you, Parneau?" roared Quincy in rising anger. "We haven't time for you to crack up now. There's a terrible thing happened. We've got to—"

"Shut up!" ordered the astronomer savagely. "Diana, for your sake, I will permit your brother to return to Earth with us, but the others must die. Even Powell shall die if he disobeys me. I can navigate the *Icarus* alone if I must. Joyce, if you value your life and that of your sister, come and carry this cartridge of radium. *Mach schnell!*"

I started to advance. This was too good an opportunity to grab and disarm the maniac. But, of course, it wouldn't work. He darted his foxlike eyes at me and recognized me.

"Armitage!" he snapped. "Halt, or I will kill you!"

He hopped agilely back and around until he stood with his back almost squarely to the mouth of the tunnel from which Quincy and I had emerged.

"Where is Joyce?" he demanded.

"Dead," I said, still moving slowly forward. "Put down that ray-gun, you fool. This is no time for melodrama. All of us are in terrible danger."

Parneau began to laugh insanely, but he leveled the gun firmly at my helmet.

"Stop! Of course, you are all in danger. Did I not say it? I am going to maroon you here on the Moon. In your last moments you can blame Alfred Dorrance for your plight. Diana, start up the tunnel, Liebchen. I will gather up the ray-guns and follow."

"What is the matter with him?" cried Dorrance, thoroughly befuddled.

"Plenty," I said succinctly, halting while I weighed what I knew about these space suits against what I thought of the radon gun's efficacy. "He's the agent of what is known to the U.S. Secret Service as the Heidendorf Ring. I knew it had to be either him or Powell."

"Hah!" shouted Parneau. "So you are a Government spy, after all."

"I represent the United States, yes," I said. "And I know that you, the son of a French father and a German mother, are the agent of Dr. Heidendorf, who is one of the heads of a certain European power that seeks the dominance of the world."

"Fool!" howled Parneau, raging. "I *am* Dr. Heidendorf!"

That one staggered me. I had already narrowed my suspects down to Parneau and Powell, rather favoring Powell because

he was such a good mechanic—and the past Heidendorf disasters had been engineered by mechanics. Of course, Dorrance's decision to leave the Moon, and his general intentions had flushed Parneau out into the open before I could trap him, but that he was Heidendorf in person was a shock.

I understood a number of things now that had baffled Colonel Ormsley. No wonder Dr. Heidendorf had been so elusive. Hidden behind the well known identity of an astronomer of note, a man who traveled all over the world at will, the ruthless spy master had been in on the know of every new scientific achievement of value and could lay his terrible plans in secure impunity. Great men of all countries threw wide their arms and welcomed him in, innocently furthering his dark and nefarious plotting. And Heidendorf had so realized the importance of Dorrance's experiments that he had taken the field in person this time.

The madman, so sure of himself, was raving on. "And that impractical dreamer of a Dorrance refused to dicker with me for his inventions. He thought to circumvent me by refusing all negotiations. He wanted to give his discoveries to the world—to offer the Moon to mankind. Dorrance, you *Schweinhund*, did you think to escape from my power? Visionary and blundering idiot that you are, you shall die here on the Moon, while Diana and I shall enjoy with the Fatherland the fruits of your—"

Something must have snapped in Alfred Dorrance. I don't think he resented the personal insults, perhaps not even the reference to Diana Joyce, but the thought of all this for which he was responsible being denied all of mankind made him

desperate. He uttered a terrible shout and hurled himself forward, straight at the treacherous astronomer.

Everything happened then at once.

Parneau flipped his gun around in a short arc and squeezed the trigger. The pale blue ray of radon played full on the globular helmet of Dorrance. For a second he stood transfixed as the terrible force of that beam bored into his brain. Then he crashed headlong to the floor before I could get my automatic unhooked.

At that instant Diana screamed. There in the tunnel mouth behind Parneau, or Dr. Heidendorf, appeared a dragon's head. Two baleful red eyes gleamed upon us. And then a flame of blue fire shot forth like a flash of lightning and engulfed the perfidious astronomer. He never knew what killed him. Like a tissue paper doll in an electric oven he melted away. There was a brief white flare as the pure radium was consumed.

CHAPTER IX

Eagle of Space

Just like that, I had found and lost my man all in the same minute of time.

Quincy, unarmed, was helpless. But before that awful

monstrosity could emerge into the cavern, before it could lance out that terrible sword of flame and incinerate the rest of us, I raised my special gun and triggered one shot squarely between those horrendous red eyes.

The result was precisely what it had been before, down in the lower cavern. The borer's head simply leaped to pieces, and I blessed the man who had perfected this deadly hand gun. The ghastly worm died there in the tunnel, effectually blocking the way with its body, while the viscous black blood oozed out of its neck stub, to harden almost instantly into stone.

"Quick!" I shouted at the stupefied Quincy as I caught hold of the fainting girl. "Pick up Dorrance's body and start moving."

"The termites followed us," he muttered stupidly. "They got Parneau just like they got Tom Joyce."

This remark snapped Diana out of it better than anything else could have. She stopped swooning and shuddered back to consciousness.

"Tom?" she cried. "Then he really is dead? Like—like that?"

"Yeah, and all the rest of us will be, too, if Quincy doesn't shake a leg," I said harshly. "Grab up Dorrance, man! We're getting out of here."

"But—but he's dead," objected Quincy. "And all that weight —"

"He's not dead," I said without explanation. "And you can

carry as much as your own weight as a pinch load. Help him, Diana. Snap out of it, you two! I'll cover our retreat."

My tone brooked no further objections, and the pair of them bent to hoist the space-suited body of the scientist between them. There was a telephone line, of course, from the mine cavern to the *Icarus*. I wasted a precious moment plugging in the terminals of my radio phone and calling Powell. It seemed a year before he answered.

I knew that the geologist held our fates in the hollow of his hand, and I hated to let him know it. I wasn't even sure yet whether or not he had been in with Parneau, alias Heidendorf, but I had to take that chance.

"Hello the mine!" came his dour voice.

"What's up?"

"Powell! Armitage speaking. Trouble. Open the outer lock and see that hoist is at the bottom of the shaft. Start your gravity nullifying field and be ready for immediate takeoff. Be ready to operate that lift in a hurry." I hesitated for the briefest instant, then plunged on. I *had* to play fair with the man.

"And, Powell, if a dragon's head starts out of the hole instead of us, don't wait. Take off—and keep going!"

I broke the connection before he could ask questions, and sprinted for the exit shaft. A movement of the headless body of the dead borer caught my eye. It was being shoved like a log of wood out into the cavern. I knew what that meant.

"Get going!" I ordered Diana and Quincy. "Don't stop for anything until you reach that hoist, and if you know any prayers you'd better say 'em. If some of these things get around and head us off, we're done. Run!"

"But you, Jack?" cried Diana anxiously. "I won't leave you. If—if you're going to die, too, I'll stay with you."

That should have told me plenty, but I didn't even have time to think.

"I'll be right behind you," I ripped out. "Get!"

I gave her a little push. She stopped and gathered up Dorrance's feet. With Quincy shouldering the greater part of the inert scientist's weight, the pair of them disappeared up the corridor toward the surface. I backed into the mouth of the tunnel and waited as long as I dared, watching the tableau in the cavern.

The serpentine body of the headless borer, rigid now as a steel beam, was shoved aside at last. Out of the mouth of the cleared tunnel undulated, not one, but dozens of the red-eyed monstrosities. I waited until the foremost crossed as far as the idling radium engine and twisted its mobile head from side to side until it caught sight of me. It took more nerve to stand there and wait for that instant than anything I had ever done in my life before.

As the borer lunged toward me, I turned and fled. I carried

with me the vague impression that a pair of the fire-breathers had drawn apart from the pursuit and were examining the radium engine with intelligent curiosity. I ran along the inclined passage until I could see Diana's torchlight, reflecting along the glazed walls of the tunnel before me. Here I turned.

Filling the tunnel to within a couple of feet of its circumference and approaching me with a stiff, sliding motion that was as grotesque as it was horrible, its eyes glowing like twin headlights of infra-red, came the foremost borer. I didn't dare wait until it got too close. I remembered the fate of Tom Joyce and Etienne Parneau. I fired carefully. I had to husband my shots now. This made three. The magazine only held ten, and I knew I couldn't reload with those clumsy space gloves on my hands.

The concussion in that confined space would have been deafening if I could have but heard it. As it was, I saw the red flare of the explosion and felt the recoil. The borer shot out a tongue of flame at me just as the bullet struck, and it didn't fall short more than ten feet. I was cutting things too fine.

Then the borer's head disintegrated, and I turned and ran on. But my hope that this would plug the tunnel and halt pursuit was doomed to disappointment. It slowed the borers, but that was all. They just pushed the dead thing ahead of them until they reached the first branching passage and side-tracked it to clear the way again. It wasn't ten minutes before a new borer was speeding up the tunnel after us.

I knew the things had an uncanny knowledge that I could only kill a limited number of them. And I was laboring under

the constant fear that some of them had taken to the branching passages and were speeding ahead to get to the surface and start back down our tunnel. I shuddered to think of what would happen to the *Icarus* if this happened, and Powell failed to get away. But I toiled on.

At intervals of about a mile I had to stop and kill the foremost borer. It was like a terrible dream from which there was no escape. Run, stop and kill, then run some more. If I couldn't stretch that distance between shots I didn't know what I was going to do about the last three miles. The only consolation was that Diana and Quincy managed somehow to stay ahead of me.

And then, with the ninth shot, I took a desperate chance. We must have been within a couple of miles of the end of the tunnel, but we might just as well have been a couple of thousand. I was badly winded and was using up my nearly exhausted tank of oxygen at an alarming rate when I fired that ninth shot, not at the borer, but at the roof of the tunnel above its ugly head.

And then, just as I despairingly steadied my gun to fire the last bullet, victory was snatched from defeat. The experimental shot had gone into the ceiling of the tunnel, just above that ghastly-eyed head. The borer was coming on without a pause, when it stopped with an abruptness that was startling. I couldn't see back along its whipping tubular body, but I could feel.

The bullet had exploded somewhere in the rocks above the tunnel, acting like a small dynamite charge, and the entire structure collapsed the tunnel with a grinding shudder that nearly threw me off my feet. Such a simple thing as that. I had successfully blocked the tunnel, not with a dead borer, but by a minor Moon-quake. I triggered my last bullet into the roof of the corridor just above the trapped borer's head, burying the thing under a mass of crumbling rock and debris. It had worked! I think I was laughing like a lunatic as I ran after Diana and Quincy.

Martin Powell had not failed us. The cage was down, and my companions were awaiting me. Quincy, spent as the magazine of my automatic, found the strength to signal the geologist to haul away. There was still need for haste, but the desperate urgency was past.

At the surface, while the pair of them carried the body of Dr. Dorrance into the air-lock, I took the time to remove another article from my capacious belt pocket, a cloth bundle that I had found in the chart-locker of the ship. Using my drill and pick and a couple of other tools I didn't figure the space suit would need as equipment any I more, I solemnly spread out the article on the lavalike rock that was the soil of Tycho's Crater. Then I gravely faced toward the sun and gave the naval salute.

This done, I scurried into the air-lock, which had reopened for me. Inside the vessel, I removed my helmet first of all.

"Explanations later," I told Powell. "Get to the control room at once and take the ship up five hundred feet. Lock the controls at that position and come back to give us a hand."

The geologist didn't wait to ask questions. He obeyed as promptly as any soldier or sailor I had ever known. I proceeded to get out of the now unbearably heavy space suit. Quincy and Diana did the same. We got the figure of Dr. Dorrance out of his suit and I carried him upstairs.

In a few moments, the four of us survivors were gathered around Dorrance, and Powell was treating his head and face for radium burns. Slowly the color came back to the scientist's lips, and he showed signs of revival.

"Oh, he lives! He lives!" cried Diana, beginning to cry.

"How did you know he wasn't dead?" Quincy demanded of me.

"If you would ever use your head, you'd have guessed it," I told him shortly. "The lead in his suit and helmet was partial protection against the radon ray. Parneau forgot about that in his excitement. I was figuring on rushing him myself when Dorrance tried it."

"Where is Parneau?" demanded Powell in his sad voice.
"Where's Joyce?"

Now was as good a time for the show-down as any. I didn't feel up to it, but I had to clean up things before I lost control.

"Dead," I said grimly. "One question before I explain things to you, Powell."

I drew my special automatic, which I had not left in my space suit, and shoved it against his breast. It was empty, but he didn't know that.

"Were you in the pay of the Heidendorf Ring?" I asked.

To give the dour geologist credit, he didn't blink an eye.

"I know you figure you owe me something on account, Armitage," he said evenly. "Maybe you do, but I swear I don't know what you're talking about. Why don't you tell me what the hell's happened?"

"I believe you," I said. And then I told them all what the Heidendorf Ring had been. "As for what just happened down below Tycho, you tell it, Quincy."

The millionaire sportsman was a good sport. Like a little man he spoke his piece, taking the blame that was rightly his without equivocation. Diana was sobbing gently when he finished. It was at this point that Dr. Dorrance completely recovered his senses. Powell went on ministering to him as he began to talk.

"I won't know for some time," he said weakly, "whether my brain has been injured by that raying. But whether it is or not, whether I live or not, I—I want my work to go on. I—I want the entire world to profit by any little thing I may have done. Diana, I've known about you and—and George Quincy for some time. I think it is best that way. I cannot hold you to your promise to me. I knew you didn't really love me."

"Alfred! Alfred!" cried the girl brokenly. "Don't talk like

that. You must live. You have to get well. And I don't love George Quincy. I—I don't love anybody but you."

"So you had to talk, Armitage," said Quincy bitterly. "Well, I've got it coming to me."

"Armitage?" murmured Dorrance in surprise. "It was Tom who saw how things were, and—"

"Tom was wrong!" cried Diana. "At least about—about George. Poor Tom!" And she suddenly put her head against my shoulder and began to cry afresh.

"Oh," said Dorrance, meeting my astonished eyes. "So you are a Government man, Jack Armitage. A sort of G-man of space, eh? Well, perhaps it is better this way, after all. You seem to have taken command of about everything."

"There's one thing left, sir," I said respectfully. "Come to the observation room, all of you. I've something to show you. Feel able to walk a few steps, Doctor?"

He must have recalled his own words to me some two weeks before.

"Lead the way," he said, taking Powell's arm to steady himself.

Wonderingly they all trooped after me. I lined them up at the curving window and pointed down five hundred feet at the spot we had recently left. There, spread out flat, was a rectangle of red and white and blue.

"Why—why, that's an American flag!" murmured Dorrance, and the others turned questioning faces to me.

I drew myself erect in the naval fashion, saluted, and spoke in a reverent voice.

"In the name of the United States of America, Earth, with you people as witness to my act, I hereby take possession of the Moon and have so planted the flag of my country. With the help of God, I pledge that all benefits and riches which may accrue from this new territory shall be shared by all of mankind."

Everybody's eyes were glistening like my own as I fell silent. Then:

"Amen to that," said Martin Powell grimly.

They all echoed his words, and there was a contented smile on the strained face of Dr. Dorrance.

It was considerably later in the control room, where I was waiting to set the homeward course, according to the figures Powell was working out with the aid of the weakened Dorrance. Quincy came in with Powell. We set the course which would head us for a rendezvous with the huge and lovable old greenish gray ball that swung far above us in space. As the steady, muted roar of the rockets broke into a smooth chorus, Quincy touched me on the shoulder.

"Diana wants to see you," he said. "Powell and I will stay here. She's in the observation room."

I found her there, staring wistfully back at the Moon we were leaving.

"Poor Tom," she whispered softly.

"He died like a man, Diana," I said. "And now I think George Quincy's going to live like one."

We were silent for a few moments.

"You're a strange, strange man, Jack Armitage," Diana said at length. "You play the role of a mechanic, a diver, a naval officer, and then a secret service man with equal ease. And at the end you cap it by turning out to be a humanitarian, and a patriot. Are there any other roles you can play?"

I looked deeply into her violet eyes, and what I saw there encouraged me.

"Well," I said gravely, "I've never played the role of a husband. I think I'd like to try that."

[The end of *Roar of the Rocket* by Oscar J. Friend]