

Baker's Dozen 03 - Early Science Fiction

The World of the Red Sun

BY CLIFFORD D. SIMAK



(Illustration by Ford)

The revolvers of the time-travelers came up almost simultaneously, the sights lined on the brain. The guns roared rapidly, spitting fire.

Publisher's Page

The first science fiction magazine was published in 1926*. The Golden Age of science fiction, according to some began in 1939, which sort of implies that everything published before 1939 was dross. It was not. There was a lot of good science fiction written before the golden age. This issue of Baker's Dozen wants to bring some of that back. Here are thirteen early science fiction stories by fourteen authors (one was a collaboration) from five different magazines offering a range of stories, from the wonders of science to alien invasions, travels in time (and why it's not a good idea) to the end of the world. Strap on your Captain Video, Space Ranger helmet and tighten the belt of your Buck Rogers' ray gun, and prepare for thrills.

(* science fiction has appeared in magazines all over the world well before Amazing Stories appeared in April 1926.)

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Into Space By Sterner St. Paul (S.P. Meek) Astounding Stories Feb. 1930.
Art:: unknown , Words: 4700.

2

The Second Shell by Jack Williamson. Air Wonder Stories, Nov. 1929. Art:
Frank R. Paul. Words: 10,900.

3

The Lunar Chrysalis by Raymond Gallun. Amazing Stories, Sept. 1931.
Art: Leo Morey. Words: 14,300.

4

Spawn of the Stars By Charles Willard Diffin Astounding, Feb, 1930. Art:
Wesso Words: 11,800.

5

The Atom Smasher by P. Schuyler Miller . Amazing Stories, Jan. 1934. Art:
None, Words: 2200/

6

The Time Tragedy by Raymond A. Palmer. Wonder Stories, Dec. 1934. Art:
Frank R. Paul. Words:2760.

7

The Flame-Worms of Yokku by Hal K. Wells. Amazing Stories, March 1933. Art: Leo Morey, Words:7500

8

The Heat Ray by O. L. Beckworth. Air Wonder Stories, April 1930. Art: Leonard. Words: 9300.

9

The World of the Red Sun by Clifford Simek. Wonder Stories, Dec. 1931, Art: Frank R. Paul. . Words: 10,100.

10

The Planetoid of Peril By Paul Ernst. Astounding Stories Nov. 1931. Art: ?. Words: 8600.

11

The Time Annihilator by Edgar A, Manley and Walter Thode. Wonder Stories, Nov. 1930. Art: Frank R. Paul. Words: 16,300.

12

Brain of Venus by John Russell Fear. Thrilling Wonder, February 1937. Art: Marchioni. Words: 7900.

13

The Molten Bullet by Anthony Rud. Thrilling Wonder, June 1937. Art: Marchioni. Words: 5300

Total 111,660 words

Into Space By Sterner St. Paul (S.P. Meek)



Into Space

By Sterner St. Paul

What was the extraordinary connection between Dr. Livermore's sudden disappearance and the coming of a new satellite to the Earth?

Many of my readers will remember the mysterious radio messages which were heard by both amateur and professional short wave operators during the nights of the twenty-third and twenty-fourth of last September, and even more will remember the astounding discovery made by Professor Montescue of the Lick Observatory on the night of September twenty-fifth.

At the time, some inspired writers tried to connect the two events, maintaining that the discovery of the fact that the earth had a new satellite coincident with the receipt of the mysterious messages was evidence that the new planetoid was inhabited and that the messages were attempts on the part of the inhabitants to communicate with us.

The fact that the messages were on a lower wave length than any receiver then in existence could receive with any degree of clarity, and the additional fact that they appeared to come from an immense distance lent a certain air of plausibility to these ebullitions in the Sunday magazine sections. For some weeks the feature writers harped on the subject, but the hurried construction of new receivers which would work on a lower wave length yielded no results, and the solemn pronouncements of astronomers to the effect that the new celestial body could by no possibility have an atmosphere on account of its small size finally put an end to the talk. So the matter lapsed into oblivion.

While quite a few people will remember the two events I have noted, I doubt whether there are five hundred people alive who will remember anything at all about the disappearance of Dr. Livermore of the University of Calvada on September twenty-third. He was a man of some local prominence, but he had no more than a local fame, and few papers outside of California even noted the event in their columns. I do not think that anyone ever tried to connect up his disappearance with the radio messages or the discovery of the new earthly satellite; yet the three events were closely bound up together, and but for the Doctor's disappearance, the other two would never have happened.

Dr. Livermore taught physics at Calvada, or at least he taught the subject when he remembered that he had a class and felt like teaching. His students never knew whether he would appear at class or not; but he always passed everyone who took his courses and so, of course, they were always crowded. The University authorities used to remonstrate with him, but his ability as a research worker was so well known and recognized that he was allowed to go about as he pleased. He was a bachelor who lived alone and who had no interests in life, so far as anyone knew, other than his work.

I first made contact with him when I was a freshman at Calvada, and for some unknown reason he took a liking to me. My father had insisted that I follow in his footsteps as an electrical engineer; as he was paying my bills, I had to make a show at studying engineering while I clandestinely pursued my hobby, literature. Dr. Livermore's courses were the easiest in the school and they counted as science, so I regularly registered for them, cut them, and attended a class in literature as an auditor. The Doctor used to meet me on the campus and laughingly scold me for my absence, but he was really in sympathy with my ambition and he regularly gave me a passing mark and my units of credit without regard to my attendance, or, rather, lack of it.

When I graduated from Calvada I was theoretically an electrical engineer. Practically I had a pretty good knowledge of contemporary literature and knew almost nothing about my so-called profession. I stalled around Dad's office for a few months until I landed a job as a cub reporter on the San Francisco *Graphic* and then I quit him cold. When the storm blew over, Dad admitted that you couldn't make a silk purse out of a sow's ear and agreed with a grunt to my new line of work. He said that I would probably be a better reporter than an engineer because I couldn't by any possibility be a worse one, and let it go at that. However, all this has nothing to do with the story. It just explains how I came to be acquainted with Dr. Livermore, in the first place, and why he sent for me on September twenty-second, in the second place.

The morning of the twenty-second the City Editor called me in and asked me if I knew "Old Liverpills."

"He says that he has a good story ready to break but he won't talk to anyone but you," went on Barnes. "I offered to send out a good man, for when Old Liverpills starts a story it ought to be good, but all I got was a high powered bawling out. He said that he would talk to you or no one and would just as soon talk to no one as to me any longer. Then he hung up. You'd better take a run out to Calvada and see what he has to say. I can have a good man rewrite your drivel when you get back."

I was more or less used to that sort of talk from Barnes so I paid no attention to it. I drove my flivver down to Calvada and asked for the Doctor.

"Dr. Livermore?" said the bursar. "Why, he hasn't been around here for the last ten months. This is his sabbatical year and he is spending it on a ranch he owns up at Hat Creek, near Mount Lassen. You'll have to go there if you want to see him."

I knew better than to report back to Barnes without the story, so there was nothing to it but to drive up to Hat Creek, and a long, hard drive it was. I made Redding late that night; the next day I drove on to Burney and asked for directions to the Doctor's ranch.

"So you're going up to Doc Livermore's, are you?" asked the Postmaster, my informant. "Have you got an invitation?"

I assured him that I had.

"It's a good thing," he replied, "because he don't allow anyone on his place without one. I'd like to go up there myself and see what's going on, but I don't want to get shot at like old Pete Johnson did when he tried to drop in on the Doc and pay him a little call. There's something mighty funny going on up there."

Naturally I tried to find out what was going on but evidently the Postmaster, who was also the express agent, didn't know. All he could tell me was that a "lot of junk" had come for the Doctor by express and that a lot more had been hauled in by truck from Redding.

"What kind of junk?" I asked him.

"Almost everything, Bub: sheet steel, machinery, batteries, cases of glass, and Lord knows what all. It's been going on ever since he landed there. He has a bunch of Indians working for him and he don't let a white man on the place."

Forced to be satisfied with this meager information, I started old Lizzie and lit out for the ranch. After I had turned off the main trail I met no one until the ranch house was in sight. As I rounded a bend in the road which brought me in sight of the building, I was forced to put on my brakes at top speed to avoid running into a chain which was stretched across the road. An Indian armed with a Winchester rifle stood behind it, and when I stopped he came up and asked my business.

"My business is with Dr. Livermore," I said tartly.

"You got letter?" he inquired.

"No," I answered.

"No ketchum letter, no ketchum Doctor," he replied, and walked stolidly back to his post.

"This is absurd," I shouted, and drove Lizzie up to the chain. I saw that it was merely hooked to a ring at the end, and I climbed out and started to take it down. A thirty-thirty bullet embedded itself in the post an inch or two from my head, and I changed my mind about taking down that chain.

"No ketchum letter, no ketchum Doctor," said the Indian laconically as he pumped another shell into his gun.

I was balked, until I noticed a pair of telephone wires running from the house to the tree to which one end of the chain was fastened.

"Is that a telephone to the house?" I demanded.

The Indian grunted an assent.

"Dr. Livermore telephoned me to come and see him," I said. "Can't I call him up and see if he still wants to see me?"

The Indian debated the question with himself for a minute and then nodded a doubtful assent. I cranked the old coffee mill type of telephone which I found, and presently heard the voice of Dr. Livermore.

"This is Tom Faber, Doctor," I said. "The *Graphic* sent me up to get a story from you, but there's an Indian here who started to murder me when I tried to get past your barricade."

"Good for him," chuckled the Doctor. "I heard the shot, but didn't know that he was shooting at you. Tell him to talk to me."

The Indian took the telephone at my bidding and listened for a minute.

"You go in," he agreed when he hung up the receiver.

He took down the chain and I drove on up to the house, to find the Doctor waiting for me on the veranda.

"Hello, Tom," he greeted me heartily. "So you had trouble with my guard, did you?"

"I nearly got murdered," I said ruefully.

"I expect that Joe would have drilled you if you had tried to force your way in," he remarked cheerfully. "I forgot to tell him that you were coming to-day. I told him you would be here yesterday, but yesterday isn't to-day to that Indian. I wasn't sure you would get here at all, in point of fact, for I didn't know whether that old fool I talked to in your office would send you or some one else. If anyone else had been sent, he would have never got by Joe, I can tell you. Come in. Where's your bag?"

"I haven't one," I replied. "I went to Calvada yesterday to see you, and didn't know until I got there that you were up here."

The Doctor chuckled.

"I guess I forgot to tell where I was," he said. "That man I talked to got me so mad that I hung up on him before I told him. It doesn't matter, though. I

can dig you up a new toothbrush, and I guess you can make out with that. Come in."

I followed him into the house, and he showed me a room fitted with a crude bunk, a washstand, a bowl and a pitcher.

"You won't have many luxuries here, Tom," he said, "but you won't need to stay here for more than a few days. My work is done: I am ready to start. In fact, I would have started yesterday instead of to-day, had you arrived. Now don't ask any questions; it's nearly lunch time."

"What's the story, Doctor?" I asked after lunch as I puffed one of his excellent cigars. "And why did you pick me to tell it to?"

"For several reasons," he replied, ignoring my first question. "In the first place, I like you and I think that you can keep your mouth shut until you are told to open it. In the second place, I have always found that you had the gift of vision or imagination and have the ability to believe. In the third place, you are the only man I know who had the literary ability to write up a good story and at the same time has the scientific background to grasp what it is all about. Understand that unless I have your promise not to write this story until I tell you that you can, not a word will I tell you."

I reflected for a moment. The *Graphic* would expect the story when I got back, but on the other hand I knew that unless I gave the desired promise, the Doctor wouldn't talk.

"All right," I assented, "I'll promise."

"Good!" he replied. "In that case, I'll tell you all about it. No doubt you, like the rest of the world, think that I'm crazy?"

"Why, not at all," I stammered. In point of fact, I had often harbored such a suspicion.

"Oh, that's all right," he went on cheerfully. "I am crazy, crazy as a loon, which, by the way, is a highly sensible bird with a well balanced mentality. There is no doubt that I am crazy, but my craziness is not of the usual type. Mine is the insanity of genius."

He looked at me sharply as he spoke, but long sessions at poker in the San Francisco Press Club had taught me how to control my facial muscles, and I never batted an eye. He seemed satisfied, and went on.

"From your college work you are familiar with the laws of magnetism," he said. "Perhaps, considering just what your college career really was, I might better say that you are supposed to be familiar with them."

I joined with him in his laughter.

"It won't require a very deep knowledge to follow the thread of my argument," he went on. "You know, of course, that the force of magnetic attraction is inversely proportional to the square of the distances separating the magnet and the attracted particles, and also that each magnetized particle had two poles, a positive and a negative pole, or a north pole and a south pole, as they are usually called?"

I nodded.

"Consider for a moment that the laws of magnetism, insofar as concerns the relation between distance and power of attraction, are exactly matched by the laws of gravitation."

"But there the similarity between the two forces ends," I interrupted.

"But there the similarity does not end," he said sharply. "That is the crux of the discovery which I have made: that magnetism and gravity are one and the same, or, rather, that the two are separate, but similar manifestations of one force. The parallel between the two grows closer with each succeeding experiment. You know, for example, that each magnetized particle has two

poles. Similarly each gravitized particle, to coin a new word, had two poles, one positive and one negative. Every particle on the earth is so oriented that the negative poles point toward the positive center of the earth. This is what causes the commonly known phenomena of gravity or weight."

"I can prove the fallacy of that in a moment," I retorted.

"There are none so blind as those who will not see," he quoted with an icy smile. "I can probably predict your puerile argument, but go ahead and present it."

"If two magnets are placed so that the north pole of one is in juxtaposition to the south pole of the other, they attract one another," I said. "If the position of the magnets be reversed so that the two similar poles are opposite, they will repel. If your theory were correct, a man standing on his head would fall off the earth."

"Exactly what I expected," he replied. "Now let me ask you a question. Have you ever seen a small bar magnet placed within the field of attraction of a large electromagnet? Of course you have, and you have noticed that, when the north pole of the bar magnet was pointed toward the electromagnet, the bar was attracted. However, when the bar was reversed and the south pole pointed toward the electromagnet, the bar was still attracted. You doubtless remember that experiment."

"But in that case the magnetism of the electromagnet was so large that the polarity of the small magnet was reversed!" I cried.

"Exactly, and the field of gravity of the earth is so great compared to the gravity of a man that when he stands on his head, his polarity is instantly reversed."

I nodded. His explanation was too logical for me to pick a flaw in it.

"If that same bar magnet were held in the field of the electromagnet with its north pole pointed toward the magnet and then, by the action of some outside force of sufficient power, its polarity were reversed, the bar would be repelled. If the magnetism were neutralized and held exactly neutral, it would be neither repelled nor attracted, but would act only as the force of gravity impelled it. Is that clear?"

"Perfectly," I assented.

"That, then, paves the way for what I have to tell you. I have developed an electrical method of neutralizing the gravity of a body while it is within the field of the earth, and also, by a slight extension, a method of entirely reversing its polarity."

I nodded calmly.

"Do you realize what this means?" he cried.

"No," I replied, puzzled by his great excitement.

"Man alive," he cried, "it means that the problem of aerial flight is entirely revolutionized, and that the era of interplanetary travel is at hand! Suppose that I construct an airship and then render it neutral to gravity. It would weigh nothing, *absolutely nothing!* The tiniest propeller would drive it at almost incalculable speed with a minimum consumption of power, for the only resistance to its motion would be the resistance of the air. If I were to reverse the polarity, it would be repelled from the earth with the same force with which it is now attracted, and it would rise with the same acceleration as a body falls toward the earth. It would travel to the moon in two hours and forty minutes."

"Air resistance would--"

"There is no air a few miles from the earth. Of course, I do not mean that such a craft would take off from the earth and land on the moon three hours later. There are two things which would interfere with that. One is the fact that the propelling force, the gravity of the earth, would diminish as the square of the distance from the center of the earth, and the other is that

when the band of neutral attraction, or rather repulsion, between the earth and the moon had been reached, it would be necessary to decelerate so as to avoid a smash on landing. I have been over the whole thing and I find that it would take twenty-nine hours and fifty-two minutes to make the whole trip. The entire thing is perfectly possible. In fact, I have asked you here to witness and report the first interplanetary trip to be made."

"Have you constructed such a device?" I cried.

"My space ship is finished and ready for your inspection," he replied. "If you will come with me, I will show it to you."

Hardly knowing what to believe, I followed him from the house and to a huge barnlike structure, over a hundred feet high, which stood nearby. He opened the door and switched on a light, and there before me stood what looked at first glance to be a huge artillery shell, but of a size larger than any ever made. It was constructed of sheet steel, and while the lower part was solid, the upper sections had huge glass windows set in them. On the point was a mushroom shaped protuberance. It measured perhaps fifty feet in diameter and was one hundred and forty feet high, the Doctor informed me. A ladder led from the floor to a door about fifty feet from the ground.

I followed the Doctor up the ladder and into the space flier. The door led us into a comfortable living room through a double door arrangement.

"The whole hull beneath us," explained the Doctor, "is filled with batteries and machinery except for a space in the center, where a shaft leads to a glass window in the bottom so that I can see behind me, so to speak. The space above is filled with storerooms and the air purifying apparatus. On this level is my bedroom, kitchen, and other living rooms, together with a laboratory and an observatory. There is a central control room located on an upper level, but it need seldom be entered, for the craft can be controlled by a system of relays from this room or from any other room in the ship. I suppose that you are more or less familiar with imaginative stories of interplanetary travel?"

I nodded an assent.

"In that case there is no use in going over the details of the air purifying and such matters," he said. "The story writers have worked out all that sort of thing in great detail, and there is nothing novel in my arrangements. I carry food and water for six months and air enough for two months by constant renovating. Have you any question you wish to ask?"

"One objection I have seen frequently raised to the idea of interplanetary travel is that the human body could not stand the rapid acceleration which would be necessary to attain speed enough to ever get anywhere. How do you overcome this?"

"My dear boy, who knows what the human body can stand? When the locomotive was first invented learned scientists predicted that the limit of speed was thirty miles an hour, as the human body could not stand a higher speed. To-day the human body stands a speed of three hundred and sixty miles an hour without ill effects. At any rate, on my first trip I intend to take no chances. We know that the body can stand an acceleration of thirty-two feet per second without trouble. That is the rate of acceleration due to gravity and is the rate at which a body increases speed when it falls. This is the acceleration which I will use.

"Remember that the space traveled by a falling body in a vacuum is equal to one half the acceleration multiplied by the square of the elapsed time. The moon, to which I intend to make my first trip, is only 280,000 miles, or 1,478,400,000 feet, from us. With an acceleration of thirty-two feet per second, I would pass the moon two hours and forty minutes after leaving the earth. If I later take another trip, say to Mars, I will have to find a means of increasing my acceleration, possibly by the use of the rocket principle. Then will be time enough to worry about what my body will stand."

A short calculation verified the figures the Doctor had given me, and I stood convinced.

"Are you really going?" I asked.

"Most decidedly. To repeat, I would have started yesterday, had you arrived. As it is, I am ready to start at once. We will go back to the house for a few minutes while I show you the location of an excellent telescope through which you may watch my progress, and instruct you in the use of an ultra-short-wave receiver which I am confident will pierce the heaviest layer. With this I will keep in communication with you, although I have made no arrangements for you to send messages to me on this trip. I intend to go to the moon and land. I will take atmosphere samples through an air port and, if there is an atmosphere which will support life, I will step out on the surface. If there is not, I will return to the earth."

A few minutes was enough for me to grasp the simple manipulations which I would have to perform, and I followed him again to the space flier.

"How are you going to get it out?" I asked.

"Watch," he said.

He worked some levers and the roof of the barn folded back, leaving the way clear for the departure of the huge projectile. I followed him inside and he climbed the ladder.

"When I shut the door, go back to the house and test the radio," he directed.

The door clanged shut and I hastened into the house. His voice came plainly enough. I went back to the flier and waved him a final farewell, which he acknowledged through a window; then I returned to the receiver. A loud hum filled the air, and suddenly the projectile rose and flew out through the open roof, gaining speed rapidly until it was a mere speck in the sky. It vanished. I had no trouble in picking him up with the telescope. In fact, I could see the Doctor through one of the windows.

"I have passed beyond the range of the atmosphere, Tom," came his voice over the receiver, "and I find that everything is going exactly as it should. I feel no discomfort, and my only regret is that I did not install a transmitter

in the house so that you could talk to me; but there is no real necessity for it. I am going to make some observations now, but I will call you again with a report of progress in half-an-hour."

For the rest of the afternoon and all of that night I received his messages regularly, but with the coming of daylight they began to fade. By nine o'clock I could get only a word here and there. By noon I could hear nothing. I went to sleep hoping that the night would bring better reception, nor was I disappointed. About eight o'clock I received a message, rather faintly, but none the less distinctly.

"I regret more than ever that I did not install a transmitter so that I could learn from you whether you are receiving my messages," his voice said faintly. "I have no idea of whether you can hear me or not, but I will keep on repeating this message every hour while my battery holds out. It is now thirty hours since I left the earth and I should be on the moon, according to my calculations. But I am not, and never will be. I am caught at the neutral point where the gravity of the earth and the moon are exactly equal.

"I had relied on my momentum to carry me over this point. Once over it, I expected to reverse my polarity and fall on the moon. My momentum did not do so. If I keep my polarity as it was when left the earth, both the earth and the moon repel me. If I reverse it, they both attract me, and again I cannot move. If I had equipped my space flier with a rocket so that I could move a few miles, or even a few feet, from the dead line, I could proceed, but I did not do so, and I cannot move forward or back. Apparently I am doomed to stay here until my air gives out. Then my body, entombed in my space ship, will endlessly circle the earth as a satellite until the end of time. There is no hope for me, for long before a duplicate of my device equipped with rockets could be constructed and come to my rescue, my air would be exhausted. Good-by, Tom. You may write your story as soon as you wish. I will repeat my message in one hour. Good-by!"

At nine and at ten o'clock the message was repeated. At eleven it started again but after a few sentences the sound suddenly ceased and the receiver

went dead. I thought that the fault was with the receiver and I toiled feverishly the rest of the night, but without result. I learned later that the messages heard all over the world ceased at the same hour.

The next morning Professor Montescue announced his discovery of the world's new satellite.

The Second Shell by Jack Williamson.

The Second
SHELL
by
Jack Williamson



But in a few minutes the vicinity of the mine was dozed with the coiling hills of purple gas. I saw railway cars and engines, guns and tanks, and even the railroad rails and the mining machinery, torn from their places and plunging into the air.

IT WAS two o'clock in the morning of September 5, 1939. For a year and a half I had been at work on the San Francisco *Times*. I had come there immediately after finishing my year's course at the army officers' flying school at San Antonio, on the chance that my work would lead me into enough long wars and exciting murder mysteries to make life interesting.

The morning edition had just been "put to bed" and I was starting out of the office when the night editor called me to meet a visitor who had just come in. The stranger came forward quickly. Roughly clad in blue shirt and overalls, boots, and Stetson, he had the bronze skin, clear eyes, and smooth movements of one who has spent his life out-of-doors. He stopped before me and held out his hand with a pleasant smile. I saw that his hair was gray; he was a little older than I had thought at first--fifty, perhaps. I liked the fellow instinctively.

"Robert Barrett?" he questioned in a pleasant drawl. I nodded.

"I'm Bill Johnson," he said briefly. "I want to see you. Secret Service business. *Sabe?*" He let me glimpse a badge; and we walked out into the night. As we started down the silent street it occurred to me that I had head of this man before.

"Are you the William Johnson who unearthed the radio station of the revolutionaries in Mexico in 1917?"

"I guess so. I've been in Mexico thirty years, and I've helped Uncle Sam out a time or two. It's a case like that one, or worse, that I'm up here to see about now. I need a partner. I've been told about you. Are you game for a little adventure?"

"You've found your man."

"They call you 'Tiger Bob Barrett,' don't they?" he said irrelevantly.

"I used to play football."

He laughed. I have always been sensible about that nickname.

"Well, here's the situation. I've been at Vernon's mine in Durango, Mexico. Called El Tigre. Gold and thorium. There's a little mystery--"

"Vernon? Is it Doc Vernon, the scientist. His daughter inherited a mine--"

"*Si, Señor.* Ellen Vernon is some young lady!"

"I knew them at Texas University. I was in Vernon's chemistry class before he went daft on his death ray machine, and left to work on that."

"The Doc is still at work on the machine. In fact, that is a part of the mystery."

"The mine is in an old corner of the desert, about fifty miles south of Mocolynatal--the big mountain. And there's something queer going on about that mountain!"

"Ellen got herself a radio set to pass away the time with. She got to picking up strange stuff. Sounds we couldn't make out! Not just a strange lingo. They don't sound like the human voice at all! Strange chirps and squeaks! Doc and I rigged up a directional set, and found that the calls were sent from Mocolynatal."

"The mountain's in sight, to the north of us. I got to watching it, and found out something else. There have been airplanes flying about it--queer red machines with short stubby wings! They flew off mostly to the west. I did a little more investigation, and found that a line of run-down Jap tramp steamers has been hauling cargoes of the-lord-knows-what, and unloading somewhere along the Pacific coast of Mexico--evidently making connections with the red machines."

"Now, the Doc has his machine where he thinks it will be the end of the world if anybody gets hold of it. We've seen one or two of the red planes over the mine, and he is afraid they have found out about it, somehow. He got nervous, and sent me up to see Uncle Sam. It is all news to the State Department, and we are going to investigate."

"One of the Jap tramps is leaving here tomorrow, and there will be a couple of destroyers on the trail, to see what they unload, and where. I've got hold of a new airplane--a queer little machine called the Camel-back, that I'm taking along on board. A jewel for mountain work--you could land it on a handkerchief. I needed a partner, and the Doc told me about you. Want to go along?"

"You bet I do! I've been longing for something to turn up."

"Well, be at the landing field at nine tomorrow--this morning, rather, ready for anything. This may be interesting before we're through. *Buenos Noches.*"

THE old fellow left me, and I walked on toward my apartment, thinking over what I had heard. Dr. Vernon's invention a success at last! I remembered very clearly my days with the nervous, stammering little scientist, always sure that tomorrow would bring the great secret. And I thought of Ellen--indeed, I had often done so in the two years since I had heard from her. I wondered why she and her father had left Austin so suddenly, and why their destination had been kept a secret from all their friends.

As for the matter of the red planes, I could suppose nothing but that the outs in Mexican politics were preparing a little military surprise for the ins. There have been too many military forces raised secretly in Mexico for one of them to be much of a novelty. Then I thought of the queer radio messages. They did not fit in very well. But my mind returned to Ellen again. I thought no more of the red machines. I had no thought--no one on earth had warning--of the terrible force that was rising to menace the world.

In the morning, when I came down to the lobby, I found a curious clamor going. There was a hum of conversation, and people were passing around red-paper "extras". It was five minutes before I could get one to read the screaming headlines:

RED PLANES RAID FACTORY;
THREE HUNDRED DEAD
MILLION DOLLAR STOCK OF
THORIUM TAKEN

The account went on to describe the raid, at four o'clock that morning, of a fleet of red airplanes upon the Rogers Gas Mantle Factory, at St. Louis. It was stated that three hundred people had been killed, and that the entire stock of thorium nitrate on hand, worth over a million dollars, had been carried off.

Much of a mystery was made of it. Police had failed to identify three of the four red-uniformed corpses left behind. Fingerprints identified the other as a noted criminal recently out of Leavenworth.

No one seemed to have any idea why the thorium had been taken, since the chief use of that radioactive metal, which is similar to radium, but far less active, is in the manufacture of gas mantles.

It was farther stated that the raiders had released "clouds of a luminous purple gas," which had caused most of the fatalities, and which seemed to have destroyed the gravity of metallic objects about. It was said that the factory building was curiously wrecked, as if the heavy machinery had gone up through the roof.

At first it struck me that this must be simply a newspaper canard. Then I remembered what Bill Johnson had told me of the strange red airplanes in Durango, and of the mystery of the secret radio station. Then I was not so sure. I ate a little breakfast and hurried out to the landing field. I found Bill

with a copy of the paper in his hand. His wrinkled face had a look of eager concentration on it.

"Howdy, Bob," he drawled. "This looks interesting. Have you seen it?" I nodded. "It must be the same red planes. Let's get off."

We walked out on the field, where the "Camel-back" plane was waiting. It was the first one I had seen; one of the first models built, I believe. It was based on Cierva's *Autogiro*, or "windmill plane". But there was an arrangement by which the rotating mast could be drawn into the fuselage, the rotation stopped, and the vanes folded to the side, so that the machine, in the air, could be transformed into an ordinary monoplane, capable of a much higher flying speed than the *Autogiro*. When the pilot desired, a touch of a button would release the mast and vanes, and the machine became an *Autogiro*, which could spiral slowly or drop almost perpendicularly to a safe landing on a small spot of ground.

The machine had a further innovation in the shape of a Wright turbine motor. This had but a single important moving part, the shaft which bore the rotors, the flanged wheel that drew the mixture into the combustion chamber, and the propeller. Because of its extreme light weight and high efficiency, the internal combustion turbine engine now promises to come into general use.

The name of the machine, "the Camel-back," was due to the peculiar hump to the rear of the mast, covering the levers for raising and lowering the rotating "windmill."

The plane carried a .60 calibre machine gun in the forward cockpit.

"Get aboard, Bob, and we're off," Bill said as we got on our parachutes. "The tramp weighed anchor at four this morning, and the destroyers left an hour later. We'll be able to pick them up."

Five minutes later our trim little machine was rolling forward with the "windmill" spinning. It swept smoothly upward. Bill moved into gear the device that brought down the mast, and soon we were over the cold gray Pacific, with the city fading into the haze of the blue northern horizon.

Bill was flying the ship, and my thoughts turned back to Dr. Vernon and his daughter. The Doctor was a pudgy, explosive little man, who thought, ate, and breathed science. His short, restless figure always bore the marks of laboratory cataclysms, and his life had been marred by the earlier lack of success in perfecting the terrible machine to which he was devoting his life. I had always thought it strange that a man so mild and tender-hearted should toil so to build a death-dealing instrument, and I wondered what he would do with it now if he had it completed.

It was five years since I had seen Ellen. She had been but a spritely, elfin girl. I remembered her chiefly as having been instrumental, one day at a party, in getting me to drop myself into a supposed easy chair, which turned out to be a tub of ice water.

CHAPTER II - The Menace of the Mist

THE little Camel-back plane was a wonder. The soft whispering hum of the turbine engine belied its tremendous power. The slender, white metal wings cut the air at the rate of two and a half miles per minute. Presently we saw a smudge of smoke where the blue sea met the bluer sky ahead, and soon the little machine had dropped on the deck of a destroyer.

The sister vessel was four or five miles to starboard. The two ships were plowing deliberately along, at about ten knots, keeping some twenty-five miles behind the tramp steamer they were shadowing. One of the officers took us up on the little bridge, and we learned that the little ships were keeping track of the tramp with their radio equipment.

The radio man took us in and let us listen to the calls between the tramp and some point far ahead. Those were the strangest sounds I have ever heard.

Thin, stuttering, stridulating squeaks and squeals! Even allowing for distortion in transmission, it was hard to imagine what might make them.

"That's something talking," Bill said. "And human beings don't make noises like that."

"It may be," the operator said, "that what we hear is just an ordinary conversation, 'scrambled' to keep us from understanding it, and 'unscrambled' by the receiver. Such devices have been in use for years."

But there was no conviction in his voice. And certainly, those strange noises sounded to me like the communication of some alien beings. But what might they be?

Later in the day, Bill and I took turns in going up with the Camel-back to keep tab on the movements of the tramp, since the radio calls had ceased. The day passed, and the white sun sank back of the glittering western waves. During the hot, moonless night, the ether was still, and we could do nothing but steam on in the same direction. I went up twice, but the tramp was showing no lights, and I failed to locate her. At midnight Bill came on deck, and I went below to a bunk.

It was just after dawn that the alarm was sounded. I was awakened by the roar of the little ship's forward gun. It was firing steadily as I went on deck, and I heard a confusion of sounds--the siren was blowing, and there was a medley of shouts, orders, and curses, punctuated with the reports of small arms.

I saw that the Camel-back was gone from the deck. Bill was up again.

As I stepped on deck there was a great clanging roar from below. The propellers had been lifted from the water! The engines raced madly for a minute, and then were stopped. I ran to the trail to see what had happened to throw the organization of the crew into such confusion. And indeed it was an amazing sight that met my eyes!

The ship was floating in the air, a hundred feet above the waves! The air was still, the sea was smooth and black ... The eastern sky was lit by the

silver curtain of the dawn, with the old moon hanging in it. Before us, and below, two hundred yards away, was a queer luminous hill--a shining cloud of red-purple vapor that rolled spread heavily upon the black water. I saw two similar twisting mounds of gas astern, gleaming with a painful radiance.

And the ship was rising into the air!

It was drifting swiftly up, through the still air, so that a wind seemed to blow down upon us. I saw a rifle hanging in the air ten feet above me, and a steel boat rising a dozen feet over the mast. Suddenly it came to me that something had negated the gravity of the metal parts of the ship. I thought of the story of the gravity-destroying bombs used in the raid of the night before upon the thorium stores.

The forward gun was still firing steadily, though the terrorized men had deserted the others. I saw a man point above us, and looked. A red airplane, with thick fuselage and short wings, was flying silently and swiftly across our bows. As it passed, something fell from it. It was a dark object that fell and exploded just above us, bursting into a thick, roily cloud of shining purple mist. The light of it hurt my eyes. And the ship plunged upward faster.

In view of what happened later, there can be no doubt that the luminous gas was a radioactive element derived by the forced acceleration of the decomposition of thorium. It was similar to the inert radioactive gas niton, or "radium emanation," which is formed by the expulsibn of an alpha particle from the radium atom. And there can be no doubt that its emanations affected the magnetic elements, iron, nickel, cobalt, and oxygen in such a manner as to reverse the pull of gravity. With the invention of permalloy and other similar substances in the past decade, such a thing is much less incredible than it might have seemed ten years ago.

In a few moments the red ship had passed out of sight. Looking dazedly to the west, I saw a number of bright points of purple, fire against the deep blue of the sky--radioactive clouds sending out the gravity-nullifying radiations. The dark shape of the other destroyer, upside down, was floating up among them. It must have been almost a mile up, already.

As I stood there astounded, the officers seemed to be making a furious attempt to restore order. Then men were running about, babbling and cursing in utter confusion. I saw one man don a life belt and jump insanely over the rail--to plunge like a plummet to the water five hundred yards below. A dozen more poor fellows followed him before the mate could stop the rush. And perhaps their fate is as good as that of the others.

Suddenly a wild-eyed seaman sprang at my throat. In spite of my amazement, I was able to stop him with a punch at the jaw. In a moment I realized what he was after. The parachute that I had worn on my last flight in the Camel-back was strapped to me. As the fellow got up to charge again, the deck tilted (probably the ship was upset by the recoil of the gun).

Presently I found the rip-cord and jerked it. The white silk bellowed out behind me, while my unfortunate shipmates fell, dwindling dark specks, to make white splashes in the sea below. The ill-fated ship must have been half a mile high then. I glimpsed it once or twice, a vanishing black dot--driven out into space!

By the time I had struck the chill water I almost wished that I had fallen with the others. I contrived to cut the harness loose, and to get rid of my coat and shoes; and set myself to the task of keeping afloat as long as possible.

IT must have been an hour later that I heard the hum of the Camel-back's propeller, and saw the little machine skimming low over the waves. Bill leaned out and waved a hand in greeting. In a few minutes he had brought the machine down lightly in the water beside me, and hauled me aboard.

"I went up at three o'clock," he said, "to see if I could locate the Jap. I was coming down when the red machines began to let loose their shining clouds. The plane went up. I stopped the engine, and still it went up. Its weight was gone. I almost froze before it started falling."

"Those ships may go on to the moon! They may become minor satellites themselves!"

"You saw the red machines dealing out the dope?"

"One of them. Who could it--"

"It's our job to find out. We better head back for the mine, to see what's happened there."

The trim little machine skimmed smoothly over the level sea, and easily took the air. We flew southwest. It was not many hours before we sighted land that must have been the lower tip of Lower California. In an hour more we were flying over Mexico, the most ancient, and paradoxically, the least known country on the continent.

We flew over a broad plain checkered with the bright green of fields, over ancient cities and mean adobe villages, and over the vast forests of pine, cut with twisting canyons, that cover the slopes of the mighty mountains that rose before us. As we went on, the green valleys of the rushing mountain streams grew narrower; and the grim wild peaks that rimmed them, higher and more frequent. Sheer jagged summits rose above steep, forest-covered slopes. We were reaching the heart of the Sierra Madre range.

At last the vast bare conical mountain loomed up to the north of us, that Bill told me was Mocolynatal-- the place of the hidden radio station. Its sheer black slopes tower fifteen thousand feet above the sea. From its appearance, it was not hard to guess that it had a crater of considerable dimensions.

The mountain crept around to our left, as we flew on toward the mine. Suddenly Bill shouted and pointed toward the peak. I looked. Above the dark outline of the cone, a huge globe of blue light was rising, flaming with an intense brilliance that gave a ghastly tint of blue to all that desert wilderness of peaks! Like a great moon of blue fire, it rose swiftly into the sky! It dwindled, faded, was gone!

I felt the hair rise on my neck. I was glad that our plane was swift and far away. If it was a human power with which we had to deal, I thought, it must

have made strange advances. And then I remembered the strange noises upon the ether--sounds more like the stridulations of great insects than the voices of men!

"That has happened twice before," Bill said. "But I didn't tell anybody about it in the States. It's too damned unbelievable."

IN half an hour we were fifty miles south of Mocolynatal, circling over the mine. El Tigre Mine is near the center of a rocky, triangular plateau. Northwest and southwest, the Sierra Madre rises. On the east side of the triangle is the river, a tributary of the Nazas, in a canyon deep enough to hold the stream a hundred times. Perhaps a dozen square miles are so enclosed. It is a desert of sand and rocks, cut up with dry arroyos, scantily covered with yucca, mesquite, and cactus.

The mine buildings stand on the little stream that cuts a track of vivid green across the neutral gray of the waste to the canyon below. Sitting there on the dull-hued plain, with the Cordillerras rising so abruptly a few miles back, the buildings looked very tiny and insignificant. Across the stream from the shaft-house, the shops, and the quarters of the men is a square, fortress-like two story residence of rough gray stone ... The narrow-gauge railroad track runs from it down toward the canyon like thin black threads.

As we flew over the buildings, a trim white figure appeared on the roof of the residence, and waved a slender arm. I knew that it must be Ellen, and I felt oddly excited at the thought of seeing her again.

Bill touched the button that released the rotor, and the machine settled lightly to earth near the main building. A short waddling person and a slender active one--the Doctor and Ellen--came out of the house and hurried toward us.

"Why h-h-h-hello, Bob, I'm s-sur-surprised to see you," the Doctor rattled off. I have always had the opinion that he wouldn't stammer if he would take time to talk, but he is always in a hurry. "You're w-w-w-welcome,

though. Looks like a new m-ma-ma-machine you have, Bill. The red ship c-c-came again while you were gone. I've got something to t-t-t-tell you. But get out and come in to the shade."

He hurried us toward the house. He was just as I remembered him--a short man, a little stout, with a perpetual grin on his moon-face, and movements as short and jerky as his speech. He was panting with excitement, and very glad to see us.

Ellen Vernon was, if possible, even more beautiful than she had been to my boyish eyes. Her dark eyes still held the flame of restless mischief that had brought me the icy plunge. I believe a recollection of the incident passed through her mind as she saw me, for her eyes suddenly met mine engagingly, and then were briefly turned away, while a quick soft flush spread over her glowing, sun-colored cheek. I got a subtle intoxication even out of watching the smooth grace of her movements.

We shook hands with the Doctor, and Ellen offered me her strong cool hand.

"I'm glad to see you, Bob," she said simply. "I've often thought of you. And you've come in at an interesting time. Dad turned loose his ray yesterday, and brought down one of the red machines. I guess Bill has told you--"

"Yes," the Doctor interrupted, "the th-th-th-thing had come sneaking around here once too often. I tried the tube on it and it fell about a mile up the creek. Funny thing about it. The red ship struck the ground, and then something left it and went b-b-b-b-back into the air!"

"Something like a bright blue balloon carried the thing up in the air," Ellen added. "It saved itself with that, just like a man wrecked in the air uses a parachute. But it was not a man that sailed up under that ball of blue light! It was a queer twisting purple thing! I used the field glasses--"

"It's not m-m-m-men, that fly the red ships," the Doctor said. "It's c-cre-cre-creatures of the upper air!"

We stepped up on the broad, shady verandah, and Bill and the Doctor stopped by the steps, comparing notes. Ellen gave me a welcome drink of icy water from the wind-cooled earthen olla hanging from the roof. Straight, and tanned, she looked very beautiful against the desert background. She was the same girl she had always been--bright, daring, and alluring. Neither she nor the Doctor seemed unduly excited over the astounding news they had just delivered.

The desert lay away to the eastward, undulating in the heat like a windswept lake. Gray or dully green with the yucca and manzanita upon it, it was sharply cut by the rich green mark of the wandering stream. Its vastness tired the eyes, like a limitless weird dead sea. North and south the mountains rose, gripping the plain in a grim and ancient grasp. The hills were still tinted with the blues and purples of the morning shades, save where some higher peak caught the sunlight and reflected it in a fiercer, redder gleam. Far in the north, above the nearer peaks, I made out the distantly mysterious, dull blue outline of Mocolynatal--the mountain of the hidden menace.

In such a wild and primitive setting, human civilization seemed a distant, unimportant issue. The menace of the desert, of naked nature, alone seemed real. No wild tale was incredible there.

And the wonderful girl before me, smiling, cool and resourceful, seemed to fit in with that rough scenery, seemed almost a part of it. Ellen was the kind of woman who can master her environment.

"Coming down here was a pretty severe change for a campus queen, wasn't it?" I asked her.

"The royal blood never flowed too freely in my veins," she said. "I rather like it here. The ore train from Durango brings the mail twice a week, and I read a lot. Then, I'm beginning to love the desert and the mountains. Sometimes I feel almost like worshipping old Mocolynatal. They say the Indians did."

"I wonder if it's ever been climbed?"

"I think not. Unless by the owners of the red airplanes. Dad thinks they are things that have come down out of the upper air to attack the earth. I've always been sorry I wasn't here when the tiger was killed, but this promises a bigger adventure yet! And I'll be right in the middle of it!" She laughed.

"I HADN'T heard of the tiger's misfortune," I said, a little amused at her eagerness for adventure.

"You know Uncle Jake had a ranch down on the Nazas. Once he trailed a tiger up here with his hounds. He killed him right here, and happened to see the glitter of gold in the blood-stained quartz. He named the mine El Tigre--The Tiger. Along with the gold ore are deposits of *monazite*--thorium ore. Dad began to work them when we came to get thorium to use in his experiments."

"Say, Bob," the Doctor called, "I want to sh-sh-sh-show you something. Come on in the lab."

The little man took my arm and hurried me down the long cool hall, and up a flight of steps to a great room on the second floor. It suggested an astronomical observatory; it was circular, and the roof was a great glass dome. In the center and projecting through the dome was a huge device that resembled a telescope. About the walls a variety of scientific equipment.

"That's my r-r-r-ray machine," he said. "Modified adaptation of the old Coolidge tube, with an electrode of molten *Vernonite*. *Vernonite* is my invention--an alloy of thorium with some of the alkaline earth metals. When the alloy is melted there is a comparatively rapid atomic disintegration of the radioactive thorium, and the radiation is modified by passages through a powerful magnetic field, and by polarization with quartz prisms. The Vernon Ray has characteristics controllable by the adjustment of the apparatus, generally resembling those of the ultra-violet or actinic rays of sunlight, but intensified to an extreme degree.

"The chemical effects are marvelous. The Vernon Ray will bleach indigo, or the green of plant leaves. It stimulates oxidation, and has a tendency to break up the proteins and other complex molecules.

"This tube has a range of five miles, and will penetrate a foot of lead. I have killed animals with it by breaking up the haemoglobin in the blood. By special adjustment, its effects would be fatal at even greater range. It might be set to break the body proteins into the split protein poisons--there are a thousand ways it might kill a man, quickly or by hideous lingering death.

"Used in war, the Vernon Ray would not only kill men, but destroy or ignite such useful chemicals as fuels and explosives. It would destroy vegetation and food supplies. In fact, it would make war impossible, and it is my hope that it will end war altogether!"

"But what if the wrong fellow gets hold of it?"

He nodded to a safe at the wall. "Plans locked up there. And nobody knows about it. Even if someone had the plans, he could hardly secure the large quantities of thorium required without attracting attention." I thought of the raid on the gas mantle factory.

"I mean to turn it over to the American government pretty soon, but I hope to make another development. Ordinary heat and light waves set up molecular disturbances in matter; in fact, heat is merely molecular vibration. I hope to discover a frequency in the spectrum that will stimulate atomic vibration to such an extent as to break down the electronic system. Objects upon which such a ray is directed will explode with incredible violence. In my earlier experiments with *Vernonite*, the molten alloy in the tube, I almost had a catastrophe from the atomic explosion of the electrode. It would have blown El Tigre off the map! The radioactivity of thorium is slight; I must increase it vastly. The adjustment is delicate."

He let me look into the apparatus. It was plainly electrical. There were motors, generators, coils, transformers, mirrors and lenses in a lead housing, vast condensers, and a huge vacuum tube which seemed to have a little crucible of glowing liquid for the anode. Back of it was a great parabolic reflector which must have sent out the beam of destruction.

"The idea of atomic force as a d-d-d-d-destructive agency is not new," he went on, again almost too enthusiastic to talk. "The sun is thought to ob-ob-ob-obtain its boundless energy from the process of atomic disintegration, and m-m-m-m-m-men of science long since agree that any instrument using intra-atomic energy would be a t-t-t-t-terrible weapon!"

CHAPTER III - Clouds of Doom

SUDDENLY a red shape flashed over the great glass dome above us. In a moment I heard Bill call out, "Hey, Doc, comp'ny's come!"

Dr. Vernon and I hurried out of the room. He paused to double lock the door behind him, and we went down to the hall. We found Bill and Ellen both waiting at the front door, each holding a 30-30 carbine.

"There's one of the red ships out there!" the girl cried. Eager and flushed with excitement, she was very beautiful.

The Doctor unbuttoned his shirt and pulled out a slender tube of glass. It had a bulb at one end, with a metal shield behind it, and a pistol grip and trigger at the other. He examined it critically and turned a little dial. The tube lit up with a soft, beautiful scarlet glow. He pointed it at a vase of wild flowers, that Ellen must have gathered, on a side table. Their brilliant colors faded until leaf and petal were white.

"P-p-p-p-pocket edition of the Vernon Ray machine," he said.

He slipped it out of sight in his pocket, and Bill swung open the door. A strange red airplane was stopped twenty yards away. The fuselage was a thick, tapering, closed compartment, with dark circular windows. The wings were curiously short and thick, as if they were somehow folded up, and I thought the propeller very large.

An oval door in the side swung out, and a little, weazened man sprang out on the ground. An astounding person! He wore a uniform of brilliant red, decorated with a few miles of gold braid and several pounds of glittering medals. He had leathery black skin, sleek black hair, and furtively darting black eyes. A deep, livid red scar across his forehead and cheek gave his face a queer demoniac twist that was accented by his short black moustache.

"Vars! Herman Vars! After us again!" the Doctor muttered in evident amazement.

The dark little man walked briskly up to the door, and saluted the Doctor, with his medals rattling. "Good morning, Dr. Vernon," he said in a queer dry voice. "I trust that you are well--you and your beautiful daughter. I need not ask how work is progressing on your remarkable invention, for I know that it is completed," he laughed, or rather cackled, insanely. "Yes, Doctor, you have given the world a great weapon, one that it will never forget!"

He was laughing oddly again when the Doctor asked gruffly, "What do you want?"

"Why, a friend of yours and mine, who has been of service to us both, informs me that you have in this building quite a large supply of the rare radioactive metal, thorium, of which I think I have a greater need than you--"

"What? You mean Pablo--" Dr. Vernon cried, his face turning white.

"Pablo Ysan, your servant. Exactly. But I must have the thorium. I need a huge quantity. I am coming for it tomorrow. You need fear nothing for yourself or your daughter--I came to warn you so that you might feel no alarm. In fact, it would flatter me to have you as my guests. But remember that I am coming--in force!"

"You damn lu-lu-lu-lunatic!" the Doctor choked.

"No. Not a madman, begging your pardon. The future king of the world! Of two worlds, to be exact! But I must leave you. Remember! And *hasta*

luego, as our friend Pablo would say."

Laughing strangely again, the little man hurried back and got in the machine. It left the ground at once, with the great propellers whirling slowly. The motors were oddly silent. I thought the red wings were somehow unfolded, or lengthened out a little.

As it rose, I glimpsed the pilot of the machine.

It was not a man!

It was a queer, gleaming purple shape, with many tentacles!

With strange horror grasping at my heart, I looked quickly at the others, but it seemed that they had not seen it. Then I remembered the Doctor's words of "creatures of the upper air" and I thought of what Ellen had said of the thing that had risen from the wrecked ship.

"That was Herman Vars," Ellen whispered to me. "We met him at the University. He had a warped mind--tinkered with radio and claimed he was getting in touch with beings of a plane above the earth. Then--once--" she paused, flushing a little,"--well, he came to me and told me that he was going to conquer the earth, and that he wanted me to--to go with him. That was why we left Austin. I thought he was only insane--but this!"

"And he must have been t-t-t-t-telling the t-t-t-t-truth!" the Doctor said. "And he is coming after my thorium! I wonder--Pablo--the blueprints--"

Suddenly he left us and ran down the hall.

"Pablo Ysan was a Mexican who helped him sometimes in his experiments," Ellen told me. "He went away a month ago. He must have carried Dad's plans to Vars."

The Doctor came back with a grim look on his face. "They're g-g-g-g-gone!" he said. "That's why they want thorium. And I've got enough here to wipe out the earth, if they can use it--if they can use it," and a grim half-smile flickered over his face.

"I'll run down to Durango on the rail car," Bill said. "I can have a train load of troops up here by night. Mendoza is one of my *amigos*--once I did him a good turn--" The Doctor nodded. "And if anything happens while I'm gone, you have your ray, and Bob can take up the Camel-back."

HE WENT out. In a few minutes I heard the sputter of a gasoline engine, and the ringing of the little car's wheels on the rails, as it sped down the narrow track. The machine dwindled to a black speck on the desert's rim, and dropped out of sight.

Dr. Vernon spent the evening tinkering with his tube. I went over with Ellen, to look at the mine. The men had been frightened by the red ships, a few days before, and had left on the train. The place was deserted. We peered down the silent black shaft, and went back. But most of the time I spent watching the sky for a sight of the red planes, ready to warn the Doctor and to go up to meet them.

Four trains pulled in before midnight, carrying one of those mobile military units with which the Montoya government so effectively nipped in the bud the revolutionary movements of 1933 and 1935. There was a battery of eight French seventy-fives and a heavier railway gun, four light tanks, a dozen battle planes and two bombing planes, and about four hundred infantry.

Before dawn. El Tigre looked like a military encampment. In the glare of great searchlights, men were digging trenches, leveling a landing field for the planes, and planting the battery. The Doctor had his ray machine ready for use.

I was much surprised at the discipline and efficiency of the well-trained Mexican troops.

With the rising of the sun, a sentry's hail proclaimed the appearance of a score of dark specks above the grim outline of Mocolynatal--a fleet of red planes, coming to the attack!

In a moment the camp was alive. The gun crews got to their posts, airplane engines were started, infantry were lined up in the freshly dug trenches, with machine guns and rifles ready. I saw the gleaming tip of the Doctor's great tube projecting above the huge glass dome.

In a few minutes the planes were taking the air, flying to meet the coming ships. I was with them, in the Camel-back.

I had often dreamed of the thrills of war in the air, and I was eager enough for the encounter. But, as it turned out, I was to play no noble part.

The red machines flew toward us with astonishing speed. In a few minutes they were upon us. Because of the greater speed of my ship, I was flying a little ahead of the formation of Mexican planes. That circumstance probably saved my life, as things turned out.

I was firing a burst to warm up my gun when there was a puff of smoke from the foremost machine of the red ships. I watched the tiny black projectile that came toward us, saw it pass far below me and burst into a thick cloud of gleaming purple vapor that rolled and coiled like a strange creature of the air.

And the wings of my machine no longer caught the air! The controls were useless. I was drifting up. The radiation of that shining cloud had negated the gravity of the machine!

Half a dozen more of the strange bombs burst behind me, and I saw the other ships drifting up, even more rapidly than mine, for they had been nearer the clouds. I kept firing for a minute, but I believe I hit none of the red ships. Soon they had passed beneath, in the direction of the mine.

Helpless, I drifted on into the sky!

I had a clear view of the battle at the mine. As the red machines came within range, the railway gun and the camouflaged seventy-fives began firing. One of the red ships suddenly went down in flames, and then two more. Whether they were hit, or were victims of the Vernon Ray, I do not know.

But in a few minutes the vicinity of the mine was dotted with the coiling hills of purple gas from the gravity-destroying bombs. I saw railway cars and engines, guns and tanks, and even the railroad rails and the mining machinery, torn from their places and plunging into the air. Suddenly the huge glass dome was shattered, and a great object shot up through it--Dr. Vernon's terrible instrument!

What can men do against instruments that hurl them off the earth?

By that time I was so high that the whole plain about the mine was but a tiny brownish patch, and soon that was veiled in the mists of distance. I grew very cold, and beat my arms against my sides to warm them. My breath grew short, and presently my nose began to bleed. The blue sky grew darker until a few stars broke into view, and then many. The flaming sun seemed to give no heat. Intense cold crept over my limbs.

As I was floating upward to my doom, I thought of the impending fate of the earth. The red fleets might sweep over the world, sending armies, battleships, cities and factories into the frozen night of space. That madman, Vars, with his incredible allies that we had glimpsed, with the negative gravity bombs and Dr. Vernon's ray machine, could realize his mad dream of world dominion. Humanity would be helpless against his insane power.

Amid those speculations of the horror to come, my consciousness faded.

THE next I knew, it was late in the evening. The sun was low over the black hills in the west. My machine was still perhaps two miles high, and floating slowly down. I started the motor, and got the machine under control.

I found that I had drifted far to the east of the mine. By the time the red sun set, I was back over it. I landed in a terrible scene of wreckage. All objects of iron--machines and weapons--were gone. Trenches, shelters, and buildings were stripped ruins. Here and there were dead men, singly and in piles. They showed no wounds; either they had been killed by the intense

radioactivity of the gravity bombs, or by a Vernon Ray machine carried on the red planes.

I landed by the ruined residence, near two dead men in uniform. In fearful anticipation, I hurried through the silent rooms. The doors were broken down and the walls were bullet-splintered--there had been fighting in the hall. I searched the empty rooms in which the precious thorium had been stored. Three more cold bodies I found, but they were of the Mexican soldiery. I found no trace of Ellen, Bill, or the Doctor.

Had they been swept away into space? Or had the triumphant lunatic, Vars, taken them captive and carried them to his stronghold in the crater of Mocolynatal?

I did not find the Doctor, but in his laboratory, in the inside pocket of a coat carelessly thrown aside, I found the compact little ray tube with which he had bleached the flowers on the day before. I examined it curiously, and put it in my pocket.

Darkness had fallen when I went out to the Camel-back, got in, and started the turbine motor. I rose into the night and flew northward over the starlit mountain wilderness. At last I made out the shape of Mocolynatal ahead, and climbed far above it. I sailed over, and came upon a strange scene.

Indeed, the mountain had a crater! Below me was a great bowl, perhaps two miles across, brilliantly lit by rows of electric lights. I made out long lines of buildings--huge structures of sheet iron, gleaming in the light. Toward the south rim seemed to be a landing field, with broad beams of intense light pouring out over the hundreds of red planes lined up across it. North of that was a lake, and I saw scores of red seaplanes moored by brightly lit docks at the edge.

There was movement below me. I saw the headlights of moving trucks upon smooth gravel roads about the lake, and there were men at work on the docks and at the landing field. Dense smoke, a luminous white in the glare of the lights, was rising from some of the buildings that must have been factories.

The lunatic had indeed made thorough preparation for his planned attack against the world!

I cut off the engine of my machine, set the motor to whirling, and dropped silently toward the circle of darkness about the rim of the crater. In fifteen minutes more I had landed it on a bare, rocky slope. I waited a moment, but there was no sign that my coming had been observed, so presently I left the plane, with my automatic in my hand, wishing I knew how to operate the strange weapon in my pocket.

I spent several hours slipping about in the shadows among the fallen boulders on the bank of talus about the rim, looking down into the brightly lit crater. At last, I came down in the shadow of an isolated building of gray concrete, with slender masts rising above it--the hidden radio station.

In an open space before it, flooded with light, I saw a strange machine. It was like one of the red airplanes, but the closed fuselage was so large that it looked almost like a small dirigible balloon, while the short wings were no larger than those of the ordinary machines. It occurred to me that the "negative-gravity" gas was probably used to lift it.

As I stood watching it, I saw a party coming aboard. There were a dozen soldiers, in red uniform. Among them I recognized the short figure of Vars, the maniac, if he was a maniac. And behind him were three closely guarded figures, one of them evidently a woman. Were they my three lost friends? I had every reason to think they were. Vars had promised not to injure Ellen or the Doctor, had implied that he wished to take them with him.

I was still watching when I heard a light footstep behind me. I whirled quickly, only to receive the sharp point of a bayonet against my chest.

"Drop it!" a sharp voice commanded as I tried to raise my automatic. The pressure back of the keen blade was somewhat increased, and I obeyed.

"Where did you come from, anyway?" the voice inquired.

I said nothing.

"Then I'll give you a chance to tell somebody else, Pard."

A dark-faced man in red uniform stepped out of the shadow of the building. He searched me, and discovered the Doctor's little weapon. "What's this, Pard?" he asked quickly.

Desperately I cudgeled my brain. "It's--er--a patent radium cigarette lighter. Inventor gave it to me. I broke it the other day."

He looked at me sharply. I tried to assume indifference; and he handed it back. "Forward march, and no tricks," he ordered, and prodded me with the bayonet until I would have given a good deal to know the secret of the little weapon he had returned to me.

Presently we reached a low concrete building. He put me past a barred door, and locked it. I was left alone in the dark. Presently I struck the few matches I had, to examine the little weapon. I set the dial by guess, and found the tiny lever that lit the tube with the soft crimson light, but I could not test it.

Toward morning I had an incredible visitor!

A pale violet light was suddenly thrown through the bars of the door. I looked up to see the amazing Thing before it, regarding me. It was octopus-like, with a central body upheld on a dozen whip-like tentacles! But it was luminous, purple, semi-transparent!

The shapeless glowing purple body had a nucleus of red--a little sphere of intense red light embedded in the shining form. It seemed like a terrible eye, watching me.

For a moment the awful thing was there, and then it moved silently away, drawing itself upon the slender gleaming tentacles. It left me weak and trembling. I hardly dared believe my eyes. Was this one of the "beings from another plane" with which Vars had allied himself in his insane attack against the earth?

CHAPTER IV - The City Above the Air

AT LAST the light of day, filtering through my prison bars, aroused me from a terrible dream of a gleaming purple octopus that was crushing and strangling me in its coils. Little did I realize how soon that dream was to become a reality!

The red-uniformed sentry came and brought me a little breakfast. I tried to engage him in conversation as I ate, but all I could get out of him was "Aw, shut your trap, Pard!"

He ordered me out of the cell. As I stood outside, blinking in the blaze of morning sunshine, I saw that the crater had been deserted since I had entered. The rows of great sheds were empty, with doors ajar. The long lines of red planes were gone. Even the great ship into which I thought Ellen and the others taken was not to be seen. The radio station appeared to have been dismantled. There were no more than a dozen airplanes left in the pit; and even as I looked, some of these took off and spiraled up into the sky.

Had the maniac finished his preparations for an attack upon the earth? Had his dreadful army gone forth to begin the ruin of the world?

The guard motioned with his bayonet toward one of the red ships near us on the ground. "Hustle!" he said. "Get aboard. You are going up to see the Master."

From what I later learned, there must have been several hundred white men in the conspiracy with Vars. In exchange for their services, he had offered freedom from the law (which was a great inducement to the class of men he gathered) and a chance to share in the spoils of world conquest. His recruits

had numbered bandits and desperadoes of all descriptions, and even a few unscrupulous men of finely trained minds.

In a few minutes we were in the fuselage compartment of the red machine. It was closed and made air-tight. We were seated upon comfortable chairs, and had a good view through circular windows in the sides. The pilot was forward, out of sight, and there was another closed space to the rear, but our compartment took up most of the hull.

The guard refused to answer my questions concerning the ship's propulsion, but I later learned that it was lifted by the negative gravity gas. The motors utilized intra-atomic energy derived by the forced decomposition of thorium, and at high altitudes the propellers were supplemented by rocket guns.

Besides my taciturn guard, there were two other men in the ship. One, a fat, red-faced fellow, who looked as if he had been drinking too much mescale, was boasting of his close association with Vars, "the Master," and of his promised part in the spoil of the earth conquest.

The other was a lean, shrunken man, with red eyes. He stared apprehensively at the pilot's room forward, muttering to himself. I caught a few of his words, "The shining horrors! The shining horrors. Devils from the sky!"

The machine left the crater floor and flew rapidly up on a steep spiral course. In a few minutes the rugged mountain panorama was spread out like a relief map below us. Presently the stars were visible, and still we climbed, comfortable enough in the heated, air-tight compartment. The propellers had been stopped, but the gravity-neutralizing gas continued to lift the vessel straight up.

Then I noticed a faint purple veil coming over the stars above. Suddenly it seemed that we were plunging through a bank of thin purple mist. Abruptly we shot above a landscape weirder than the wildest dream!

We had climbed above a vast plain!

A flat purple desert stretched inimitably away below us. Far in the west rose a colossal range of sheer purple mountains. The weird plain was covered with strange and stunted violet plants. In the south was a patch of blazing blue that looked like a lake of heavy mist. Beyond rose a forest of fern-like violet plants.

It was a new land above the air!

The sky was utterly black, above that desolate purple world. The stars were blazing with strange splendor, like a mist of sunlit diamond dust. They were brighter than they ever are on earth, for we were above the atmosphere. I turned toward the east, to look at the morning sun. Its light was blinding. The solar corona spread out like great wings from a sphere of livid white.

And on the purple desert, below the blazing sun, was a city!

Great spires and towers and domes rose above the dull flat expanse of purple and blue and violet. The strange buildings were scarlet. They gleamed with a metallic luster, as if they were made of the same metal as the red airplanes.

This was the land of the madman's allies, the home of the purple, gleaming creatures!

In all that strange world, save for the intense red of the weird city, there was no bright color. The smooth plains, the towering mountains, the great lakes, were dull purple or blue or violet. And all were semi-transparent! I could see the Sierra Madre like a little gray ridge, scores of miles below. And in the west, below those purple mountains, was the broad blue Pacific, gleaming like steel.

I cried out in wonder to the guard.

"Huh," he muttered. "It's nothin'. I've been up here a dozen times. Nothin' solid. Just mist. Even the--Things--cut like butter."

CERTAINLY our machine had risen easily enough through the purple rocks below us. The scientific aspects of that second crust about the earth have been considered very carefully, and the best scientific opinions have been sought.

Mankind dwells upon a comparatively thin crust about the molten or plastic interior of the earth. It would seem there is a similar crust about the air. Science long ago had evidence of it in the reflection of radio waves by the so-called Heaviside Layer.

The volume of the gases in the atmosphere depends upon temperature and pressure. As one leaves the surface of the earth, the air grows thinner, because the pressure is less. But interplanetary space is nearly at absolute zero, where molecular motion ceases. It follows that the molecular motion of the outside of the atmosphere is not sufficient to keep it in the gaseous state at all.

The top of the air is literally frozen into a solid layer!

Scientists suspected as much when they suggested that the Heaviside Layer effect was caused by the reflection of Hertzian waves by solid particles of frozen nitrogen in the air. But it seems that the many frozen gases (for the air contains hydrogen, helium, krypton, neon, xenon, and carbon dioxide, as well as nitrogen, oxygen, and carrying quantities of water vapor) possess chemical characteristics lacking at ordinary temperatures. They seem to have formed a relatively substantial crust, and to have formed an entirely new series of chemical compounds, to make life possible upon that crust. (The rare gases of the air are monatomic, and consequently inert, at ordinary temperatures.)

It would appear that intelligence had been growing up upon that transparent and unsuspected world above, through all the ages that man had been fighting for survival below. Vars had been the first to suspect it. He had got into radio communication with the denizens of that second crust, had enlisted their aid in a war upon his fellow men!

We flew on toward the crimson city.

"The armies from there will conquer the world. Those purple things fight like demons," the fat man boasted complacently, waving his half-empty flask toward the gleaming crimson battlements.

"Demons! Yes. Devils! Hell in the sky!" the shrunken man whispered through chattering teeth, never taking his red eyes from the door to the pilot's cabin.

We were over that strange city of red metal. It was a mile across, circular, with a metal pavement and a wall of red metal about the edge. Scattered along the rim were a dozen great gleaming domes of purple.

"Gas in the domes supports the city," my guard said briefly. "The ground is mist. Won't hold up anything solid."

I suppose that a dollar would have fallen through those purple rocks as a similar disc of neutronic substance, weighing eight thousand tons to the cubic inch, would fall through the crust of our own earth. Strength and weight are relative terms. The strange crust must have seemed solid enough to the weird beings that trod upon it, until they acquired the use of metals and of the negative gravity gas. (Their "mines" may have been the meteorites of space.)

In the center of the city was a huge transparent dome, with a slender tube projecting through it. I was struck at once with the semblance of it to Dr. Vernon's ray tube. Had a duplicate already been installed here?

The fat man answered my question. "Old Vernon is some prize fool. We have his weapon as well as those already possessed by the Things. A ray tube in that city, and one in every plane. The Master has promised me a little model, to carry in my pocket. He is going to give me Italy and--"

I LISTENED no more, for we were dropping swiftly to a broad platform of the red metal. Upon it were long lines of the thick-bodied red airplanes.

And at one side was the larger ship into which I had seen three prisoners taken.

"--the army, ready to start," I heard the red-faced man again. "I'll be over New York tomorrow." He raised his bottle unsteadily.

Our machine was dropped lightly to the top of the great ship. Two red-clad mechanics moved through our compartment, toward the rear. In the next little room we found them waiting, when my guard had made me follow. They held a round metal door, above a dark opening in the floor. It seems that the machines were placed with openings opposite, and were clamped together to prevent loss of air.

"Crawl through. Pronto!" said the guard, giving me another prod with his bayonet and pointing to the hole.

I put my hands on the edge of the opening, dropped through, and found myself in a dark chamber--for a second, alone. It was the opportunity I had been awaiting. I slipped out the little tube of the Doctor's. On the night before, I had set the little dial. Now I pushed over the little lever that lit the tube, and played the invisible beam through the opening.

My guard climbed through, suspicious and in haste, evidently unconscious of the beam. I slipped the tube under my coat, to hide its crimson glow, playing the ray over him again, and over the mechanics and my two fellow-passengers, as they came through. I heard footsteps, and a light flashed on. I saw that we were in a long, low room, with a door at the farther end. Four men, in red uniform, with rifles, were approaching. Hopelessly, I gave them the benefit of the ray, but still nothing happened.

"Move on, Pard," my guard muttered. "The Master waits." He gave me another vigorous prod with the blade. (He seemed to enjoy his prerogative immensely.)

I still had the tube in my hand, concealed against my coat. Though it seemed to have no effect, I was missing no chances. We passed through a door at the end of the room, into another fitted up like a luxurious office. At a paper-littered desk, the lunatic, Vars, was sitting with three other men,

who, for all their looks, might have been ex-pugilists or bootlegger kings (or both).

Suddenly Vars ducked, and a pistol flashed at his side. My hand went numb, and I heard the crash of glass. He had shot the tube as I turned it upon him. As he cursed and fired again, I threw myself at the feet of the fat man. Pistols cracked, and I felt the wind of bullets. Strangely, the big fellow collapsed as I dived, striking the floor at my side.

And then a fearful thing threw itself at me!

It was a many-tentacled creature of luminous purple fire, with an eye-like nucleus of bright scarlet in its shapeless, semitransparent body! It was a thing or horror like that which had looked upon me as I lay in the cell--a nightmare being! I struck at it feebly, reeling in terror.

It had followed us into the room; it must have been the pilot of our ship.

Slender tentacles of purple fire coiled around me. They touched me. Their touch was cold--cold flame! But it burned! I felt a tingling sensation of pain--unutterably horrible. The contact with that monster shocked like electricity--but it was as cold as space!

I shrieked as I fell!

With my last energy, I sent out my fist at that flaming scarlet core. My arm went through it, cut it!

Then I have a confused impression of cries of agony and terror, of men cursing, screaming, falling. There were pistol shots, shouts, and dreadful sobbing gasps. I sat up, and saw that the room was full of writhing, dying men! Corpses weirdly splashed with red!

And the purple thing lay before me on the floor, inert and limp, with the fire in it fading. Still it was unspeakably horrible.

Then I heard Ellen cry out, calling my name! I ran on in the room. Ellen stood at the bars of a flimsy little door back of the deck at which the men

had been seated.

"Bob," she cried, "I heard you! I knew it was you!"

I smashed the door with one of the rifles. The girl ran out to me, with Bill and the Doctor at her heels. The Doctor took in what had happened.

"The r-r-r-ray made slow p-p-p-p-poisons in their blood. Not adjusted right. It can upset the chemical equilibrium of the body in a thousand ways. But let's' get b-b-b-back in the other ship before something! happens."

We got through the manhole. I closed it again and unfastened the clamps that held us to the other ship, while the Doctor and Bill ran forward into the pilot's compartment. I felt the vessel rise.

Ellen and I stood by one of the round ports. We saw the weird red city drop away below us. Soon the flat, desolate purple desert was slipping along beneath us, with the green-gray earth visible through it, so far below.

And still there was no movement from the city.

We were several miles away before I saw the red ships rise in long lines from their places on the landing deck. Our flight had been discovered! And then I saw the great dome moving, the slender tube pointing at us.

They were going to use the ray!

The Doctor's voice came from the forward compartment. "I was afraid something would happen to the p-p-p-p-plans. You know I told you that I almost) had an atomic explosion of the molten Veronite electrode. The specifications on the blue print were almost right--almost--"

A great flare of white light burst from the transparent dome. A blaze of blinding incandescence blotted out the scarlet metal city. After a long moment it was gone, and we could see again. The city in the sky was no more!

There was only a vast ragged hole in the purple plain!

That was perhaps the most terrific explosion of history, but we neither felt nor heard it, for we were above the air.

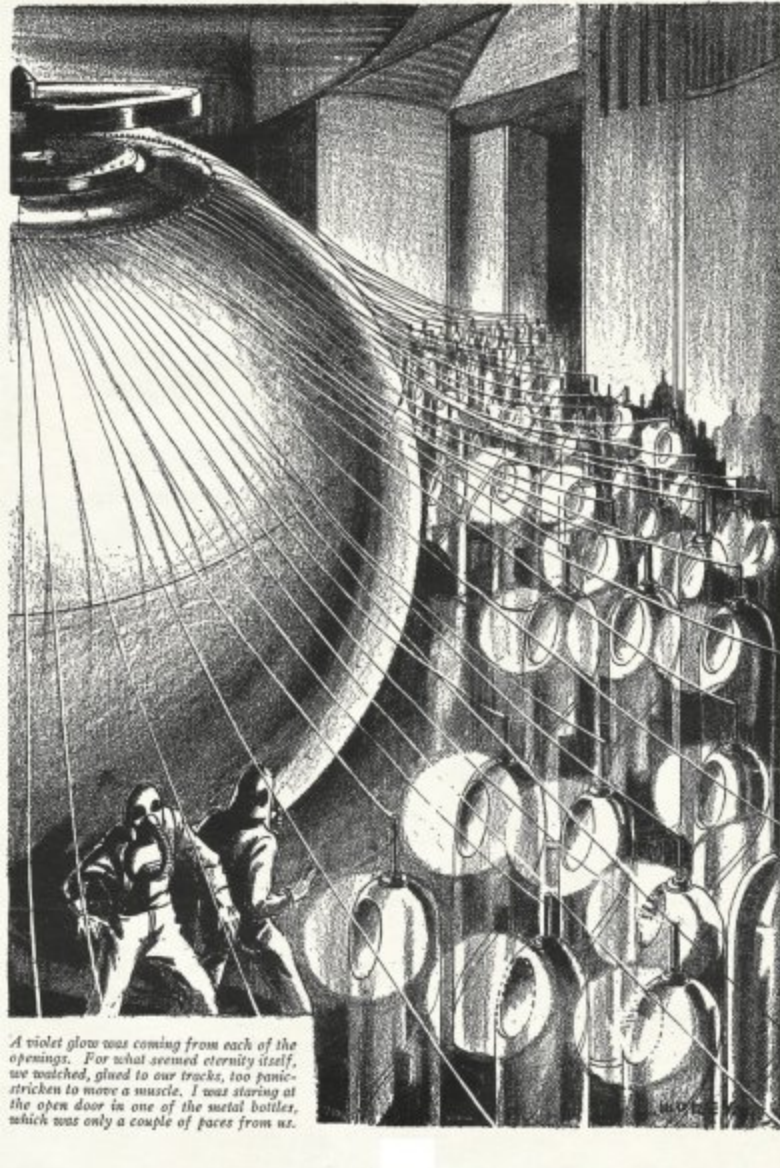
* * * * *

That is a year ago, now. Ellen and I are married. Soon we shall go back to El Tigre, to see the Doctor and Bill. Dr. Vernon is working on a new model of his tube, and is making a painstaking examination of the strange ship we brought back to earth.

Did the destruction of a single city destroy the menace? In all that world above the air, larger than our own, may there not be other cities, or nations and races, perhaps, of intelligent beings? What might we not gain from them in the arts of peace, or not loss to them in war?

This summer the four of us are going to adventure above the air again, in that captured ship--to explore the Second Shell.

The Lunar Chrysalis by Raymond Gallun.



IT would be difficult for anyone to review the history of the tremendous events of the past fifty years without being impressed by the triviality of the

causes which govern not merely the history of the earth but that of the universe. If a little device enclosed in a box occupying not more than a cubic foot of space had not failed to operate, it is probable that human beings would never have evolved upon this planet. Certainly they would never have become the dominant form of life here. If it had not been for the innocent meddlesomeness of a certain individual, the wonderful transformations which have taken place in our civilization and knowledge would almost certainly have been long delayed.

The story of the Lunar Chrysalis has been told many times. But some of my experiences, which I am recounting now, are new to the world. On the evening of August 29th, 1951, I was aboard the first and last great lunar rocket, *Black Meteor*, which was rising rapidly above an Arizona desert, headed for the moon. My only companion was Professor George Paxton, noted astronomer and inventor, who, during my four years at college, had become a very dear friend of mine. Though he was past sixty and had spent most of his life studying things far above the comprehension of the average person, his youthful enthusiasm and energy made him no mean companion for me, who was then a lad of twenty-two.

The journey to the earth's satellite was a complete success. Except when we were accelerating or decelerating, we traveled with a fair degree of comfort. However, the heat from the rocket motors and the constant vibration, together with the smell of ozone, were not particularly pleasant.

So accurately had our craft been aimed, that during most of the trip we scarcely needed to touch the controls at all.

The majority of my time was spent examining the cryptic, buzzing machinery of the strange vehicle in which I rode, and enjoying with Professor Paxton the wonders of space--the brilliant stars and the great black cavities of emptiness between them, the huge, blinding sun with its flaming corona, the shrinking earth, and finally, the mysterious moon, which hour by hour grew larger. Seen from our native planet, that moon was a beautiful, romantic sight, but when viewed at closer range its rough and jagged details stood out, and gave it a weird and terrifying aspect, which sent little shivers up and down my back. Yet it was a pleasant terror. I never regretted my decision to be one of the first men to visit Luna.

We headed straight for the crater Tycho, for here Professor Paxton believed that there were the remains of an ancient Lunar civilization.

The last few hours of our flight were indeed an exciting time. Both of us were in the control room which was located amidships. Television panels all about the walls gave us views of surrounding space in all directions. Anxiously we were watching one big panel. In it was pictured the glowing globe of the moon, which grew ever larger and larger. The rocket motors had been stopped for many hours, but still, urged on by the gravitational force of Luna, we were hurtling along at a constantly increasing speed.

Professor Paxton was glancing nervously from speed indicator to gravity detector, and from gravity detector to chronometer. Presently he turned a series of six big wheels one after another. Then he shifted a little, silvery lever from a vertical to a horizontal position. I felt the whole craft suddenly rotate in an alarming fashion, but it was all over in an instant. The flat base of the rocket was now toward the moon instead of its pointed nose. It was time to apply the brakes, and the twelve stern rocket nozzles were ready to perform this duty.

Professor Paxton shifted another lever--this time an immense black one. A thunderous roaring, accompanied by a tooth-cracking vibration, set in; then an awful feeling of weight came to us. The jets of vapor ejected toward the moon were checking our fall.

For an hour our discomfort continued, during which time we could do nothing but lie on the soft swinging couches hanging along opposite walls of the narrow compartment. Even breathing was painful. The stern-ward view-panel showed the moon creeping gradually upward to meet us.

The uncomfortable feeling of heaviness caused by the rapid deceleration gradually decreased and then disappeared altogether. We were hanging motionless ten miles above the satellite, supported there by darting jets of flame coming from the rocket motors. Whirling gyroscopes were keeping the *Black Meteor* balanced in a vertical position.

The view-panel told us that directly below us was Tycho. It was dawn on that part of the lunar surface, and in consequence the sun was close to the

horizon. Tycho's encircling ring of mountains cast an ebony shadow across its floor and made it look like a great lake of ink, or like some tremendous maw opened to swallow us.

My companion turned down the rocket motors a little, and we began to sink. Down, down we went. Now we were on the level with the mountain peaks, now we were in their shadow. Presently we landed with a slight jar on the surface of the moon!

Professor Paxton busied himself with the controls for a few seconds, and the roar of the rockets fell silent. The screeching hum of the gyroscopes died out a moment later.

Hurriedly we climbed into our space armor. The heavy door, which resembled the breech of a big cannon, was opened, a ladder of steel cordage was let down and the professor, carrying the American flag, descended. I followed him closely.

Reverently we took possession of the moon in the name of our Mother Country and we planted the flag in the gray sand. Not until then did we begin to take stock of our surroundings. We were quite close to the western mountains; the sun was shining on them. They loomed upward, vast and majestic, as though they were meant to be the pillars of the sky. The rock from which they were formed was of varied, though somewhat subdued shades. Pale, ashy-gray predominated. Here and there were patches which, under the strong glare of the sun, were so nearly white that they looked like snow. There were a few scattered areas of black and dark red. The mountains were seamed with deep ridges in which shadows still lingered. Above the great range was the sky--dead black, except where the dazzling stars shone. I do not think that there was anything about the moon more terrifying and more conducive to utter loneliness than that horrible dead firmament. It was a fitting background for the complete desolation of the lunar landscape.

HIGH above our heads was a gray-green crescent shining calmly among the stars. The sight of it, during the journey, had frequently made me feel, that after all, my adventure was only a dream or an hallucination. Now I wondered again how I could be way out here on this world of emptiness looking up at the warm, friendly earth that was my home. I could see the eastern edge of North America, partially mist-veiled. It seemed too utterly fantastic to be true!

The sunlight reflected from the mountains lit up the floor of the crater dimly. Except for a few ridges and irregularities, it was very level. At the foot of the enclosing rampart many boulders were strewn. All about the ground was covered with what appeared to be very fine, gray sand. Far to the east we could see Tycho's farther wall, diminished in size, but perfectly clear-cut. The base of that wall was in deep shadow. At our backs, rearing up like a squat, thick tower, was the *Black Meteor*.

"So this is Luna," I said. "Rather impressive at close range, but so far she hasn't shown us any real surprises. We knew all about this before we came."

Professor Paxton scooped up a little handful of sand. "Don't be in such a hurry to be disappointed, son," he said. "I'll wager that there is something in this little bit of soil that will interest you immensely. Let's look."

We examined the sand together. My companion let most of the loose dust slip through the fingers of his space gloves. The little remaining dust had a few small, frost-like crystals mixed with it.

"Congealed carbon dioxide," said the professor. "As was predicted, the moon now has a very rare atmosphere made up largely of that gas. It gets pretty cold here at night--probably not so far above absolute zero. In consequence, some of the atmosphere freezes and forms a sort of hoar frost, which melts again when the sun shines."

"Very interesting," I said, "but you told me all that when you lectured at the University of Wisconsin. Come on, you were talking about something really interesting." As a matter of fact I was bluffing my *Nil admirari* attitude. As though anybody twenty-two years old and in perfect health could spend his first five minutes in Tycho and not be fascinated by everything he saw!

"All right, Jerry my boy," said the professor. "Here is the first mild surprise." He shook the remainder of the dust from his hand and then held out a little triangular piece of transparent substance. It was flat on both sides and looked exactly like a bit of broken window pane.

I stared at the thing for a second. "Well, I'll be hanged," I exploded. "You're not by any chance trying to prove that this desolate old wreck of a world was once inhabited, are you?"

Paxton shook his head gravely. "No, facts are what we are after--just facts. Remember, we're scientists."

I had knelt down in the sand and was scratching around with all the diligence of an industrious squirrel. After a few moments I unearthed another much larger piece of glass. I held it out to Paxton. "Here is another item for your bag of facts, professor," I said. "Better pack it carefully away with moth balls or salt it down or something."

"None of your sass, stripling," replied my companion good-naturedly. He was on his knees beside me now. Presently he let loose with a wild war whoop and leaped to his feet with such suddenness that he went fully three yards into the air. You know, of course, that the lunar force of gravity is only one-sixth that of the earth. When he was back on solid ground, he cried, "Look at this, Jerry, and then try to deny that the moon was once the abode of life!"

The thing he was holding toward me was a small piece of what looked like very old wood. I took it from him and scrutinized it carefully for a moment. It was cylindrical, and had a pithy central core with a hard shell around it. From its mid-portion a sort of twisted tendril branched out. I realized immediately that the thing might have been buried there in the sand for many ages, for on the waterless, airless moon, decay is necessarily a very slow process.

"Seems to be the goods, professor," I said.

The latter was now all excited activity. He was pointing to a long shallow ditch which ran a perfectly straight course toward the center of the crater's

floor and disappeared from view in the deep shadows. Its nearest point was about twenty yards from us. "There is other evidence in favor of my theory--an irrigation trench, certainly."

We went over to the thing and found out that it was artificially constructed. It was uniformly about ten feet across, and we could see that its bottom was made of a black stone-like substance which showed no indication of any crevices where it may have been jointed together.

We saw several long thin rods of this same black material stuck vertically in the ground. Some of them were as much as ten feet high, and had little round discs at their tops. Others were bent over and warped or broken. Paxton noticed that some of these rods were fixed so as to form the corners of squares--evidently there was some system to their arrangement. Then he began to scoop in the sand with a tiny trench spade, which was a part of the equipment we carried. I assisted him. We freed a couple of square yards of ground of the dust that had covered it. That fine powder was fairly loaded with fragments of glass and pieces of the black rods together with stalks of an ancient vegetation.

"What do you make of it all, prof." I asked.

"Quite clear, I think, son," he replied. "When this world was getting old, and its air and water were almost gone, the clever Lunarians conceived the idea of making a big hot-bed or greenhouse out of this crater floor. They set these black posts all over and put a roof of quartz glass on top of them. The roof was probably airtight, and prevented the evaporation of the precious water into space. Then, too, it imprisoned atmosphere enough to make possible the growing of plants. It also protected them from cold during the long nights."

"Good reasoning, prof., but where did these hypothetical Lunarians of yours live?" I asked.

"Well, I'm not absolutely sure, but I think that they lived deep underground. As the air and water slowly disappeared, and the climate became rigorous, the intelligent inhabitants would naturally retire to the protection of buried

caverns. The entrance to these caverns should be somewhere in the neighborhood. We will certainly find it eventually."

We spent the next few hours wandering about the western portion of the crater's floor. We went up along the foot of the mountain range and out toward the center of the great bowl-like depression. Everywhere was the wreckage of the lunar irrigation system. Slowly the sun crept higher and began to light up the ground all about us.

After a time we made our way back to the *Black Meteor*. Paxton prepared an excellent meal of ham and eggs, which we both enjoyed immensely.

Then I climbed the long spiral stairway to the pinnacle of the rocket a hundred and fifty feet above the ground. Here was a small chamber roofed with a dome made of a tough, unbreakable, and perfectly transparent substance, which had been specially prepared for the purpose. In the center of the room was a telescope. I took my place at the eyepiece, and began to scrutinize carefully Tycho's walled plain which spread far to the east. Slowly I drew the objective lens along the crater's northern wall. Sand, rocks, and boulders in the far distance became like things in the immediate foreground. Everything was as clear as crystal, for there was no fog or haze to obstruct my view.

Presently something odd caught my eye. It was a big, black kopje or little hill of very peculiar form, which lay some little distance out in the valley. The sun was already shining on it, and I could see that it was highly polished, judging from the highlights that flashed from it. It was roughly square, and on each of its four sides, or rather on each of the three that I could see, was carved the head of some dreadful lunar monster. The mouths of the heads were widely distended. The queer block of black stone was crowned by a thin needle-like spire that rose all of two hundred feet above the rest of the structure.

I searched Tycho's floor with the telescope, rather hurriedly I admit, for the next five minutes or so; but I saw nothing more that was of interest. I came back to the rock of the Four Faces, and then called Professor Paxton, who was down below, packing away the specimens and relics he had collected.

When he had stared into the eyepiece for thirty seconds, he was all aflutter. "Gosh, Jerry, this is something! Get into your space armor and then let's pick up some supplies and be on our way quick!"

Well, you can guess that I didn't waste much time in following Paxton's suggestion, and for all his years he wasn't slow either. We saw that the air-purifiers connected with our oxygen helmets were ready for twelve days of service without further attention, packed up some concentrated rations, a supply of water, our space-tent, a camera and various other things needed for exploration. Then we started out.

I BELIEVE that it will be well for me to give a brief description of our space-tent here, for this piece of equipment was certainly sufficiently novel. It was a tiny light-weight shelter, made of a cold-resisting, rubber-like material supported on a metal framework. It was absolutely airtight and its walls were built to resist normal earthly atmospheric pressure. Eating and drinking were impossible, of course, when we were incased in our space-armor, and so when mealtime came around, while we were away from the rocket, it was necessary for us to put up our tent and remove our heavy impedimenta. That tent looked mighty serviceable even though we never got a chance to use it. Why, a fellow could even enjoy a quiet smoke inside of it! It rolled up into a compact little bundle that was easy to carry.

The distance between the *Black Meteor* and the rock of the Four Faces was about seven miles. We made it in good time, moving at a dog trot most of the way. But now and then we leaped along covering twenty-five or thirty feet at each bound. Considering that things of equal mass weigh six times as much on the earth as they do on the moon, the weight of each of us, including our space-armor and equipment, represented about fifty-five pounds.

Only once we paused, and then for just a minute or two. The sun was already shining on a portion of the crater's floor. In a little depression, or hollow in the glowing sand, we found a cluster of tiny lichen-like plants. They were gray-green in color. Their leaf-like whorls, which clung close to

the ground, seemed perfectly dry, but still we knew by their fresh appearance that they were living. Somewhere in that deep lunar valley there was still a trace of water.

"Plenty of time to study present-day lunar plants after we have visited the Four Faces," said Paxton.

Presently we were climbing the gentle slope of the knoll, on which was perched the queer relic of the civilization of the ancient Moon Men. I felt oddly like a poor victim being led to the flaming maw of some heathen idol.

We circled the structure so that we might see all sides of it. It was about fifty feet square and, neglecting the spire, about equally high. The four heads with their gaping mouths were all identical. They represented the head of a creature which seemed to be part feline and part reptile. The fanged jaws, the wicked, slanting eyes, and the little triangular ears were catlike; but the fine scales that covered the forehead and neck were unquestionably reptilian.

We found that the mouth of each creature was a door which led into the interior of the rock. With a feeling that was very close to awe, we entered one of the weird portals. The central chamber was circular, and except for a sort of ledge or walk running all around its walls it was floorless. In place of the floor, there was a great circular pit. Eagerly we peered over the railing which surrounded the hole. From far below a faint radiance seeped upward, lighting the walls of the immense excavation dimly. We could see that there was a road or runway spiraling down around the sides of the pit. It terminated on the side of the well opposite us.

"The plot thickens, professor, but the Fates point the way toward the solution of this mystery. Come," I said.

We walked around to the other side of the pit to a place where the roadway began, and started down it. A layer of fine dust covered the runway. The fact that it was perfectly smooth and undisturbed heightened our belief that it had not been used for many ages.

Every now and then, as we spiraled downward, we came opposite a large circular door in the walls of the well. Each was closed by a big metal portal.

"Well, Jerry, here's our moon city. Just as I expected--entirely under the ground. The doors probably lead into the streets. We'll blast through just as soon as we can. Everything should be perfectly intact--the buildings, the machinery, even the dead Lunarians themselves. Talk about digging up Mayan cities and Pharaoh's tombs! Mighty little stuff compared to this!"

At last, after a long climb, we came to the bottom of the well. Like the walls, it was covered with a black cement. At some time there must have been a rather violent moonquake in the vicinity, for the floor of the pit was veined with many deep cracks. At its center there was a trap door which had probably been closed at one time, but which had been burst open by the quake. Part of its frame had broken away, and it dangled down on its hinges into whatever chamber or room lay below. That room was brilliantly illuminated, seemingly by some artificial means. Incautiously, the professor and I knelt down beside the open trap door. We took just one look below, and then everything under us gave way. Amid fragments of broken stone we both tumbled to the sand-covered floor fifty feet below. The distance was the equivalent of only about eight feet on earth; in consequence neither of us sustained any injury.

Paxton looked ruefully up at the big gaping hole in the ceiling. "I hope this room has another exit, Jerry, because if it hasn't, we're going to have to work pretty hard to get out of here. Let's look about a bit first, though."

THE chamber in which we found ourselves was certainly a huge one. We were standing near the northern wall, and could get an excellent view of it. It was circular and must have been at least two hundred yards in diameter. It was roofed by an immense, white, stone rotunda, at the center of which was a big crystal globe, which gave a brilliant but not dazzling light.

Almost the entire floor space was occupied by a weird outlay of apparatus, the purpose of which we were then unable to determine. In the middle of

the pavement, a black hemisphere bulged up at least forty feet. On its top was poised a heavy metal disc, which looked like a huge horizontal fly-wheel. From this machine scores of small pipes and heavy cables branched out, after the fashion of the radial strands of a spider's web. Each of the pipes was connected with the tops of a long row of queer torpedo-shaped bottles of tarnished metal. These bottles were little taller than a man. Each had what appeared to be a little circular door in one side of it, near the top. I estimated that there were about ten thousand of these bottles in the room.

Everything in the vault was covered with a layer of fine dust, which showed plainly that no living creature had invaded the place for a long time. Unfortunately Paxton's hoped-for "other exit" was nowhere in evidence. The principal task of the moment was to find some means of escape from the trap we had so awkwardly fallen into. Hence we didn't have much time to devote to more interesting things. Since I was younger and more agile, the job was left mostly to me, and a most disgusting job it was! First I threw aside every piece of impedimenta I didn't need, and going back a ways from beneath the hole in the ceiling I got a running start and tried to jump for it. Well, I didn't go up much more than half way. I tried again several times with no better results. Then I took a long steel cord from my pack and made a lasso of it. Again and again I hurled the noose up through the opening in the hope that it would get caught on something and provide a means of escape, but no such luck.

There were three circular doors, similar to those along the spiral runway, set in the walls of the chamber. It was the professor's suggestion that we try to blast through one of these, and seek a way to freedom in that direction. We were carrying a small quantity of corlissite with us. Well, we did attack one of the doors, but after a long interval of boring with the small but effective drills we carried, and frequent blasts, we gave up. Our explosive was exhausted. The metal of the door was the toughest I had ever seen and the stone around the frame was only a trifle weaker.

Only one more chance remained. We would have to collect everything in the room that we could move and make a pile of it under the opening in the roof. Then perhaps we could scramble up and regain the runway. But there wasn't any hurry about it. It would be twelve earthly days before the Lunar

sunset. We had food and water for that length of time, and our air-purifiers could be relied upon to supply us with oxygen. Right now we were badly in need of sleep. For two days before we landed on the moon, we hadn't slept, nor had we indulged in a nap since.

Each of us kicked a little pile of sand together for himself and lay down in it.

Just before I began to doze, a thought struck me: "Funny, how that big light up there can burn so brilliantly when it hasn't had any attention for goodness knows how long," I said.

"Yes, it does seem queer to us, but you must remember that at the time they became extinct the Lunarians were scientifically probably far in advance of present-day human knowledge," replied my companion. "The functioning of their machines must have been almost completely automatic. They were so perfect that they needed practically no attention. Doubtless there are many Lunarian machines still in existence which need only the touch of some living hand to set them to work."

In a minute we must have both been sound asleep.

I awoke at last with a feeling that I had just had a wild nightmare. What my imaginary adventure had been, I had even then forgotten; but I still had a vague sense of terror. The last words of Professor Paxton, spoken just before we had gone to sleep, somehow haunted me. What if the big, engine-like device in the room was still in a condition to operate? Supposing I should attempt to start it? The idea captured my fancy immediately. I glanced toward the still slumbering Paxton. Needn't bother to awaken him.

I proceeded down an aisle between two rows of metal gas tanks toward the center of the room, where the machine squatted. I walked around the hemispherical thing once to see just what it was like. I had never ventured that close to it before, for I had been too much occupied with other things. There was no way to determine the principle of the enigmatic mechanism, for its working parts were all covered. Only the great disc at its top, and the hundreds of cables which radiated out in all directions, showed. A little

stairway ran up one side of the hemisphere to a small platform. With the zest of the explorer hot within me, I climbed it.

Set in the side of the machine was a black box about ten inches square. On top of it was a small lever which swung in a plane parallel to the upper surface of the box. Engraved in the metal along the arc in which the tip of the lever would evidently move, was a series of spaced marks, like the figures on any kind of meter or dial.

The lever was the only bit of ornamentation, which the colossal mechanism boasted. It was made of some yellow metal, probably gold. Its handle was the head of some repulsive lunar creature which resembled an octopus more than anything else I could think of. The head had a really striking resemblance to a human skull. The tentacles of the thing were wrapt spirally around the lower part of the lever.

Should I tamper with the great machine? Would there be any danger of disastrous consequences? Would it by any chance explode? Would it give off strange and deadly rays? I hesitated. Essayists have written on the topic of my hesitation at that moment, for unknowingly I was then the possessor of greater power than was possessed by any human ruler or dictator that ever lived. With one movement of my hand I could change the destinies of two worlds.

My curiosity decided for me. The chances were that nothing would happen regardless of what I did. I grasped the gleaming golden handle, and tested it to see if it was movable. There evidently was a spring connected with it, for at my first touch it leaped over toward the right end of the scale above which it was poised.

THE first indication that anything had resulted from my act was a slight vibration of the platform beneath my feet. Then I looked up. The flywheel was beginning to turn. It was going more and more rapidly every instant! Within a quarter of a minute it had settled down to an even speed of rotation.

What was happening now? What was going to happen? My nerves were jumpy and I had a vague feeling of panic.

I hurried down the stairs and over to where Paxton was sleeping. A lusty shove aroused him. "I've started it, prof.!" I yelled--"The big engines!" and I pointed toward the center of the room. It was a little time before the sleep cleared from his brain sufficiently so that he could understand what I was talking about.

We went over toward the silently working apparatus, and stood before it watching.

I was becoming distinctly nervous. "Do you know, professor." I said at last, "something is telling me that in a little while this is going to be a rather unhealthy place for us to be. That machine is ages old and its parts probably aren't as strong as they once were. Supposing the forces acting inside of it should get out of control? They might blow us to pieces!"

"Bosh, Jerry," he replied. "Don't be an old woman." But I somehow felt that he, too, was a little uneasy.

Presently it occurred to me that I might try to shut the thing off. When I reached the platform, I found that as far as my puny efforts were concerned, the switch was absolutely immovable.

For what must have been nearly an hour the wheel rotated steadily, and then the Lunar Chrysalis burst its shell. The little doors in the sides of every one of the thousands of metal bottles suddenly clicked open. Paxton had been looking down one of the aisles of dully glowing capsules, and had seen it happen. His eyes fairly bulged from his head.

"Jerry! Look!" he cried.

A violet glow was coming from each of the openings. For what seemed eternity itself, we watched, glued to our tracks, too panic-stricken to move a muscle. I was staring at the open door in one of the metal bottles, which was only a couple of paces from me.

Presently the end of a thin tentacle, tinted like mother-of-pearl, coiled itself delicately over the rim of the opening. Another followed, and then I saw a pair of antennae-like things, which supported on their tips little lavender globes that must have been eyes. They wavered and oscillated back and forth hypnotically. With slow deliberation the thing hoisted itself to the opening in its metal cocoon and squeezed through it. Lightly it lowered itself to the ground, and then, in an unhurried fashion, it proceeded to look me over.

Except for its antennae, which swayed continually, it stood perfectly still. Sons of Satan! Was there ever such a gorgeous and yet hideous creature! It had all the glory and wonderful coloring of a tropic butterfly, magnified to unearthly proportions, and yet about it, with its scores of whip-like tentacles, there was something alien and snake-like, which provoked a shudder. A blue halo which intensified the weirdness of its appearance surrounded it. The Lunarian stood in a semi-erect position, and was about as tall as a man. It had no head as far as I could see. The top of its body was covered with a shiny brown shell, which looked like the calyx of an immense inverted flower. From beneath this shell a sort of mantle projected. It was wonderfully colored in orange and blue and red arranged in artistic designs. It seemed to me then to be a real part of the creature and not an artificial adornment, and I later found that this was true. The antennae, or eyes, as well as the tactile tentacles coiled out from the spaces between the sections of the calyx-like shell. A dozen or so of short thick appendages at the lower end of its body served it as legs.

And now I was conscious of other eyes upon me. A curious groping tentacle was reaching around from behind me to the glazed front of my oxygen helmet. On the point of shrieking, I turned about, and then I saw rank upon rank of the Lunarians, each enveloped in his glowing nimbus. We were completely surrounded.

"What kind of a mess have we gotten ourselves into now, Professor?" I cried.

"I don't know," he answered, "but anyway, keep cool. Things won't go wrong then I'm sure. Just do what they want you to, and try to be agreeable. We'll get out of this all right."

There was a Lunarian on either side of me grasping my arms. The professor was being treated in a similar manner. Someone had opened one of the big metal doors in the wall, and Lunarians in groups of three were entering it. Guided by our escorts, Paxton and I fell in behind the rest.

We were moving down a broad, lofty corridor. Illuminating globes, similar to the one in the chamber of the machine, were set at equal intervals along the roof. The light was reflected many times from the polished granite walls and pavement, and it glinted richly on the little golden pillars, which lined the buried roadway at regular intervals. Each pillar supported on its top a sphere of rosy crystal. I could never then have tried to suggest that those immense globes were really rubies. Ornately carved doors were set between the pillars. We were walking down a street lined with lunar residences.

The passageway was nearly a mile in length. At last our fantastic procession debouched into a chamber of simply colossal proportions. Its floor seemed to be oval or circular, and its roof swept up into a huge dome. An azure glow, exactly duplicating the sky of a bright earthly day, came from the ceiling. There was a big artificial sun, too, which poured down its hot rays from the center of the dome. In ages past the floor of the chamber must have been a splendid park with green trees, lakes and streams, and fairy-like pavilions. The pavilions and dry beds of lakes still remained, and the trees, too, but the latter were crumbling dead mummies devoid of life.

The army of the Moon Men, with us in its midst, entered the park and proceeded along the white highways to its center. Here was the dry bottom of a pond. Beside the pond two big pipes rose upward. Each was fitted with a valve.

Breaking ranks the Lunarians hurried toward the valves and scrambled over them. In a moment a geyser of sparkling water shot ceiling-ward from one of the pipes and began to flood the lake bed. What was coming out of the second pipe I could not at first guess, but when I heard a deep-toned roar which rapidly increased in volume, I knew. The Lunar city was being flooded with air. I looked at the aneroid barometer strapped about my wrist. The pressure was mounting rapidly.

With the coming of the atmosphere, a strange thing happened to the Lunarians. The lavender flame, which had enveloped each of them, disappeared. I concluded, that in the absence of oxygen, this mantle of light must in some way supply them with the life-giving vapor.

FOR several hours we wandered about the gardens with the thronging Lunarians. Our escort led us a short distance to a small, ornately carved building of some bright green material. Its doors swung open to receive us as if some invisible doorman tended them, and when the professor and I had passed inside they swung gently to. The short hairs on the back of my neck showed a decided tendency to stand on end.

We looked at those two folding portals. They were of silvery metal, ornately tooled. No latch or knob was visible, and when I pushed against them they showed every indication of being locked. But maybe this was only because we did not understand their mechanism.

A little exploring told us that we were quartered in the most gloriously beautiful suite of rooms we could wish for. There was a big living room, the walls of which were veiled with dark purple hangings. There was a bedroom with two odd beds in it. Each was suspended from the ceiling by four heavy chains of some metal which may have been silver. A door led from this room into an alcove, in the floor of which there was an oval basin--obviously a bath. Besides, there was a room with many odd instruments and devices in it.

The pressure of the air about us was a trifle less than half normal earthly pressure, and so we decided to try discarding our heavy space armor. The atmosphere of the moon was evidently highly oxygenated, and so we found it perfectly breathable.

Freed from our cumbersome attire, we proceeded to make ourselves comfortable. We lighted cigarettes and sat down on the soft divans in the living room. I had leaned back languidly, and had just begun to make myself perfectly at home when I heard a whirring sound, and then the

hangings beside one of the crystal-glazed windows parted. A silvery sphere with several tentacular arms floated into our presence. A hoarse ejaculation of surprise escaped the professor's lips. In an unhurried, methodical fashion the globe, unsupported by any visible means, glided into the room. Several moments later we heard a gushing of water, During the next few minutes we both enjoyed a hot, perfumed bath prepared and supervised by our mechanical servant. The thing dried us by means of a blast of warm air blown from a sort of register in the wall.

When we returned from our ablutions, a tempting meal had been set out for us on the floor of the living room. There were two metal platters, each of which bore a lump of something, which looked and tasted like highly seasoned meat. We found it very palatable. No forks were supplied, but fingers served very well in a pinch. We weren't particular. Besides, there was a bowl of delicious fruit of several different kinds. And a flagon of water, which had a sharp, invigorating taste. Evidently some stimulating substance had been dissolved in it.

For a time after the meal we talked, trying to straighten out the strange events of the past few hours, but nothing came of it.

"I guess we had better wait and see, Jerry. Frankly I am bewildered," said Paxton.

Presently we went into the bedroom, undressed and wrapped ourselves in silky blankets which our mechanical servant had prepared for us. I, for one, was quickly asleep.

A bizarre little melody produced by a system of gongs, concealed somewhere in the wall, aroused us. We enjoyed a delicious meal of fruits brought by the automaton, and then visitors arrived--two Lunarians who had evidently been given the task of entertaining and instructing us. They led us out into the park and down a long, curving highway.

The lunar city again throbbed with life. Vast machines, invisible to us, were filling the air with whirring. Gaudily marked inhabitants were moving about industriously, evidently hurrying to attend to some business.

Following a throng of Moon Men, we entered a circular building, which appeared to be a depot of some kind. Scores of cone-shaped cars were moving slowly along grooved tracks set in the floor. Guided by our escorts, we climbed into one of these and took our places in seats along the wall. Except for the driver, who stood before the control board in the nose of the car, and the two Lunarians, who served as our guides, or jailers, we were alone.

One of our escorts made a sign to the pilot by waving a tentacle, and then we began to gain momentum rapidly. Through the windows we could see the black opening of a tunnel yawning to receive us. The car shot into it. An illumination globe over our heads gave us light. We were pressed back in our seats by the terrific acceleration. The air in the tunnel, torn by the awful speed of our vehicle, first whistled and then shrieked like a tortured devil. But it lasted for only a few seconds. We glided out into a depot, which may have been many miles from the one we had just left.

Our guides ushered us through an arched doorway out into the open. We were in another immense cavern, but it was not so richly ornamented as the one we had just quitted. It had been built for utility rather than for beauty. The arching roof was of bare concrete, and it was studded with numerous small illumination globes, instead of being lighted by a single large one.

The bright light glinted up on rows of colossal, silvery forms, which stood in cradles of web-like metal scaffolding. Hundreds of automatons, directed by a few Lunarians, were swarming over them. Just what they were doing, I was, at the moment, quite unable to tell.

Steering us by gently tapping us on our shoulders with their tentacles, our escorts guided us down an aisle between two rows of gleaming shapes. We craned our necks upward. Never have I felt so tiny in my life as I did that day, when I stood beneath those towering masses of metal. We paused beside one of them. It was formed something like a boat--its length must have been a thousand feet and its height nearly a hundred.

"Those things are obviously craft of some kind," said Paxton. "But what do you suppose can be their purpose?"

I was looking at the short cylinders which protruded at regular intervals along the side of the hull and far above our heads. They suggested something sinister.

"It seems as though there is a big war going on somewhere," I said, "and may the Fates help the foe that faces this fleet! There must be at least a thousand ships in this hangar."

A big cylindrical drum was being rolled by a spider-legged automaton up alongside the vessel. Presently the mechanical creature halted and turned the drum up on end without any apparent effort. Even on the moon it must have weighed many thousands of pounds. Using a wrench-like claw, which was a normal part of his anatomy, he unscrewed the cap at the cylinder's top and attached to the opening a flexible pipe, which dangled over the side of the vessel. A throbbing sound, like that of a pump in operation, set in.

"Fueling!" said the professor excitedly. "Getting ready for a trip of some kind!"

Other robots were bringing more drums.

We followed our guides down toward the bow of the vessel until we came to a door in the huge hull. A gangplank led up to it. Signs were made which clearly indicated that we were to climb the gangplank. The interior of the ship was brilliantly lighted. The metal floor was lined with rows of tall tanks, connected with one another by means of cables in much the same way that a group of electric dry-cells are joined.

The Lunarians showed us what must have been the engines of the vessel--bewildering mazes of pipes, cables, rods, and huge masses of framework--the very incarnation, it seemed to me, of brutal, insensate power.

WE wandered over the entire craft, inspecting this, that, and everything. Few things we understood, but everywhere we found evidences of a science infinitely in advance of our own.

About us were the silently working automatons, polishing, oiling, inspecting. Inhumanly, they never glanced up to look at us, and their masters, living, but equally inhuman, paid absolutely no attention to us.

It was with a feeling of relief that I finally entered a car in the depot, and hurtled away from that gigantic, buried cavern, filled with its slumbering giants.

Our guardians left us at the door of the building in which we had been quartered. When we had entered our living room we found a Moon Man seated on a divan, awaiting us. His wavering stalk-like eyes turned about to glance in our direction. Then a dozen or so of his tentacles grasped small levers on the key-board of a rectangular mechanism, which stood on a low stand before him. He manipulated several of the levers, and in unison with his movements a familiar group of English words came to our ears:

"Hello, fellows! Fine day, isn't it?"

The voice had a flat, mechanical quality devoid of all emotion; nevertheless, we were very pleasantly surprised. Perhaps I should say that we were very pleasantly dumbfounded, for that was truly the case.

When I had regained the use of my tongue, I replied : "Greetings, Mr. Lunarian, you look like an agent. What have you for sale--airplanes, or is it radio-vision instruments?"

But the Moon Man had evidently reached the limit of his understanding of earthly humor, or perhaps he was pressed for time.

"I am Number 333," he said. "The Council has sent me to clear up certain things concerning our race, which have evidently been puzzling you very much. Number 503 and Number 8974 have been studying your minds carefully since the Awakening. Your mental vibrations have been recorded by means of a device which is concealed in the ceiling of this room. The information thus obtained has been very interesting; especially were we interested by your peculiar sound language. Several of us, including myself, have mastered it, but since we have no natural organs with which to produce such sounds it was necessary for me to invent the machine which I

am now operating. Since it was hastily designed and constructed, it naturally has its faults; but if you will overlook these faults I am sure that it can do much toward clearing up the mysteries which have been troubling you.

"The history of my people begins countless ages before there were any living things on earth. Because of its much smaller size, and consequent greater radiating surface in proportion to its bulk, the moon cooled down from a molten state long before your planet. There was plentiful sunlight, atmosphere, and water. Conditions were ideal for life, and so nature, with its inevitable and inexplicable alchemy, proceeded to produce life. It began in the tepid seas, and then gradually spread over the adjoining plains, which became vast stretches of woodland, teeming with various species of animals.

"These creatures were continually in competition with one another. Realizing that the time was short, nature quickly selected one, which, because of its intelligence and hardiness, seemed best fitted to survive.

"These ancestors of mine were quite similar to me in appearance; they had the same tentacles, and the same multi-colored mantles, and, next to their intelligence, the most important characteristic--a sort of hard shell, in which they could seal themselves up during the nights, which were already very cold.

"By the time the ancient Lunarians had discovered the use of fire, the moon must have begun to show signs of age. The numerous volcanoes which had formerly replenished the constantly leaking atmosphere by a steady flow of carbonic acid gas, were dying out one by one. In consequence, the air became rapidly rarer.

The ability of a planet to retain its gaseous envelope depends on its gravitational force. Lunar gravity is too weak to prevent the air from floating off into space in a short time.

"Like oxygen and nitrogen, water vapor also leaked away, and the oceans began to shrink. Thirsty deserts began to creep down into the lowlands.

"Meanwhile, the terrific tidal drag of the earth was stopping the rotation of Luna on its axis. The drying ocean beds, under the glaring sun, which lingered longer and longer in the heavens, became during the day veritable furnaces of heat. The long nights were terrifically cold.

"My ancestors inhabited a section of territory on the side of the moon now invisible from the earth. It was a wild country, cut up by high rocky ridges and deep valleys. Everywhere were those huge, sleepy lava-pits which seldom erupted, but which always poured forth clouds of smoke and vapor. All about lay impassable deserts and high mountain ranges beyond which no Moon Man had ever dared to venture.

"The earliest knowledge of mechanics and science, which the early Lunarians gained, was acquired through the practice of irrigation. Water from the melting snows on the mountain summits was collected in reservoirs, and pumped into ditches which conveyed it to the growing plants.

"The danger of over-population was offset by almost constant warfare between the various tribes. Walled cities were built in strategic positions. Protected by the ramparts of those cities, the more intelligent of our race were given sufficient leisure to devote themselves to science and art. Metals came into extensive use, and mechanics developed. The crystal-clear nights gave splendid opportunities to the astronomer. The stars were mapped and studied and the relationship of our planet to the earth, still a glowing mass of lava, was determined.

"All went fairly well until a short time after the moon had ceased to rotate on its axis relative to its primary. In rapid succession the volcanoes all about us became extinct. The tidal pull of the earth must have been shifting the molten core of the moon away from these vents. The atmosphere, which had hung like a vast cloud over our homeland, began to rarefy. The water, relieved of much of the pressure of the air, quickly evaporated. Crops became inadequate, and the desert took possession of much of the arable land.

"For a hundred years or so the Moon Men led a semi-nomadic existence. The population, which had numbered about four hundred thousand souls,

dwindled rapidly.

"Driven by sheer desperation, the survivors of the various tribes banded together and prepared to migrate. They packed up their scanty food supply, a few masterpieces of art and literature, and some scientific instruments. Then they started out into the untracked desert, which lay to the southwest.

"The ancient historians have vividly portrayed the events of the Great Migration. There were a few power-driven automatons in the van, but, owing to the scarcity of oil fuel, the inhabitants carried most of their supplies on their backs, or slung in litter-like contrivances.

"Across blazing, sun-lit plains that parched the skin, up high mountain slopes and down into deep valleys, the questing caravan moved, and always along the way it left the carcasses of its dead. Some tumbled to destruction from the summits of jagged ridges, and thousands died of hunger and thirst. In the lowlands, which had been sea bottoms, the air was thin but breathable, but on the higher plateaus it was frequently so rarefied that the gasping lungs of many of the weaker individuals gave up the fight, and the unfortunate creatures collapsed in their tracks. Not daring to help their fallen comrades, the others pressed on.

"When night came the weary wanderers incased themselves in their cold-resisting shells and burrowed into the deep sand.

"Sometimes, so the historians say, just at dusk, they would see queer purple and red sheets of flame flashing over the plains--obviously phenomena of the rarefied air similar to your northern lights. Only they were close to the ground.

"When the sun rose again, a single Moon Man, piloting a crude, bat-like flying machine, which had recently been invented, would swoop upward on flapping wings and take a look at the surrounding country in search of the best course for the caravan to follow. During the day the flier made frequent trips aloft. Throughout their wanderings my ancestors took this ornithopter with them, slung in a sort of cradle, which required a hundred pilgrims to carry. It proved to be of inestimable help, and probably was the means of saving the race from extinction. When the scanty supply of oil for its motor

had been used up, they supplied it with fuel by frying down the bodies of their dead in an improvised sun-furnace.

"At length, after the caravan had dwindled to twenty-five thousand, the Lunarians climbed the range of mountains and came out on an area of typical lunar country, with scattered volcanoes and long chalky rills. Those rills were the white rays of Tycho, still many miles away.

"The Lunarians followed one of the rays, and as they progressed they became more and more hopeful. The atmosphere was growing rapidly denser. At comparatively frequent intervals they came upon clusters of cactus-like plants, which had been very rare elsewhere. These plants held stores of water in the cavities of their pulpy leaves, and besides, in an emergency, they could be eaten. My ancestors ate them, just as in a famine-ridden country, starving men of your own earth have often eaten grass.

"The arrival of the pilgrims at the brink of the Promised Land has been written about and painted countless times during the golden age of our history. All through the long, hot afternoon, the wanderers had been struggling up the eastern slopes of Tycho; but in spite of their weariness their hearts were singing. As least they were not gasping for breath, and besides, they were in the pleasant shade of the mountains. Beyond the rampart they felt certain was a place where with diligent effort they could win a chance to live.

"Just at sunset the first of the van reached the summit of the barrier, and then they saw what the pilot of the flying machine had seen hours before. Deep down in the immense depression, where the shadows were deepening, was a glassy little lake that reflected the blue sky. Beside it was a jungle of vegetation. A faint breeze blew over the rim of the crater. Somewhere down there there were vents which were pouring forth volumes of air, steadily replenishing the dense cloud of life-giving vapor which hung over the surrounding territory.

"The lunar night was half gone before the remaining ten thousand wanderers could descend, with the aid of metal cables, to the floor of Tycho. Their eagerness prevented them from waiting until dawn. The blanket of air retained the sun's heat sufficiently so that there was no danger of anyone freezing to death--a thing which most certainly would have happened on the almost airless plains.

"Everyone had a drink of the water of the lake, and then the contented pilgrims buried themselves in the sand and slept. When the next day came, they began to lay out the plans for their new city.

"Thus dawned the era of the greatest prosperity that the moon has yet seen. The floor of Tycho, as well as the surrounding territory, was fairly well suited for a hardy form of life, and so the Moon Men proceeded to convert this new land into a great garden.

"For fifty thousand years the Lunarians, aided by their evergrowing knowledge, lived in perfect comfort. Not only did their science become more extensive, but their minds grew increasingly keen until feats of memory and reasoning, which would have been completely impossible in former ages, were accomplished with ease.

"But always hostile nature fought against them with ever-increasing cunning. The gases which poured out of vents in the floor of Tycho became less and less in volume. As a result, the atmosphere rapidly rarefied. Similarly, the water was vanishing, and thus the area of land that could be irrigated decreased. The cultivated fields were roofed over to keep in the warmth and to lessen the leakage of air and moisture into space. The city now consisted of an immense labyrinth of underground passages and chambers, which could be hermetically sealed from the out-of-doors.

"Something would have to be done soon to alleviate the situation, or else the whole race would become extinct. There were ways of checking the leakage of the vital elements, but there was no means of absolutely preventing it.

"For a long time before I was born, astronomers had been looking hopefully toward the earth. In some distant day that still dully glowing sphere of

hardening lava would cool sufficiently so that we could establish ourselves there. But before the coming of that time the moon would be only a dead cinder of a world, devoid of all life except, perhaps, a few of the simplest forms of vegetation.

"It was I, Number 333, who solved our greatest problem. We are naturally a hibernating race. Why not sleep until the great planet, which shone so brilliantly in the night sky, would be ready to receive us?

"After a long period of experimentation I discovered two gases. One, when taken into the lungs, produced complete suspension of animation. Under its influence, any living thing could sleep for ages, without any decay of its body tissues. The other was an active stimulant capable of arousing a subject from that sleep.

"The rest was easy. A thousand space-ships were built to carry us and our equipment to earth, when the time came. Each of the ships was heavily armed, for we feared that when we migrated there would be flying monsters similar to those which once inhabited the moon on the larger planet. All the water and air we could collect was imprisoned in underground reservoirs. Food was stored and the seeds of plants, preserved by the sleep-producing gas, were packed safely away.

"The great machine, which you found in the chamber at the bottom of the well, was constructed. It is nothing more than a pump, to force the anaesthetic to the steel cocoons, to draw it off again at the end of a certain period, and then to force the reviving vapor to the sleepers.

"At length all was ready. We shut the airtight gates of the city and descended to the chamber of the pump. Calmly each of us crept into the cocoon which had been assigned to him by number. The doors clicked shut and the machine, actuated by an automatic device, began working.

"I recall clearly the last moments of my wakefulness before the long sleep. I was resting on the upholstery inside the metal bottle. Above me a faint light sifted in through the glass door. Presently I smelled an overpowering sweetness, like the perfume of a certain purple flower which, in the moon's youth, used to grow with such profusion along the edges of the lunar seas.

My consciousness wavered; the last thought that passed through my brain before I slept was whether the time-clock connected with the starting mechanism of the pump would set the machine in motion at the end of two hundred and fifty million years.

"Of course it will,' I said to myself. 'It is too simply and perfectly constructed to do otherwise.'

"The ages passed like an instant. We awoke; a hasty study of the thoughts in your mind, and of the existing terrestrial and lunar conditions told us that the time-clock had failed, and that we had slept many millions of years longer than we had planned. We are deeply grateful to Mr. Gerold Olson for throwing the switch that freed us, even though he did it unintentionally."

The monotonous voice coming from the box ceased. A door opened and two Lunarians entered. There was an exchange of tentacular signs between Number 333 and the new arrivals. Then the voice began again:

"Gentlemen," it said, "Number 6042 and Number 9435 have orders to take you up into the crater immediately. The space ships are to be given a test flight, and it has been decided that you are to see it. Don your space armor. When you return I shall tell you more."

A tunnel-car carried us in a few seconds to the sunlit plain within Tycho's ramparts. We emerged through an opening in the ground, which the Lunarians seemed to have just freed from the accumulated dust and debris.

Our guides were beside us. They were again enveloped in their protecting auras of blue light. We were standing on the brink of a great rectangular opening which yawned at our feet. We peered downward. In contrast to the intense glare of the sun the glow of the bottom seemed like semi-darkness.

Far below I saw moving patches of light and the sheen of something big and gleaming.

We had been looking silently below for some time when suddenly a dazzling yellow ray came into being. Then a mighty bulk shot up from the depths with such speed that it was far over our heads before we saw what it

was. A space ship! The hole before us was a huge door in the roof of the chamber that housed the Lunarian interplanetary vessels. Another craft whisked up past us, and then at timed intervals of about ten seconds they continued to come.

The first twenty formed a "V," and then, propelled by yellow rays projected from nozzle-like devices at their sterns, they rushed toward the western wall of the crater. Long before they reached them a great section of the encircling mountains before them vanished, blasted into nothing by some unguessable magic of science.

I can imagine how I looked then--eyes bulging and ghastly pale. I turned toward Paxton, and then for a time we stared at one another both frozen into cat-like crouches of complete terror. The ships continued to shoot up past us and to conduct their aerial circus far over our heads--wheeling, darting, and driving.

"Did you see that, Jerry?" gasped the professor. "And they're going to earth; they planned it maybe three hundred million years ago. They'll smash us--our cities, our works of art, our knowledge--everything. Maybe they'll wipe the whole race out of existence! Those weapons, my God! But the human race will fight! See, there is the *Black Meteor* only half a mile away. If we can get to it, we'll go back and give our people a warning. By God, we'll do it! Come on, lad!"

WE turned about, and adopting the most rapid means of locomotion on the moon for a man on foot--jumping--we began to move rapidly toward the conical black tower which was our space ship.

Our guides leaped after us for a short distance and then gave up the pursuit. Why they did so I was then quite unable to guess, for they covered the ground fully as rapidly as we did.

We entered the *Black Meteor* and climbed to the control room. If the Lunarians had ever invaded the ship, they had apparently not disturbed

anything.

With frantic haste the professor tugged at the starting lever. The rocket motors roared into life. We were shooting upward at a terrific rate. The awful pressure of acceleration made it almost impossible to breathe.

Anxiously we watched the view-plates for the expected pursuit, but it did not come. The ships of the Moon Men continued to whirl and maneuver within the ramparts of Tycho, rapidly dropping away beneath us. In a few moments those ships had so diminished in size that they looked like silvery beetles crawling about on the ground.

As soon as the *Black Meteor* was under way Paxton went to the radio room and gave his warning. "Hello, Earth!" he called, "Paxton of the Moon Rocket speaking. The Lunarians are coming with a thousand armed space ships. Prepare for war!"

Throughout the homeward voyage, I navigated and guided our vessel without any assistance from my companion. He spent all his time in the radio room, talking with terrestrial stations, and in consequence very few words passed between us.

The sight of the vast Lunarian battle fleet, and the realization that humanity was facing a greater and more bizarre danger than it had ever faced before seemed to have numbed my mind. I did not know what to think. In a vague sort of way I felt that it was odd that the Lunarians had treated us so well. Were they not our enemies? But why try to explain the actions of a people so totally alien? After all, were they so alien? Earth-men ordinarily treat their prisoners of war with consideration. Personally, I had sensed behind the mechanical voice of the Lunarian, who had related to us the history of the moon, a kindly something which might easily respond to friendship.

When we landed on the earth we found it in a whirling turmoil of activity. Paxton's story had been pretty generally accepted as truth. Astronomers had seen queer things happening in Tycho. They certainly could not believe that we were responsible for the vanishing of a quarter of its wall in an instant!

The armies of the world were being mobilized. Hundreds of thousands of planes were being concentrated near the great cities, ready for action. There were swift pursuit ships capable of speeds in excess of five hundred miles an hour. They carried those wicked little machine guns which fired bullets as fine as needles but impregnated with a poison that meant instant death. There were giant bombers--veritable battleships of the air. Besides, there were millions of commercial ships which had been commandeered and equipped to meet the enemy. The united armadas of the earth seemed like a force of unlimited power, but when I remembered the shining bulks, which had rushed through the lunar skies armed with weapons that dissolved mountains like a mist, it paled into pitiful insignificance.

For nine days after our arrival the earth watched, like a defiant beast, fortifying itself as best it could. Then one night, a swarm of tiny specks began to trail out of the moon like hornets coming from a glowing hornet's nest. Just before dawn the next day, they shot into the terrestrial atmosphere over central North America. So great was their speed that they left trains of fire behind them like falling meteors.

During the interplanetary journey, the observatories kept the various air fleets constantly posted as to the position of the Lunarians. It was possible to tell about where they would enter our atmosphere, and so when they arrived fully a million fighting planes had collected from all over the United States to meet them.

They were lined up in orderly rows on the great Hinton Flying Field located about seventy-five miles west of Milwaukee. Others were constantly coming in.

For hours during the night the pilots had stood close beside their machines. A few carried on conversations consisting for the most part of a few monosyllabic words with one another. But nearly everyone maintained a tense and expectant silence. I was among the rest.

When the first dim glow of morning was welling into the east, two hours before the Lunarian fleet streaked into the earthly air, a siren began to hoot weirdly. Its far-reaching call could be heard for miles around. Time to take off!

With the calmness of one resigned to his fate, I climbed into the cockpit of my trim little craft. I closed an electric switch on the instrument board. There was a loud report, and then my Diesel motor roared into action. There were other reports coming from down the field--so many that it sounded like a sham battle. And the thrumming of warming motors grew ever greater in volume.

For a minute I busied myself with my equipment-- my safety belt, my oxygen mask, my heavy electrically-heated gloves, my little devil-riveter of a machine gun. Yes, all was ready. I tested the controls--O. K. Then the siren blew two short blasts. Take to the air!

In rows of a thousand abreast, at timed intervals, the planes rolled down the field and slipped into the sky toward the east. I was among the first to leave.

According to the plan which had been worked out by our best aerial tacticians, each group of a thousand was to act as a military unit, and was to attempt to bring down an enemy battleship.

ONCE in the air, each squadron formed into a compact "V," and then began to climb. And, oh, what a climb it was! Up, up, up, into the icy air until it seemed that the gates of the Empyrean must be ready to receive us.

Thirty thousand, thirty-five thousand, thirty-eight thousand feet we ascended, and there we began to cruise. All eyes were on the squadron commander's plane flying at the apex of the "V." Presently a puff of gray smoke appeared above it. At the signal, each man catapulted a small grenade above him by means of a sort of spring-gun. Those grenades exploded, and formed a dense protecting layer of smoke, that looked like natural clouds, over our heads. The other squadrons behind us hid themselves in a similar fashion.

We wheeled and circled about, close under the vapor shield, waiting for developments. Our squadron was now above the city of Milwaukee beside

Lake Michigan, which spread out like a gray picture of calmness in the gray dawn. Nature apparently cared nothing for the fate of man.

A bright silvery streak in the east where the stars were fading. Another and another; then five or six all at once. The Moon Men had come! They were entering the atmosphere at a point over the lake about twenty-five miles distant from us.

A faint wind was blowing our cloud toward the northeast. We followed it. This was favorable to us, for now Milwaukee would not be in any danger of receiving any damage from our bombs.

As I wheeled and banked my plane, I studied the enemy fleet through my binoculars. I could see the long string of lighted portholes along the side of each vessel. What foolishness was this? Why did they expose themselves so boldly in enemy territory? And then for a moment, I felt with a touch of bitterness, that they realized that we were powerless to harm them. But I quickly checked the thought. It seemed traitorous and cowardly.

The battleships which had entered the earth's gaseous envelope were moving at a snail's pace toward us. The light of the sun, not yet visible to us, struck the polished metal of the craft still out in space, and made them glow like a string of glorious stars.

A little nervously we waited. Had the Moon Men discovered us? It seemed hardly likely. In the faint half-light, hidden as we were close beneath the smoke clouds, there seemed but slight likelihood that we had been seen. The droning of our motors was drowned by the louder roar of the propelling mechanisms of the mooncraft.

The enemy fleet crept on toward us. The ships were moving in a long column, four abreast. They were at a somewhat lower level than we were. Like a shadow our entire force zoomed upwards through the smoke screen. Cautiously we scattered more grenades.

Though, under all ordinary circumstances, we were now perfectly invisible to our foes, we could still see them clearly through the vapor with the aid of the Richter Ray attachments on our binoculars. The Richter Ray, as

everybody knows, resembles the X-ray in its powers of penetration and its ability to produce fluorescence, but it is vastly superior to the X-ray in that it can be focused and thus can produce real pictures instead of mere shadows.

An observer on one of those opposing vessels would have seen only a majestic bank of what appeared to be thunder clouds, dull gray like tarnished silver, unless the Lunarians possessed devices similar to our ray binoculars. I sincerely hoped that they had never heard of the Richter Ray.

Our foes were coming closer. Now a group of four battleships, the leaders of the van, were passing directly under the cloud which our squadron had formed. An involuntary thrill came over me, as I realized how majestic and wonderful they were.

Around each huge hull was a faint halo. Those halos looked like the frost rainbows which sometimes appear in the upper air. But that was impossible, for there was no sun.

How easy to blast those giants out of existence with our bombs! We were waiting for Lieutenant Stanton, the squadron commander, to discharge a blue rocket--the signal which meant action. But he was not in a hurry. The Lunarians seemed to be still ignorant of our presence. Let the squadrons behind us take care of the first four. We would pick other victims.

Suddenly it occurred to me that it was queer to the point of ridiculousness that such highly intelligent foes were blundering into such a trap!

Another group of four passed under us, and another and another. I watched Stanton's bomber, wheeling and circling almost a thousand feet from me; still there was no sign. But when the next group glided under our bomb-racks, he made up his mind. Certainly, the apparently stupid Moon Men must have discovered us by now! Our cloud had grown thin in spots!

A purple tongue of light leaped up from the bomber. What luck! Four in the bag! Bombs were falling like rain. In a couple of seconds a shower of metal scraps would be all that would be left of the great ships. And then, as I looked down at our victims, I saw something odd. My bombs were hurtling

straight toward the deck of the craft below, but as they approached their target, they swerved aside, pushed by some strange force, and continued to tumble down toward the surface of the lake. The halos were protecting the battleships!

A feeling of bitterness came over me. What chance had we against these demons who could make our every weapon useless? Presently their rays would sweep up at us, and a few minutes later earth's last hope of salvation would be destroyed as completely as if it had never existed. But the instinct of self-preservation demands that every creature should die, trying to save itself. We must fight! We would fight!

I pulled my joystick sharply back and gunned my motor. As I zoomed upward, I saw that a number of other pilots were doing the same, I intended to dive down upon one of the Lunar battleships from a greater altitude, meanwhile spraying it with machine gun bullets. I continued to climb vertically for about a thousand feet, then I turned the plane quickly over on its back and started down. Our cloud was thinning rapidly. My machine gun had begun to hum like a low-pitched tuning fork, but if the tiny pellets had penetrated the force shield of the battleship and had done any damage to the automatons that swarmed its decks, there was no evidence of it.

Hundreds of machine guns were buzzing now, the air was filled with the din of bursting shells, and bombs were still dropping. But behind their thick walls of force, the Moon Men were as safe as though a million miles separated us from them. They made no move against us.

I had dropped eight hundred feet, and was preparing to climb again, when I heard a sound coming up from below where the Lunar craft were gathering. It was deep and sonorous, and powerful enough to be heard above the noise of the battle. Could it be true? A voice? Yes, it was true! Something down there was speaking English words, and what it said made me wonder for a moment if I were not really dreaming.

"Cease firing, Earth Men," it boomed. "The People of the Moon come in peace. We only wish to ask a favor. Grant us the privilege of taking a small portion of your atmosphere and water back to our world, so that we shall be able to make life bearable there. Our payment will be great. We shall teach

you the secrets of our vessels and our rays, we shall open for you doors giving access to knowledge, of the existence of which you have never dreamed. We shall check those forces, which, if left unhindered, would eventually make your world uninhabitable. Besides, we shall always try to be your friends and guides. Will you agree?"

The mechanical voice died away, and with it the pounding of shells and hum of machine guns.

THE first feeling which came over me was one of mingled consternation and relief. We had expected the complete destruction of our civilization and perhaps our race as well; yet these supposed blood-thirsty Moon Men were making an offer, which would mean nothing but good for us. Then suddenly I began to suspect that we were being tricked. There must be a catch somewhere! Fairness with creatures of lesser knowledge and civilization has seldom been the way with men.

The Voice spoke again: "The thoughts of many of you indicate that you doubt the honesty of our purpose. Very well. We shall stop the generators, which maintain our protecting force-shields. Then we shall proceed under guard to your flying field. Since you will be directly over us, it will be a small matter for you to destroy us, should we show any indication of breaking faith. We trust you."

And so our suspicions were allayed. If the Lunarians desired to conquer us, there was certainly no reason why they should make this move.

The little radio-buzzer over my ear was ticking out a command in code: "Feather-formation over Lunar fleet--Head back toward Hinton Field----"

Thus our bloodless encounter came to its glorious end. Within fifteen minutes the world had heard about it, and had begun its orgy of celebration. Two hours later the governments of every important nation had agreed to the proposition of the Moon Men.

It was nearly noon before all of the craft of the two great fleets were landed at the Flying Field. About us, kept back by ropes, and by the diligent efforts on the part of the police, was a vast crowd of spectators.

In the company of Professor Paxton, who had come by fast rocket plane from the observatory at Flagstaff, I wandered among the towering rows of ships that lined the field. About us were the Lunarians and their busy automatons.

Presently we met Number 333, recognizable by the peculiar green markings on his mantle. He knew us as soon as he saw us. "Greetings, Friends!" were his first words. I knew at once that he carried a much improved speech mechanism, for his voice, which came from a tiny box at his side, had lost its flatness. How he operated the device, I could not tell.

"There seems to have been a slight misunderstanding between us," he continued. "Your departure from our world was rather sudden. If you had waited long enough for me to tell you more, I think you would have been reassured."

Professor Paxton and I made profuse and somewhat sheepish apologies for our blunder. Then we asked the Moon Man to tell us more about his people's plans. Just what would they do now that the human race was in possession of the earth?

"When we saw that this planet was already inhabited by an intelligent form of life, we were rather puzzled as to what move to make," said Number 333. "Of course, we might have landed in the south polar regions, and started to rebuild our civilization there without disturbing anyone very much. But such a procedure has certain drawbacks, the greatest of which is that for a large portion of the year our sun motors would not be able to operate.

"It is to Number 2434 that we owe the solution of our problem. Three days ago, he invented a peculiar form of generator which has the power to 'crystallize' the ether of space about the machine for a distance proportionate to the amount of energy being consumed.

"Crystallized ether has been known for many ages. It is an electrical phenomenon and can be brought into being by means of certain electromagnetic vibrations. You saw today what it was like, for we surrounded all our battleships with a protecting shield of it. It has many of the properties of normal matter, including solidity, or semi-solidity; but it lacks mass.

"It was not until Number 2434 invented his generator that we could produce a large enough volume of crystallized ether for the purpose we had in mind. But now everything is easy. We plan to form a vast, spherical shell all around the moon, and about a hundred miles above its surface. For this purpose, two big generators will be constructed. A few minutes after they are set in operation, the shell will be formed. If we desire it to disappear for any reason, it will be only necessary to shut off the power. Beneath the shield we will seal our borrowed atmosphere forever, against leakage into space. Thus the moon will become habitable again.

"Part of the payment for the gifts you Earth Men give us will be a similar, though necessarily much larger, shield around the earth."

Number 333 took us on a tour of exploration through the Lunar camp, and then at Paxton's suggestion, we decided to introduce our weird companion to the mysteries of earthly life. We all climbed into the cabin of the professor's plane, and a moment later we were rolling down the field and into the air, all our fears gone.

Some minutes later we rented a monocar at one of Chicago's landing stages; then we plunged into the whirling activity of the city, magnified many times by the titanic celebration that was in progress. Though he gave no sign that I could interpret, I am quite sure that Number 333 was somewhat more than a little bewildered. The flashing lights along Michigan Avenue, the din, the crowds of people thrown into a kind of ecstasy by the tremendous events of the day, and finally, the vastness of the city, with its seemingly endless avenues, were so totally different from the silent majesty of the moon, that I do not see how it could have been otherwise.

Nor was I any less affected. How was it possible for me, Jerry Olson, to be riding in this perfectly prosaic little vehicle, with a weird creature from

another world as a companion? Such things didn't happen even in nightmares!

The Day of the Arrival is now fifty-three years in the past. Things have happened, just as Number 333 said they would. Tonight, as I look out of my window, I see the moon rising over the maple trees. The sky everywhere has a pale, greenish tinge, which dims the stars a little, and the moon has a green halo. The shields of crystallized ether are faintly phosphorescent at night. Earth has become almost a paradise. From pole to pole a balmy, spring-time climate prevails, for the heat of the sun, once transmitted to our planet, cannot escape rapidly through the shield.

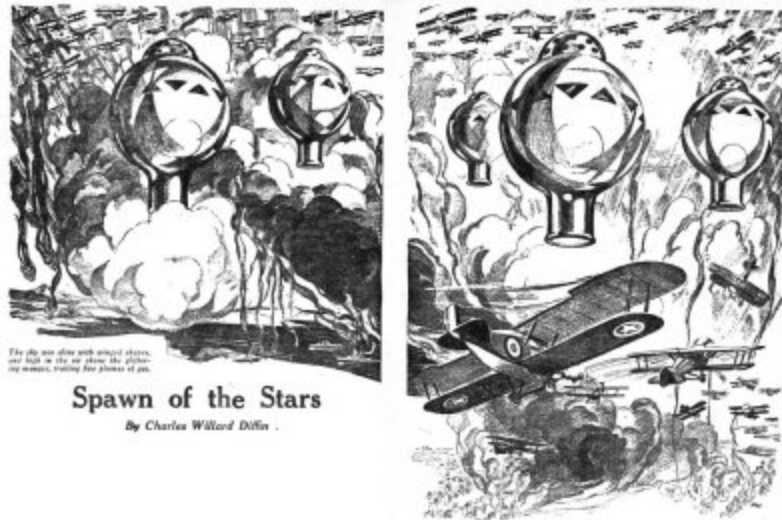
And Luna! Her day is now only forty hours long, for her people have found a way to increase her rate of rotation. The air and water carried from our planet in hollow spheres of crystallized ether have rapidly transformed her into a fairyland of growing things. Bizarre and beautiful plants have formed thick carpets of vegetation over those portions of her surface which are still uninhabited. The walls of many of her craters are already festooned with green vines to their very summits. Many of the hitherto desolate plains have become rich farmlands. The population of the moon has doubled and is increasing rapidly.

Between earth and its satellite a lively commerce is being carried on. Huge interplanetary liners, as well as many freighters, are constantly plying back and forth. Every winter thousands of earthly tourists flock to the Lunar cities to admire their lacy architecture, and to enjoy themselves along the seashores and on the steep mountain slopes.

My youngest son, Dan, is leaving for the satellite tomorrow for he plans to study there, in the House of Learning. He is a medical student. Number 333 will be one of his instructors.

But it is still impossible for an earthly human being to tell what greater wonders are yet to come forth from the Lunar Chrysalis.

Spawn of the Stars By Charles Willard Diffin



The Earth lay powerless beneath those loathsome, yellowish monsters that, sheathed in cometlike globes, sprang from the skies to annihilate man and reduce his cities to ashes.

WHEN Cyrus R. Thurston bought himself a single-motored Stoughton job he was looking for new thrills. Flying around the east coast had lost its zest: he wanted to join that jaunty group who spoke so easily of hopping off for Los Angeles.

And what Cyrus Thurston wanted he usually obtained. But if that young millionaire-sportsman had been told that on his first flight this blocky, bullet-like ship was to pitch him headlong into the exact center of the wildest, strangest war this earth had ever seen--well, it is still probable that the Stoughton company would not have lost the sale.

They were roaring through the starlit, calm night, three thousand feet above a sage sprinkled desert, when the trip ended. Slim Riley had the stick when the first blast of hot oil ripped slashingly across the pilot's window. "There goes your old trip!" he yelled. "Why don't they try putting engines in these ships?"

He jammed over the throttle and, with motor idling, swept down toward the endless miles of moonlit waste. Wind? They had been boring into it. Through the opened window he spotted a likely stretch of ground. Setting down the ship on a nice piece of Arizona desert was a mere detail for Slim.

"Let off a flare," he ordered, "when I give the word."

The white glare of it faded the stars as he sideslipped, then straightened out on his hand-picked field. The plane rolled down a clear space and stopped. The bright glare persisted while he stared curiously from the quiet cabin. Cutting the motor he opened both windows, then grabbed Thurston by the shoulder.

"'Tis a curious thing, that," he said unsteadily. His hand pointed straight ahead. The flare died, but the bright stars of the desert country still shone on a glistening, shining bulb.

It was some two hundred feet away. The lower part was lost in shadow, but its upper surfaces shone rounded and silvery like a giant bubble. It towered in the air, scores of feet above the chaparral beside it. There was a round spot of black on its side, which looked absurdly like a door....

"I saw something moving," said Thurston slowly. "On the ground I saw.... Oh, good Lord, Slim, it isn't real!"

Slim Riley made no reply. His eyes were riveted to an undulating, ghastly something that oozed and crawled in the pale light not far from the bulb. His hand was reaching, reaching.... It found what he sought; he leaned toward the window. In his hand was the Very pistol for discharging the flares. He aimed forward and up.

The second flare hung close before it settled on the sandy floor. Its blinding whiteness made the more loathsome the sickening yellow of the flabby flowing thing that writhed frantically in the glare. It was formless, shapeless, a heaving mound of nauseous matter. Yet even in its agonized writhing distortions they sensed the beating pulsations that marked it a living thing.

There were unending ripples crossing and recrossing through the convolutions. To Thurston there was suddenly a sickening likeness: the thing was a brain from a gigantic skull--it was naked--was suffering....

THE thing poured itself across the sand. Before the staring gaze of the speechless men an excrescence appeared--a thick bulb on the mass--that protruded itself into a tentacle. At the end there grew instantly a hooked hand. It reached for the black opening in the great shell, found it, and the whole loathsome shapelessness poured itself up and through the hole.

Only at the last was it still. In the dark opening the last slippery mass held quiet for endless seconds. It formed, as they watched, to a head--frightful--menacing. Eyes appeared in the head; eyes flat and round and black save for a cross slit in each; eyes that stared horribly and unchangingly into theirs. Below them a gaping mouth opened and closed.... The head melted--was gone....

And with its going came a rushing roar of sound.

From under the metallic mass shrieked a vaporous cloud. It drove at them, a swirling blast of snow and sand. Some buried memory of gas attacks woke Riley from his stupor. He slammed shut the windows an instant before the cloud struck, but not before they had seen, in the moonlight, a gleaming, gigantic, elongated bulb rise swiftly--screamingly--into the upper air.

The blast tore at their plane. And the cold in their tight compartment was like the cold of outer space. The men stared, speechless, panting. Their breath froze in that frigid room into steam clouds.

"It--it...." Thurston gasped--and slumped helpless upon the floor.

IT was an hour before they dared open the door of their cabin. An hour of biting, numbing cold. Zero--on a warm summer night on the desert! Snow in the hurricane that had struck them!

"'Twas the blast from the thing," guessed the pilot; "though never did I see an engine with an exhaust like that." He was pounding himself with his arms to force up the chilled circulation.

"But the beast--the--the *thing!*" exclaimed Thurston. "It's monstrous; indecent! It thought--no question of that--but no body! Horrible! Just a raw, naked, thinking protoplasm!"

It was here that he flung open the door. They sniffed cautiously of the air. It was warm again--clean--save for a hint of some nauseous odor. They walked forward; Riley carried a flash.

The odor grew to a stench as they came where the great mass had lain. On the ground was a fleshy mound. There were bones showing, and horns on a skull. Riley held the light close to show the body of a steer. A body of raw bleeding meat. Half of it had been absorbed....

"The damned thing," said Riley, and paused vainly for adequate words. "The damned thing was eating.... Like a jelly-fish, it was!"

"Exactly," Thurston agreed. He pointed about. There were other heaps scattered among the low sage.

"Smothered," guessed Thurston, "with that frozen exhaust. Then the filthy thing landed and came out to eat."

"Hold the light for me," the pilot commanded. "I'm goin' to fix that busted oil line. And I'm goin' to do it right now. Maybe the creature's still hungry."

THEY sat in their room. About them was the luxury of a modern hotel. Cyrus Thurston stared vacantly at the breakfast he was forgetting to eat. He wiped his hands mechanically on a snowy napkin. He looked from the window. There were palm trees in the park, and autos in a ceaseless stream. And people! Sane, sober people, living in a sane world. Newsboys were shouting; the life of the city was flowing.

"Riley!" Thurston turned to the man across the table. His voice was curiously toneless, and his face haggard. "Riley, I haven't slept for three nights. Neither have you. We've got to get this thing straight. We didn't both become absolute maniacs at the same instant, but--it was *not* there, it was *never* there--not *that*...." He was lost in unpleasant recollections. "There are other records of hallucinations."

"Hallucinations--hell!" said Slim Riley. He was looking at a Los Angeles newspaper. He passed one hand wearily across his eyes, but his face was happier than it had been in days.

"We didn't imagine it, we aren't crazy--it's real! Would you read that now!" He passed the paper across to Thurston. The headlines were startling.

"Pilot Killed by Mysterious Airship. Silvery Bubble Hangs Over New York. Downs Army Plane in Burst of Flame. Vanishes at Terrific Speed."

"It's our little friend," said Thurston. And on his face, too, the lines were vanishing; to find this horror a reality was positive relief. "Here's the same cloud of vapor--drifted slowly across the city, the accounts says, blowing this stuff like steam from underneath. Airplanes investigated--an army plane

drove into the vapor--terrific explosion--plane down in flames--others wrecked. The machine ascended with meteor speed, trailing blue flame. Come on, boy, where's that old bus? Thought I never wanted to fly a plane again. Now I don't want to do anything but."

"Where to?" Slim inquired.

"Headquarters," Thurston told him. "Washington-- let's go!"

FROM Los Angeles to Washington is not far, as the plane flies. There was a stop or two for gasoline, but it was only a day later that they were seated in the War Office. Thurston's card had gained immediate admittance. "Got the low-down," he had written on the back of his card, "on the mystery airship."

"What you have told me is incredible," the Secretary was saying, "or would be if General Lozier here had not reported personally on the occurrence at New York. But the monster, the thing you have described.... Cy, if I didn't know you as I do I would have you locked up."

"It's true," said Thurston, simply. "It's damnable, but it's true. Now what does it mean?"

"Heaven knows," was the response. "That's where it came from--out of the heavens."

"Not what we saw," Slim Riley broke in. "That thing came straight out of Hell." And in his voice was no suggestion of levity.

"You left Los Angeles early yesterday; have you seen the papers?"

Thurston shook his head.

"They are back," said the Secretary. "Reported over London--Paris--the West Coast. Even China has seen them. Shanghai cabled an hour ago."

"Them? How many are there?"

"Nobody knows. There were five seen at one time. There are more--unless the same ones go around the world in a matter of minutes."

Thurston remembered that whirlwind of vapor and a vanishing speck in the Arizona sky. "They could," he asserted. "They're faster than anything on earth. Though what drives them ... that gas--steam--whatever it is...."

"Hydrogen," stated General Lozier. "I saw the New York show when poor Davis got his. He flew into the exhaust; it went off like a million bombs. Characteristic hydrogen flame trailed the damn thing up out of sight--a tail of blue fire."

"And cold," stated Thurston.

"Hot as a Bunsen burner," the General contradicted. "Davis' plane almost melted."

"Before it ignited," said the other. He told of the cold in their plane.

"Ha!" The General spoke explosively. "That's expansion. That's a tip on their motive power. Expansion of gas. That accounts for the cold and the vapor. Suddenly expanded it would be intensely cold. The moisture of the air would condense, freeze. But how could they carry it? Or"--he frowned for a moment, brows drawn over deep-set gray eyes--"or generate it? But that's crazy--that's impossible!"

"So is the whole matter," the Secretary reminded him. "With the information Mr. Thurston and Mr. Riley have given us, the whole affair is beyond any gauge our past experience might supply. We start from the impossible, and we go--where? What is to be done?"

"With your permission, sir, a number of things shall be done. It would be interesting to see what a squadron of planes might accomplish, diving on them from above. Or anti-aircraft fire."

"NO," said the Secretary of War, "not yet. They have looked us over, but they have not attacked. For the present we do not know what they are. All of us have our suspicions--thoughts of interplanetary travel-- thoughts too wild for serious utterance--but we know nothing.

"Say nothing to the papers of what you have told me," he directed Thurston. "Lord knows their surmises are wild enough now. And for you, General, in the event of any hostile move, you will resist."

"Your order was anticipated, sir." The General permitted himself a slight smile. "The air force is ready."

"Of course," the Secretary of War nodded. "Meet me here to-night--nine o'clock." He included Thurston and Riley in the command. "We need to think ... to think ... and perhaps their mission is friendly."

"Friendly!" The two flyers exchanged glances as they went to the door. And each knew what the other was seeing--a viscous ochreous mass that formed into a head where eyes devilish in their hate stared coldly into theirs....

"Think, we need to think," repeated Thurston later. "A creature that is just one big hideous brain, that can think an arm into existence--think a head where it wishes! What does a thing like that think of? What beastly thoughts could that--that thing conceive?"

"If I got the sights of a Lewis gun on it," said Riley vindictively, "I'd make it think."

"And my guess is that is all you would accomplish," Thurston told him. "I am forming a few theories about our visitors. One is that it would be quite impossible to find a vital spot in that big homogeneous mass."

The pilot dispensed with theories: his was a more literal mind. "Where on earth did they come from, do you suppose, Mr. Thurston?"

THEY were walking to their hotel. Thurston raised his eyes to the summer heavens. Faint stars were beginning to twinkle; there was one that glowed steadily.

"Nowhere on earth," Thurston stated softly, "nowhere on earth."

"Maybe so," said the pilot, "maybe so. We've thought about it and talked about it ... and they've gone ahead and done it." He called to a newsboy; they took the latest editions to their room.

The papers were ablaze with speculation. There were dispatches from all corners of the earth, interviews with scientists and near scientists. The machines were a Soviet invention--they were beyond anything human--they were harmless--they would wipe out civilization--poison gas--blasts of fire like that which had enveloped the army flyer...

And through it all Thurston read an ill-concealed fear, a reflection of panic that was gripping the nation--the whole world. These great machines were sinister. Wherever they appeared came the sense of being watched, of a menace being calmly withheld. And at thought of the obscene monsters inside those spheres, Thurston's lips were compressed and his eyes hardened. He threw the papers aside.

"They are here," he said, "and that's all that we know. I hope the Secretary of War gets some good men together. And I hope someone is inspired with an answer."

"An answer is it?" said Riley. "I'm thinkin' that the answer will come, but not from these swivel-chair fighters. 'Tis the boys in the cockpits with one hand on the stick and one on the guns that will have the answer."

But Thurston shook his head. "Their speed," he said, "and the gas! Remember that cold. How much of it can they lay over a city?"

The question was unanswered, unless the quick ringing of the phone was a reply.

"War Department," said a voice. "Hold the wire." The voice of the Secretary of War came on immediately.

"Thurston?" he asked. "Come over at once on the jump, old man. Hell's popping."

THE windows of the War Department Building were all alight as they approached. Cars were coming and going; men in uniform, as the Secretary had said, "on the jump." Soldiers with bayonets stopped them, then passed Thurston and his companion on. Bells were ringing from all sides. But in the Secretary's office was perfect quiet.

General Lozier was there, Thurston saw, and an imposing array of gold-braided men with a sprinkling of those in civilian clothes. One he recognized: MacGregor from the Bureau of Standards. The Secretary handed Thurston some papers.

"Radio," he explained. "They are over the Pacific coast. Hit near Vancouver; Associated Press says city destroyed. They are working down the coast. Same story--blast of hydrogen from their funnel shaped base. Colder than Greenland below them; snow fell in Seattle. No real attack since Vancouver and little damage done--" A message was laid before him.

"Portland," he said. "Five mystery ships over city. Dart repeatedly toward earth, deliver blast of gas and then retreat. Doing no damage. Apparently inviting attack. All commercial planes ordered grounded. Awaiting instructions.

"Gentlemen," said the Secretary, "I believe I speak for all present when I say that, in the absence of first hand information, we are utterly unable to arrive at any definite conclusion or make a definite plan. There is a menace in this, undeniably. Mr. Thurston and Mr. Riley have been good enough to report to me. They have seen one machine at close range. It was occupied by a monster so incredible that the report would receive no attention from me did I not know Mr. Thurston personally.

"Where have they come from? What does it mean--what is their mission? Only God knows.

"Gentlemen, I feel that I must see them. I want General Lozier to accompany me, also Doctor MacGregor, to advise me from the scientific angle. I am going to the Pacific Coast. They may not wait--that is true--but they appear to be going slowly south. I will leave to-night for San Diego. I hope to intercept them. We have strong air-forces there; the Navy Department is cooperating."

HE waited for no comment. "General," he ordered, "will you kindly arrange for a plane? Take an escort or not as you think best.

"Mr. Thurston and Mr. Riley will also accompany us. We want all the authoritative data we can get. This on my return will be placed before you, gentlemen, for your consideration." He rose from his chair. "I hope they wait for us," he said.

Time was when a commander called loudly for a horse, but in this day a Secretary of War is not kept waiting for transportation. Sirening motorcycles preceded them from the city. Within an hour, motors roaring wide open, propellers ripping into the summer night, lights slipping eastward three thousand feet below, the Secretary of War for the United States was on his way. And on either side from their plane stretched the arms of a V. Like a flight of gigantic wild geese, fast fighting planes of the Army air service bored steadily into the night, guarantors of safe convoy.

"The Air Service is ready," General Lozier had said. And Thurston and his pilot knew that from East coast to West, swift scout planes, whose idling engines could roar into action at a moment's notice, stood waiting; battle planes hidden in hangars would roll forth at the word--the Navy was cooperating--and at San Diego there were strong naval units, Army units, and Marine Corps.

"They don't know what we can do, what we have up our sleeve: they are feeling us out," said the Secretary. They had stopped more than once for gas and for wireless reports. He held a sheaf of typewritten briefs.

"Going slowly south. They have taken their time. Hours over San Francisco and the bay district. Repeating same tactics; fall with terrific speed to cushion against their blast of gas. Trying to draw us out, provoke an attack, make us show our strength. Well, we shall beat them to San Diego at this rate. We'll be there in a few hours."

THE afternoon sun was dropping ahead of them when they sighted the water. "Eckener Pass," the pilot told them, "where the Graf Zeppelin came through. Wonder what these birds would think of a Zepp!

"There's the ocean," he added after a time. San Diego glistened against the bare hills. "There's North Island--the Army field." He stared intently ahead, then shouted: "And there they are! Look there!"

Over the city a cluster of meteors was falling. Dark underneath, their tops shone like pure silver in the sun's slanting glare. They fell toward the city, then buried themselves in a dense cloud of steam, rebounding at once to the upper air, vapor trailing behind them.

The cloud billowed slowly. It struck the hills of the city, then lifted and vanished.

"Land at once," requested the Secretary. A flash of silver countermanded the order.

It hung there before them, a great gleaming globe, keeping always its distance ahead. It was elongated at the base, Thurston observed. From that base shot the familiar blast that turned steamy a hundred feet below as it chilled the warm air. There were round orifices, like ports, ranged around the top, where an occasional jet of vapor showed this to be a method of

control. Other spots shone dark and glassy. Were they windows? He hardly realized their peril, so interested was he in the strange machine ahead.

THEN: "Dodge that vapor," ordered General Lozier. The plane wavered in signal to the others and swung sharply to the left. Each man knew the flaming death that was theirs if the fire of their exhaust touched that explosive mixture of hydrogen and air. The great bubble turned with them and paralleled their course.

"He's watching us," said Riley, "giving us the once over, the slimy devil. Ain't there a gun on this ship?"

The General addressed his superior. Even above the roar of the motors his voice seemed quiet, assured. "We must not land now," he said. "We can't land at North Island. It would focus their attention upon our defenses. That thing--whatever it is--is looking for a vulnerable spot. We must... Hold on--there he goes!"

The big bulb shot upward. It slanted above them, and hovered there.

"I think he is about to attack," said the General quietly. And, to the commander of their squadron: "It's in your hands now, Captain. It's your fight."

The Captain nodded and squinted above. "He's got to throw heavier stuff than that," he remarked. A small object was falling from the cloud. It passed close to their ship.

"Half-pint size," said Cyrus Thurston, and laughed in derision. There was something ludicrous in the futility of the attack. He stuck his head from a window into the gale they created. He sheltered his eyes to try to follow the missile in its fall.

THEY were over the city. The criss-cross of streets made a grill-work of lines; tall buildings were dwarfed from this three thousand foot altitude. The sun slanted across a projecting promontory to make golden ripples on a blue sea and the city sparkled back in the clear air. Tiny white faces were massed in the streets, huddled in clusters where the futile black missile had vanished.

And then--then the city was gone....

A white cloud-bank billowed and mushroomed. Slowly, it seemed to the watcher--so slowly.

It was done in the fraction of a second. Yet in that brief time his eyes registered the chaotic sweep in advance of the cloud. There came a crashing of buildings in some monster whirlwind, a white cloud engulfing it all.... It was rising--was on them.

"God," thought Thurston, "why can't I move!" The plane lifted and lurched. A thunder of sound crashed against them, an intolerable force. They were crushed to the floor as the plane was hurled over and upward.

Out of the mad whirling tangle of flying bodies, Thurston glimpsed one clear picture. The face of the pilot hung battered and blood-covered before him, and over the limp body the hand of Slim Riley clutched at the switch.

"Bully boy," he said dazedly, "he's cutting the motors...." The thought ended in blackness.

There was no sound of engines or beating propellers when he came to his senses. Something lay heavy upon him. He pushed it to one side. It was the body of General Lozier.

HE drew himself to his knees to look slowly about, rubbed stupidly at his eyes to quiet the whirl, then stared at the blood on his hand. It was so quiet--the motors--what was it that happened? Slim had reached for the switch....

The whirling subsided. Before him he saw Slim Riley at the controls. He got to his feet and went unsteadily forward. It was a battered face that was lifted to his.

"She was spinning," the puffed lips were muttering slowly. "I brought her out ... there's the field...." His voice was thick; he formed the words slowly, painfully. "Got to land ... can you take it? I'm--I'm--" He slumped limply in his seat.

Thurston's arms were uninjured. He dragged the pilot to the floor and got back of the wheel. The field was below them. There were planes taxiing out; he heard the roar of their motors. He tried the controls. The plane answered stiffly, but he managed to level off as the brown field approached.

Thurston never remembered that landing. He was trying to drag Riley from the battered plane when the first man got to him.

"Secretary of War?" he gasped. "In there.... Take Riley; I can walk."

"We'll get them," an officer assured him. "Knew you were coming. They sure gave you hell! But look at the city!"

Arms carried him stumbling from the field. Above the low hangars he saw smoke clouds over the bay. These and red rolling flames marked what had been an American city. Far in the heavens moved five glinting specks.

His head reeled with the thunder of engines. There were planes standing in lines and more erupting from hangars, where khaki-clad men, faces tense under leather helmets, rushed swiftly about.

"General Lozier is dead," said a voice. Thurston turned to the man. They were bringing the others. "The rest are smashed up some," the officer told him, "but I think they'll pull through."

The Secretary of War for the United States lay beside him. Men with red on their sleeves were slitting his coat. Through one good eye he squinted at Thurston. He even managed a smile.

"Well, I wanted to see them up close," he said. "They say you saved us, old man."

Thurston waved that aside. "Thank Riley--" he began, but the words ended in the roar of an exhaust. A plane darted swiftly away to shoot vertically a hundred feet in the air. Another followed and another. In a cloud of brown dust they streamed endlessly out, zooming up like angry hornets, eager to get into the fight.

"Fast little devils!" the ambulance man observed. "Here come the big boys."

A leviathan went deafeningly past. And again others came on in quick succession. Farther up the field, silvery gray planes with rudders flaunting their red, white and blue rose circling to the heights.

"That's the Navy," was the explanation. The surgeon straightened the Secretary's arm. "See them come off the big airplane carriers!"

If his remarks were part of his professional training in removing a patient's thoughts from his pain, they were effective. The Secretary stared out to sea, where two great flat-decked craft were shooting planes with the regularity of a rapid fire gun. They stood out sharply against a bank of gray fog. Cyrus Thurston forgot his bruised body, forgot his own peril--even the inferno that raged back across the bay: he was lost in the sheer thrill of the spectacle.

ABOVE them the sky was alive with winged shapes. And from all the disorder there was order appearing. Squadron after squadron swept to battle formation. Like flights of wild ducks the true sharp-pointed Vs soared off into the sky. Far above and beyond, rows of dots marked the race of swift scouts for the upper levels. And high in the clear air shone the glittering menace trailing their five plumes of gas.

A deeper detonation was merging into the uproar. It came from the ships, Thurston knew, where anti-aircraft guns poured a rain of shells into the sky. About the invaders they bloomed into clusters of smoke balls. The globes

shot a thousand feet into the air. Again the shells found them, and again they retreated.

"Look!" said Thurston. "They got one!"

He groaned as a long curving arc of speed showed that the big bulb was under control. Over the ships it paused, to balance and swing, then shot to the zenith as one of the great boats exploded in a cloud of vapor.

The following blast swept the airdrome. Planes yet on the ground went like dry autumn leaves. The hangars were flattened.

Thurston cowered in awe. They were sheltered, he saw, by a slope of the ground. No ridicule now for the bombs!

A second blast marked when the gas-cloud ignited. The billowing flames were blue. They writhed in tortured convulsions through the air. Endless explosions merged into one rumbling roar.

MacGregor had roused from his stupor; he raised to a sitting position.

"Hydrogen," he stated positively, and pointed where great volumes of flame were sent whirling aloft. "It burns as it mixes with air." The scientist was studying intently the mammoth reaction. "But the volume," he marveled, "the volume! From that small container! Impossible!"

"Impossible," the Secretary agreed, "but...." He pointed with his one good arm toward the Pacific. Two great ships of steel, blackened and battered in that fiery breath, tossed helplessly upon the pitching, heaving sea. They furnished to the scientist's exclamation the only adequate reply.

Each man stared aghast into the pallid faces of his companions. "I think we have underestimated the opposition," said the Secretary of War quietly. "Look--the fog is coming in, but it's too late to save them."

THE big ships were vanishing in the oncoming fog. Whirls of vapor were eddying toward them in the flame-blasted air. Above them the watchers saw dimly the five gleaming bulbs. There were airplanes attacking: the tapping of machine-gun fire came to them faintly.

Fast planes circled and swooped toward the enemy. An armada of big planes drove in from beyond. Formations were blocking space above.... Every branch of the service was there, Thurston exulted, the Army, Marine Corps, the Navy. He gripped hard at the dry ground in a paralysis of taut nerves. The battle was on, and in the balance hung the fate of the world.

The fog drove in fast. Through straining eyes he tried in vain to glimpse the drama spread above. The world grew dark and gray. He buried his face in his hands.

And again came the thunder. The men on the ground forced their gaze to the clouds, though they knew some fresh horror awaited.

The fog-clouds reflected the blue terror above. They were riven and torn. And through them black objects were falling. Some blazed as they fell. They slipped into unthought maneuvers--they darted to earth trailing yellow and black of gasoline fires. The air was filled with the dread rain of death that was spewed from the gray clouds. Gone was the roaring of motors. The air-force of the San Diego area swept in silence to the earth, whose impact alone could give kindly concealment to their flame-stricken burden.

Thurston's last control snapped. He flung himself flat to bury his face in the sheltering earth.

ONLY the driving necessity of work to be done saved the sanity of the survivors. The commercial broadcasting stations were demolished, a part of the fuel for the terrible furnace across the bay. But the Naval radio station was beyond on an outlying hill. The Secretary of War was in charge. An hour's work and this was again in commission to flash to the world the story of disaster. It told the world also of what lay ahead. The writing was plain.

No prophet was needed to forecast the doom and destruction that awaited the earth.

Civilization was helpless. What of armies and cannon, of navies, of aircraft, when from some unreachable height these monsters within their bulbous machines could drop coldly--methodically--their diminutive bombs. And when each bomb meant shattering destruction; each explosion blasting all within a radius of miles; each followed by the blue blast of fire that melted the twisted framework of buildings and powdered the stones to make of a proud city a desolation of wreckage, black and silent beneath the cold stars. There was no crumb of comfort for the world in the terror the radio told.

Slim Riley was lying on an improvised cot when Thurston and the representative of the Bureau of Standards joined him. Four walls of a room still gave shelter in a half-wrecked building. There were candles burning: the dark was unbearable.

"Sit down," said MacGregor quietly; "we must think...."

"Think!" Thurston's voice had an hysterical note. "I can't think! I mustn't think! I'll go raving crazy...."

"Yes, think," said the scientist. "Had it occurred to you that that is our only weapon left?"

"We must think, we must analyze. Have these devils a vulnerable spot? Is there any known means of attack? We do not know. We must learn. Here in this room we have all the direct information the world possesses of this menace. I have seen their machines in operation. You have seen more--you have looked at the monsters themselves. At one of them, anyway."

THE man's voice was quiet, methodical. Mr. MacGregor was attacking a problem. Problems called for concentration; not hysterics. He could have poured the contents from a beaker without spilling a drop. His poise was needed: they were soon to make a laboratory experiment.

The door burst open to admit a wild-eyed figure that snatched up their candles and dashed them to the floor.

"Lights out!" he screamed at them. "There's one of 'em coming back." He was gone from the room.

The men sprang for the door, then turned to where Riley was clumsily crawling from his couch. An arm under each of his, and the three men stumbled from the room.

They looked about them in the night. The fog-banks were high, drifting in from the ocean. Beneath them the air was clear; from somewhere above a hidden moon forced a pale light through the clouds. And over the ocean, close to the water, drifted a familiar shape. Familiar in its huge sleek roundness, in its funnel-shaped base where a soft roar made vaporous clouds upon the water. Familiar, too, in the wild dread it inspired.

The watchers were spellbound. To Thurston there came a fury of impotent frenzy. It was so near! His hands trembled to tear at that door, to rip at that foul mass he knew was within.... The great bulb drifted past. It was nearing the shore. But its action! Its motion!

Gone was the swift certainty of control. The thing settled and sank, to rise weakly with a fresh blast of gas from its exhaust. It settled again, and passed waveringly on in the night.

Thurston was throbbingly alive with hope that was certainty. "It's been hit," he exulted; "it's been hit. Quick! After it, follow it!" He dashed for a car. There were some that had been salvaged from the less ruined buildings. He swung it quickly around where the others were waiting.

"Get a gun," he commanded. "Hey, you,"--to an officer who appeared-- "your pistol, man, quick! We're going after it!" He caught the tossed gun and hurried the others into the car.

"Wait," MacGregor commanded. "Would you hunt elephants with a pop-gun? Or these things?"

"Yes," the other told him, "or my bare hands! Are you coming, or aren't you?"

The physicist was unmoved. "The creature you saw--you said that it writhed in a bright light--you said it seemed almost in agony. There's an idea there! Yes, I'm going with you, but keep your shirt on, and think."

He turned again to the officer. "We need lights," he explained, "bright lights. What is there? Magnesium? Lights of any kind?"

"Wait." The man rushed off into the dark.

He was back in a moment to thrust a pistol into the car. "Flares," he explained. "Here's a flashlight, if you need it." The car tore at the ground as Thurston opened it wide. He drove recklessly toward the highway that followed the shore.

The high fog had thinned to a mist. A full moon was breaking through to touch with silver the white breakers hissing on the sand. It spread its full glory on dunes and sea: one more of the countless soft nights where peace and calm beauty told of an ageless existence that made naught of the red havoc of men or of monsters. It shone on the ceaseless surf that had beaten these shores before there were men, that would thunder there still when men were no more. But to the tense crouching men in the car it shone only ahead on a distant, glittering speck. A wavering reflection marked the uncertain flight of the stricken enemy.

THURSTON drove like a maniac; the road carried them straight toward their quarry. What could he do when he overtook it? He neither knew nor cared. There was only the blind fury forcing him on within reach of the thing. He cursed as the lights of the car showed a bend in the road. It was leaving the shore.

He slackened their speed to drive cautiously into the sand. It dragged at the car, but he fought through to the beach, where he hoped for firm footing.

The tide was out. They tore madly along the smooth sand, breakers clutching at the flying wheels.

The strange aircraft was nearer; it was plainly over the shore, they saw. Thurston groaned as it shot high in the air in an effort to clear the cliffs ahead. But the heights were no longer a refuge. Again it settled. It struck on the cliff to rebound in a last futile leap. The great pear shape tilted, then shot end over end to crash hard on the firm sand. The lights of the car struck the wreck, and they saw the shell roll over once. A ragged break was opening--the spherical top fell slowly to one side. It was still rocking as they brought the car to a stop. Filling the lower shell, they saw dimly, was a mucouslike mass that seethed and struggled in the brilliance of their lights.

MacGregor was persisting in his theory. "Keep the lights on it!" he shouted. "It can't stand the light."

While they watched, the hideous, bubbling beast oozed over the side of the broken shell to shelter itself in the shadow beneath. And again Thurston sensed the pulse and throb of life in the monstrous mass.

HE saw again in his rage the streaming rain of black airplanes; saw, too, the bodies, blackened and charred as they saw them when first they tried rescue from the crashed ships; the smoke clouds and flames from the blasted city, where people--his people, men and women and little children--had met terrible death. He sprang from the car. Yet he faltered with a revulsion that was almost a nausea. His gun was gripped in his hand as he ran toward the monster.

"Come back!" shouted MacGregor. "Come back! Have you gone mad?" He was jerking at the door of the car.

Beyond the white funnel of their lights a yellow thing was moving. It twisted and flowed with incredible speed a hundred feet back to the base of the cliff. It drew itself together in a quivering heap.

An out-thrusting rock threw a sheltering shadow; the moon was low in the west. In the blackness a phosphorescence was apparent. It rippled and rose in the dark with the pulsing beat of the jellylike mass. And through it were showing two discs. Gray at first, they formed to black, staring eyes.

Thurston had followed. His gun was raised as he neared it. Then out of the mass shot a serpentine arm. It whipped about him, soft, sticky, viscid--utterly loathsome. He screamed once when it clung to his face, then tore savagely and in silence at the encircling folds.

THE gun! He ripped a blinding mass from his face and emptied the automatic in a stream of shots straight toward the eyes. And he knew as he fired that the effort was useless; to have shot at the milky surf would have been as vain.

The thing was pulling him irresistibly; he sank to his knees; it dragged him over the sand. He clutched at a rock. A vision was before him: the carcass of a steer, half absorbed and still bleeding on the sand of an Arizona desert....

To be drawn to the smothering embrace of that glutinous mass ... for that monstrous appetite.... He tore afresh at the unyielding folds, then knew MacGregor was beside him.

In the man's hand was a flashlight. The scientist risked his life on a guess. He thrust the powerful light into the clinging serpent. It was like the touch of hot iron to human flesh. The arm struggled and flailed in a paroxysm of pain.

Thurston was free. He lay gasping on the sand. But MacGregor!... He looked up to see him vanish in the clinging ooze. Another thick tentacle had been projected from the main mass to sweep like a whip about the man. It hissed as it whirled about him in the still air.

The flashlight was gone; Thurston's hand touched it in the sand. He sprang to his feet and pressed the switch. No light responded; the flashlight was out--broken.

A thick arm slashed and wrapped about him.... It beat him to the ground. The sand was moving beneath him; he was being dragged swiftly, helplessly, toward what waited in the shadow. He was smothering.... A blinding glare filled his eyes....

THE flares were still burning when he dared look about. MacGregor was pulling frantically at his arm. "Quick--quick!" he was shouting. Thurston scrambled to his feet.

One glimpse he caught of a heaving yellow mass in the white light; it twisted in horrible convulsions. They ran stumblingly--drunkenly--toward the car.

Riley was half out of the machine. He had tried to drag himself to their assistance. "I couldn't make it," he said: "then I thought of the flares."

"Thank Heaven," said MacGregor with emphasis, "it was your legs that were paralyzed, Riley, not your brain."

Thurston found his voice. "Let me have that Very pistol. If light hurts that damn thing, I am going to put a blaze of magnesium into the middle of it if I die for it."

"They're all gone," said Riley.

"Then let's get out of here. I've had enough. We can come back later on."

He got back of the wheel and slammed the door of the sedan. The moonlight was gone. The darkness was velvet just tinged with the gray that precedes the dawn. Back in the deeper blackness at the cliff-base a phosphorescent something wavered and glowed. The light rippled and

flowed in all directions over the mass. Thurston felt, vaguely, its mystery--the bulk was a vast, naked brain; its quiverings were like visible thought waves....

THE phosphorescence grew brighter. The thing was approaching. Thurston let in his clutch, but the scientist checked him.

"Wait," he implored, "wait! I wouldn't miss this for the world." He waved toward the east, where far distant ranges were etched in palest rose.

"We know less than nothing of these creatures, in what part of the universe they are spawned, how they live, where they live--Saturn!--Mars!--the Moon! But--we shall soon know how one dies!"

The thing was coming from the cliff. In the dim grayness it seemed less yellow, less fluid. A membrane enclosed it. It was close to the car. Was it hunger that drove it, or cold rage for these puny opponents? The hollow eyes were glaring; a thick arm formed quickly to dart out toward the car. A cloud, high above, caught the color of approaching day....

Before their eyes the vile mass pulsed visibly; it quivered and beat. Then, sensing its danger, it darted like some headless serpent for its machine.

It massed itself about the shattered top to heave convulsively. The top was lifted, carried toward the rest of the great metal egg. The sun's first rays made golden arrows through the distant peaks.

The struggling mass released its burden to stretch its vile length toward the dark caves under the cliffs. The last sheltering fog-veil parted. The thing was halfway to the high bank when the first bright shaft of direct sunlight shot through.

Incredible in the concealment of night, the vast protoplasmic pod was doubly so in the glare of day. But it was there before them, not a hundred feet distant. And it boiled in vast tortured convulsions. The clean sunshine

struck it, and the mass heaved itself into the air in a nauseous eruption, then fell limply to the earth.

THE yellow membrane turned paler. Once more the staring black eyes formed to turn hopelessly toward the sheltering globe. Then the bulk flattened out on the sand. It was a jellylike mound, through which trembled endless quivering palpitations.

The sun struck hot, and before the eyes of the watching, speechless men was a sickening, horrible sight--a festering mass of corruption.

The sickening yellow was liquid. It seethed and bubbled with liberated gases; it decomposed to purplish fluid streams. A breath of wind blew in their direction. The stench from the hideous pool was overpowering, unbearable. Their heads swam in the evil breath.... Thurston ripped the gears into reverse, nor stopped until they were far away on the clean sand.

The tide was coming in when they returned. Gone was the vile putrescence. The waves were lapping at the base of the gleaming machine.

"We'll have to work fast," said MacGregor. "I must know, I must learn." He drew himself up and into the shattered shell.

It was of metal, some forty feet across, its framework a maze of latticed struts. The central part was clear. Here in a wide, shallow pan the monster had rested. Below this was tubing, intricate coils, massive, heavy and strong. MacGregor lowered himself upon it, Thurston was beside him. They went down into the dim bowels of the deadly instrument.

"Hydrogen," the physicist was stating. "Hydrogen--there's our starting point. A generator, obviously, forming the gas--from what? They couldn't compress it! They couldn't carry it or make it, not the volume that they evolved. But they did it, they did it!"

CLOSE to the coils a dim light was glowing. It was a pin-point of radiance in the half-darkness about them. The two men bent closer.

"See," directed MacGregor, "it strikes on this mirror--bright metal and parabolic. It disperses the light, doesn't concentrate it! Ah! Here is another, and another. This one is bent--broken. They are adjustable. Hm! Micrometer accuracy for reducing the light. The last one could reflect through this slot. It's light that does it, Thurston, it's light that does it!"

"Does what?" Thurston had followed the other's analysis of the diffusion process. "The light that would finally reach that slot would be hardly perceptible."

"It's the agent," said MacGregor, "the activator--the catalyst! What does it strike upon? I must know--I must!"

The waves were splashing outside the shell. Thurston turned in a feverish search of the unexplored depths. There was a surprising simplicity, an absence of complicated mechanism. The generator, with its tremendous braces to carry its thrust to the framework itself, filled most of the space. Some of the ribs were thicker, he noticed. Solid metal, as if they might carry great weights. Resting upon them were ranged numbers of objects. They were like eggs, slender, and inches in length. On some were propellers. They worked through the shells on long slender rods. Each was threaded finely--an adjustable arm engaged the thread. Thurston called excitedly to the other.

"Here they are," he said. "Look! Here are the shells. Here's what blew us up!"

HE pointed to the slim shafts with their little propellerlike fans.
"Adjustable, see? Unwind in their fall ... set 'em for any length of travel ...

fires the charge in the air. That's how they wiped out our air fleet."

There were others without the propellers; they had fins to hold them nose downward. On each nose was a small rounded cap.

"Detonators of some sort," said MacGregor. "We've got to have one. We must get it out quick; the tide's coming in." He laid his hands upon one of the slim, egg-shaped things. He lifted, then strained mightily. But the object did not rise; it only rolled sluggishly.

The scientist stared at it amazed. "Specific gravity," he exclaimed, "beyond anything known! There's nothing on earth ... there is no such substance ... no form of matter...." His eyes were incredulous.

"Lots to learn," Thurston answered grimly. "We've yet to learn how to fight off the other four."

The other nodded. "Here's the secret," he said. "These shells liberate the same gas that drives the machine. Solve one and we solve both--then we learn how to combat it. But how to remove it--that is the problem. You and I can never lift this out of here."

His glance darted about. There was a small door in the metal beam. The groove in which the shells were placed led to it; it was a port for launching the projectiles. He moved it, opened it. A dash of spray struck him in the face. He glanced inquiringly at his companion.

"Dare we do it?" he asked. "Slide one of them out?"

Each man looked long into the eyes of the other. Was this, then, the end of their terrible night? One shell to be dropped--then a bursting volcano to blast them to eternity....

"The boys in the planes risked it," said Thurston quietly. "They got theirs." He stopped for a broken fragment of steel. "Try one with a fan on; it hasn't a detonator."

The men pried at the slim thing. It slid slowly toward the open port. One heave and it balanced on the edge, then vanished abruptly. The spray was cold on their faces. They breathed heavily with the realization that they still lived.

THERE were days of horror that followed, horror tempered by a numbing paralysis of all emotions. There were bodies by thousands to be heaped in the pit where San Diego had stood, to be buried beneath countless tons of debris and dirt. Trains brought an army of helpers; airplanes came with doctors and nurses and the beginning of a mountain of supplies. The need was there; it must be met. Yet the whole world was waiting while it helped, waiting for the next blow to fall.

Telegraph service was improvised, and radio receivers rushed in. The news of the world was theirs once more. And it told of a terrified, waiting world. There would be no temporizing now on the part of the invaders. They had seen the airplanes swarming from the ground--they would know an airdrome next time from the air. Thurston had noted the windows in the great shell, windows of dull-colored glass which would protect the darkness of the interior, essential to life for the horrible occupant, but through which it could see. It could watch all directions at once.

THE great shell had vanished from the shore. Pounding waves and the shifting sands of high tide had obliterated all trace. More than once had Thurston uttered devout thanks for the chance shell from an anti-aircraft gun that had entered the funnel beneath the machine, had bent and twisted the arrangement of mirrors that he and MacGregor had seen, and, exploding, had cracked and broken the domed roof of the bulb. They had learned little, but MacGregor was up north within reach of Los Angeles laboratories. And he had with him the slim cylinder of death. He was studying, thinking.

Telephone service had been established for official business. The whole nation-wide system, for that matter, was under military control. The Secretary of War had flown back to Washington. The whole world was on a war basis. War! And none knew where they should defend themselves, nor how.

An orderly rushed Thurston to the telephone. "You are wanted at once; Los Angeles calling."

The voice of MacGregor was cool and unhurried as Thurston listened. "Grab a plane, old man," he was saying, "and come up here on the jump."

The phrase brought a grim smile to Thurston's tired lips. "Hell's popping!" the Secretary of War had added on that evening those long ages before. Did MacGregor have something? Was a different kind of hell preparing to pop? The thoughts flashed through the listener's mind.

"I need a good deputy," MacGregor said. "You may be the whole works--may have to carry on--but I'll tell you it all later. Meet me at the Biltmore."

"In less than two hours," Thurston assured him.

A PLANE was at his disposal. Riley's legs were functioning again, after a fashion. They kept the appointment with minutes to spare.

"Come on," said MacGregor, "I'll talk to you in the car." The automobile whirled them out of the city to race off upon a winding highway that climbed into far hills. There was twenty miles of this; MacGregor had time for his talk.

"They've struck," he told the two men. "They were over Germany yesterday. The news was kept quiet: I got the last report a half-hour ago. They pretty well wiped out Berlin. No air-force there. France and England sent a swarm of planes, from the reports. Poor devils! No need to tell you what they got. We've seen it first hand. They headed west over the Atlantic,

the four machines. Gave England a burst or two from high up, paused over New York, then went on. But they're here somewhere, we think. Now listen:

"How long was it from the time when you saw the first monster until we heard from them again?"

THURSTON forced his mind back to those days that seemed so far in the past. He tried to remember.

"Four days," broke in Riley. "It was the fourth day after we found the devil feeding."

"Feeding!" interrupted the scientist. "That's the point I am making. Four days. Remember that!"

"And we knew they were down in the Argentine five days ago--that's another item kept from an hysterical public. They slaughtered some thousands of cattle; there were scores of them found where the devils--I'll borrow Riley's word--where the devils had fed. Nothing left but hide and bones.

"And--mark this--that was four days before they appeared over Berlin.

"Why? Don't ask me. Do they have to lie quiet for that period miles up there in space? God knows. Perhaps! These things seem outside the knowledge of a deity. But enough of that! Remember: four days! Let us assume that there is this four days waiting period. It will help us to time them. I'll come back to that later.

"Here is what I have been doing. We know that light is a means of attack. I believe that the detonators we saw on those bombs merely opened a seal in the shell and forced in a flash of some sort. I believe that radiant energy is what fires the blast.

"What is it that explodes? Nobody knows. We have opened the shell, working in the absolute blackness of a room a hundred feet underground. We found in it a powder--two powders, to be exact.

"They are mixed. One is finely divided, the other rather granular. Their specific gravity is enormous, beyond anything known to physical science unless it would be the hypothetical neutron masses we think are in certain stars. But this is not matter as we know matter; it is something new.

"OUR theory is this: the hydrogen atom has been split, resolved into components, not of electrons and the proton centers, but held at some halfway point of decomposition. Matter composed only of neutrons would be heavy beyond belief. This fits the theory in that respect. But the point is this: When these solids are formed--they are dense--they represent in a cubic centimeter possibly a cubic mile of hydrogen gas under normal pressure. That's a guess, but it will give you the idea.

"Not compressed, you understand, but all the elements present in other than elemental form for the reconstruction of the atom ... for a million billions of atoms.

"Then the light strikes it. These dense solids become instantly a gas--miles of it held in that small space.

"There you have it: the gas, the explosion, the entire absence of heat--which is to say, its terrific cold--when it expands."

Slim Riley was looking bewildered but game. "Sure, I saw it snow," he affirmed, "so I guess the rest must be O.K. But what are we going to do about it? You say light kills 'em, and fires their bombs. But how can we let light into those big steel shells, or the little ones either?"

"Not through those thick walls," said MacGregor. "Not light. One of our anti-aircraft shells made a direct hit. That might not happen again in a

million shots. But there are other forms of radiant energy that do penetrate steel...."

THE car had stopped beside a grove of eucalyptus. A barren, sun-baked hillside stretched beyond. MacGregor motioned them to alight.

Riley was afire with optimism. "And do you believe it?" he asked eagerly. "Do you believe that we've got 'em licked?"

Thurston, too, looked into MacGregor's face: Riley was not the only one who needed encouragement. But the gray eyes were suddenly tired and hopeless.

"You ask what I believe," said the scientist slowly. "I believe we are witnessing the end of the world, our world of humans, their struggles, their grave hopes and happiness and aspirations...."

He was not looking at them. His gaze was far off in space.

"Men will struggle and fight with their puny weapons, but these monsters will win, and they will have their way with us. Then more of them will come. The world, I believe, is doomed...."

He straightened his shoulders. "But we can die fighting," he added, and pointed over the hill.

"Over there," he said, "in the valley beyond, is a charge of their explosive and a little apparatus of mine. I intend to fire the charge from a distance of three hundred yards. I expect to be safe, perfectly safe. But accidents happen.

"In Washington a plane is being prepared. I have given instructions through hours of phoning. They are working night and day. It will contain a huge generator for producing my ray. Nothing new! Just the product of our knowledge of radiant energy up to date. But the man who flies that plane

will die--horribly. No time to experiment with protection. The rays will destroy him, though he may live a month.

"I am asking you," he told Cyrus Thurston, "to handle that plane. You may be of service to the world--you may find you are utterly powerless. You surely will die. But you know the machines and the monsters; your knowledge may be of value in an attack." He waited. The silence lasted for only a moment.

"Why, sure," said Cyrus Thurston.

HE looked at the eucalyptus grove with earnest appraisal. The sun made lovely shadows among their stripped trunks: the world was a beautiful place. A lingering death, MacGregor had intimated--and horrible.... "Why, sure," he repeated steadily.

Slim Riley shoved him firmly aside to stand facing MacGregor.

"Sure, hell!" he said. "I'm your man, Mr. MacGregor.

"What do you know about flying?" he asked Cyrus Thurston. "You're good--for a beginner. But men like you two have got brains, and I'm thinkin' the world will be needin' them. Now me, all I'm good for is holdin' a shtick"--his brogue had returned to his speech, and was evidence of his earnestness.

"And, besides"--the smile faded from his lips, and his voice was suddenly soft--"them boys we saw take their last flip was just pilots to you, just a bunch of good fighters. Well, they're buddies of mine. I fought beside some of them in France.... I belong!"

He grinned happily at Thurston. "Besides," he said, "what do you know about dog-fights?"

MacGregor gripped him by the hand. "You win," he said. "Report to Washington. The Secretary of War has all the dope."

He turned to Thurston. "Now for you! Get this! The enemy machines almost attacked New York. One of them came low, then went back, and the four flashed out of sight toward the west. It is my belief that New York is next, but the devils are hungry. The beast that attacked us was ravenous, remember. They need food and lots of it. You will hear of their feeding, and you can count on four days. Keep Riley informed--that's your job.

"Now I'm going over the hill. If this experiment works, there's a chance we can repeat it on a larger scale. No certainty, but a chance! I'll be back. Full instructions at the hotel in case...." He vanished into the scrub growth.

"Not exactly encouraging," Thurston pondered, "but he's a good man, Mac, a good egg! Not as big a brain as the one we saw, but perhaps it's a better one--cleaner--and it's working!"

They were sheltered under the brow of the hill, but the blast from the valley beyond rocked them like an earthquake. They rushed to the top of the knoll. MacGregor was standing in the valley; he waved them a greeting and shouted something unintelligible.

The gas had mushroomed into a cloud of steamy vapor. From above came snowflakes to whirl in the churning mass, then fall to the ground. A wind came howling about them to beat upon the cloud. It swirled slowly back and down the valley. The figure of MacGregor vanished in its smothering embrace.

"Exit, MacGregor!" said Cyrus Thurston softly. He held tight to the struggling figure of Slim Riley.

"He couldn't live a minute in that atmosphere of hydrogen," he explained. "They can--the devils!--but not a good egg like Mac. It's our job now--yours and mine."

Slowly the gas retreated, lifted to permit their passage down the slope.

MACGREGOR was a good prophet. Thurston admitted that when, four days later, he stood on the roof of the Equitable Building in lower New York.

The monsters had fed as predicted. Out in Wyoming a desolate area marked the place of their meal, where a great herd of cattle lay smothered and frozen. There were ranch houses, too, in the circle of destruction, their occupants frozen stiff as the carcasses that dotted the plains. The country had stood tense for the following blow. Only Thurston had lived in certainty of a few days reprieve. And now had come the fourth day.

In Washington was Riley. Thurston had been in touch with him frequently.

"Sure, it's a crazy machine," the pilot had told him, "and 'tis not much I think of it at all. Neither bullets nor guns, just this big glass contraption and speed. She's fast, man, she's fast ... but it's little hope I have." And Thurston, remembering the scientist's words, was heartless and sick with dreadful certainty.

There were aircraft ready near New York; it was generally felt that here was the next objective. The enemy had looked it over carefully. And Washington, too, was guarded. The nation's capital must receive what little help the aircraft could afford.

There were other cities waiting for destruction. If not this time--later! The horror hung over them all.

THE fourth day! And Thurston was suddenly certain of the fate of New York. He hurried to a telephone. Of the Secretary of War he implored assistance.

"Send your planes," he begged. "Here's where we will get it next. Send Riley. Let's make a last stand--win or lose."

"I'll give you a squadron," was the concession. "What difference whether they die there or here...?" The voice was that of a weary man, weary and sleepless and hopeless.

"Good-by Cy, old man!" The click of the receiver sounded in Thurston's ear. He returned to the roof for his vigil.

To wait, to stride nervously back and forth in impotent expectancy. He could leave, go out into open country, but what were a few days or months--or a year--with this horror upon them? It was the end. MacGregor was right. "Good old Mac!"

There were airplanes roaring overhead. It meant... Thurston abruptly was cold; a chill gripped at his heart.

The paroxysm passed. He was doubled with laughter--or was it he who was laughing? He was suddenly buoyantly carefree. Who was he that it mattered? Cyrus Thurston--an ant! And their ant-hill was about to be snuffed out....

He walked over to a waiting group and clapped one man on the shoulder. "Well, how does it feel to be an ant?" he inquired and laughed loudly at the jest. "You and your millions of dollars, your acres of factories, your steamships, railroads!"

The man looked at him strangely and edged cautiously away. His eyes, like those of the others, had a dazed, stricken look. A woman was sobbing softly as she clung to her husband. From the streets far below came a quavering shrillness of sound.

The planes gathered in climbing circles. Far on the horizon were four tiny glinting specks....

THURSTON stared until his eyes were stinging. He was walking in a waking sleep as he made his way to the stone coping beyond which was the

street far below. He was dead--dead!--right this minute. What were a few minutes more or less? He could climb over the coping; none of the huddled, fear-gripped group would stop him. He could step out into space and fool them, the devils. They could never kill him....

What was it MacGregor had said? Good egg, MacGregor! "But we can die fighting...." Yes, that was it--die fighting. But he couldn't fight; he could only wait. Well, what were the others doing, down there in the streets--in their homes? He could wait with them, die with them....

He straightened slowly and drew one long breath. He looked steadily and unafraid at the advancing specks. They were larger now. He could see their round forms. The planes were less noisy: they were far up in the heights--climbing--climbing.

The bulbs came slantingly down. They were separating. Thurston wondered vaguely.

What had they done in Berlin? Yes, he remembered. Placed themselves at the four corners of a great square and wiped out the whole city in one explosion. Four bombs dropped at the same instant while they shot up to safety in the thin air. How did they communicate? Thought transference, most likely. Telepathy between those great brains, one to another. A plane was falling. It curved and swooped in a trail of flame, then fell straight toward the earth. They were fighting....

THURSTON stared above. There were clusters of planes diving down from on high. Machine-guns stuttered faintly. "Machine-guns--toys! Brave, that was it! 'We can die fighting.'" His thoughts were far off; it was like listening to another's mind.

The air was filled with swelling clouds. He saw them before the blast struck where he stood. The great building shuddered at the impact. There were things falling from the clouds, wrecks of planes, blazing and shattered. Still came others; he saw them faintly through the clouds. They came in from the

West; they had gone far to gain altitude. They drove down from the heights--the enemy had drifted--they were over the bay.

More clouds, and another blast thundering at the city. There were specks, Thurston saw, falling into the water.

Again the invaders came down from the heights where they had escaped their own shattering attack. There was the faint roar of motors behind, from the south. The squadron from Washington passed overhead.

They surely had seen the fate that awaited. And they drove on to the attack, to strike at an enemy that shot instantly into the sky leaving crashing destruction about the torn dead.

"Now!" said Cyrus Thurston aloud.

THE big bulbs were back. They floated easily in the air, a plume of vapor billowing beneath. They were ranging to the four corners of a great square.

One plane only was left, coming in from the south, a lone straggler, late for the fray. One plane! Thurston's shoulders sagged heavily. All they had left! It went swiftly overhead.... It was fast--fast. Thurston suddenly knew. It was Riley in that plane.

"Go back, you fool!"--he was screaming at the top of his voice--"Back--back--you poor, damned, decent Irishman!"

Tears were streaming down his face. "His buddies," Riley had said. And this was Riley, driving swiftly in, alone, to avenge them....

He saw dimly as the swift plane sped over the first bulb, on and over the second. The soft roar of gas from the machines drowned the sound of his engine. The plane passed them in silence to bank sharply toward the third corner of the forming square.

He was looking them over, Thurston thought. And the damn beasts disregarded so contemptible an opponent. He could still leave. "For God's sake, Riley, beat it--escape!"

Thurston's mind was solely on the fate of the lone voyager--until the impossible was borne in upon him.

The square was disrupted. Three great bulbs were now drifting. The wind was carrying them out toward the bay. They were coming down in a long, smooth descent. The plane shot like a winged rocket at the fourth great, shining ball. To the watcher, aghast with sudden hope, it seemed barely to crawl.

"The ray! The ray...." Thurston saw as if straining eyes had pierced through the distance to see the invisible. He saw from below the swift plane, the streaming, intangible ray. That was why Riley had flown closely past and above them--the ray poured from below. His throat was choking him, strangling....

THE last enemy took alarm. Had it seen the slow sinking of its companions, failed to hear them in reply to his mental call? The shining pear shape shot violently upward; the attacking plane rolled to a vertical bank as it missed the threatening clouds of exhaust. "What do you know about dog-fights?" And Riley had grinned ... Riley belonged!

The bulb swelled before Thurston's eyes in its swift descent. It canted to one side to head off the struggling plane that could never escape, did not try to escape. The steady wings held true upon their straight course. From above came the silver meteor; it seemed striking at the very plane itself. It was almost upon it before it belched forth the cushioning blast of gas.

Through the forming clouds a plane bored in swiftly. It rolled slowly, was flying upside down. It was under the enemy! Its ray.... Thurston was thrown a score of feet away to crash helpless into the stone coping by the thunderous crash of the explosion.

There were fragments falling from a dense cloud--fragments of curved and silvery metal ... the wing of a plane danced and fluttered in the air....

"He fired its bombs," whispered Thurston in a shaking voice. "He killed the other devils where they lay--he destroyed this with its own explosive. He flew upside down to shoot up with the ray, to set off its shells...."

His mind was fumbling with the miracle of it. "Clever pilot, Riley, in a dog-fight...." And then he realized.

Cyrus Thurston, millionaire sportsman, sank slowly, numbly to the roof of the Equitable Building that still stood. And New York was still there ... and the whole world....

He sobbed weakly, brokenly. Through his dazed brain flashed a sudden, mind-saving thought. He laughed foolishly through his sobs.

"And you said he'd die horribly, Mac, a horrible death." His head dropped upon his arms, unconscious--and safe--with the rest of humanity.

The Atom Smasher by P. Schuyler Miller

THE student huddled back into his corner of the hot, stuffy auditorium, breathing heavily from his mad scurry up the stairs. He was late. Paper No. 10 was very nearly finished.

He stared at the tall young man who was speaking, drawling softly in the way of the South. He stared at the diagrams chalked on the blackboard. Something tremendously important was happening down there. That man, only a few years older than he, had made a tool to shatter atoms!

"It's really quite simple," he was saying. Some startled, incredulous savant had hurled a question at him. "It's like a bucket conveyor. The silk belts simply pick up the charge and dump it on the spheres. The charge builds up until leakage--brush discharge--begins. With two oppositely charged spheres like this, two feet in diameter, we got a million and a half volts. We expect to make bigger ones--to give ten million, twenty million, whatever we need. The only thing that limits you is the size of your spheres. We hope to be able to get at the atomic nucleus that way."

Simple! There in the sultry lecture-room the student crouched in his seat, staring into the hot dark. He knew nothing of Paper No. 11, or the supplementary papers that followed. He was still sitting there when everyone had left. He was dreaming--great dreams.

* * * * *

The tall old man threw a long leg over the side of his autogyro and slid to the ground. He steadied himself against its wing, stood there looking out over his little mountain valley. The chill wind from the melting glaciers whipped his straggling hair and sparse beard, and brought a mist of tears to his piercing blue eyes. His lean, bronzed face seemed to twitch with some deep-seated emotion, as the shadow of the idly spinning rotor-blades swept over it, slower, slower, stopping. His face was grim and haggard in the shadow.

Down from the sheer, green wall of the glacier toppled a pillar of foam, wreathed with shifting, ghostly rainbows, phantoms of the drifting mist. Beside it, squat and gray, huddled the power-house, with its tall steel towers on the ledge behind it. Before it, at its foot, a thread of crystal leapt from the churning froth of the whirlpool and danced out over the valley floor, out into the sunny meadow, then back into the shadow of the cliffs that narrowed and hemmed it in, and sent it pent and raging down the gorge to the sea.

At the foot of the slope, beside the little stream, two ebon towers rose from terraced bases, five hundred feet into the Alaskan sunlight. Sleek and glossy the two huge insulators loomed at the center of the little upland valley, topping the low cliffs, thrusting high their mighty twin spheres of burnished metal, linked by a crystal shaft. Dwarfed by the stature of the towers and spheres, two big motors pressed against the bases, like frightened chicks huddled at the feet of some human giant. Like a flat gray toad, a little, rude laboratory crouched under the lee of the cliffs, facing the aurora. And, above and beyond, the mountains loomed along the horizon, like peering deities, staring down into the snowy bowl as at a jewel of silver and emerald.

The old man turned from the great thing in the valley and fumbled in the cockpit of his battered plane. It was a queer thing he drew out, a little, ugly cube of dull metal--lead--with a little round stoppered aperture in its side. He seemed very old and tired as he stood there beside the hut, pressing his little box against his heart. His life was in that box.

In the squat stone hut it was hot and dark. One small bulb was lighted over his instrument-board, his master controls. His delicate, withered fingers danced over the dials and keys, tugging at connections, tapping at tubes, searching for the flaw that must not exist.

It did not. Taking up his leaden box, he went out again into the night. The shadow of the western range was creeping about the base of the two great towers, but the mighty spheres that crowned them burned bravely in the rays of the sinking summer sun. Under the cliffs it was dark, and there was a stir of stealthy life among the fallen boulders. The little, timid creatures of the night were darting forth. They had no fear of the tall old man, or of his strange towers.

Slowly and painfully the old man crept up the long ladder. He climbed out on the floor of the big room, stood for a moment at the edge of the shaft, catching his breath. Deep within him, the dull, brutal gnawing had started again, but he ignored it, beat it back as he had for so many months, stalked across the metal floor to the steel block at the end of the crystal tube. Here were his instruments, cunningly shielded. Here were controls, duplicates of those in the stone hut. Here a quarter of a billion volts of hurtling energy would smash into the trembling atoms of a gram of radium, would free the fires that would free the world!

He fumbled with the heavy door of the vault, pulled it open. From his cube of lead he tumbled out a tiny capsule, a little sealed tube of quartz, glowing faintly green in the half-dark. He set it carefully in its little clip at the focus of the electron stream, stood there staring at it, remembering. His life was in that little crystal capsule, and the life of Robert Van de Graf, who eighty years before had stood in a little college lecture-room and startled the world of physics with a tool to smash the atom. Eighty years--years of growing poverty, while the malignant rays from his tubes ate at his vitals, while the world forgot. For Robert Van de Graf had failed, and he--he the nameless student of that long-gone day--would vindicate his memory! The old man stumbled toward the hatch that opened the way down into the blackness.

Far above the snowy bowl of the mountains a lone aviator caught the last light of the sinking sun on his glistening wings. He stared down through the growing dark at the wilderness beneath--rolling snow-dunes and knife-

edged scimitars of ice, black, jutting snags of rock, treacherous crevasses--sheer hell to the airman who should fall into its clutches. There was a tiny fleck of soft, cold green in it, there in the shadow of the western peaks. He peered down through his night-glasses and swooped low over the valley.

The reflected sunlight from the eastern peaks cast a pale white lustre over the little valley, the old man's refuge. There was a waterfall, a stream, a queer-shaped thing beside it. There was an old-type autogyro, and a tiny human form toiling up the long slope to a flat, gray hut. It disappeared, and from the valley rose a dull, soft mutter of motors, rising to a steady drone, audible even above the rush of the wind past the sleek curves of the circling plane.

On and on droned the motors of the old man, building up the charge. Now two soft purple disks were taking form against the dark oval of the shadowed valley, furry with electric leakage. They cast a dim glow over the little valley, showing two vague shafts rising into the night, two stepped squares of glossy black, the shifting glimmer of the stream. Hovering like a great, noiseless eagle above the snows, the aviator circled and watched and waited.

The glow from the distant peaks faded. The valley was dark save for the glow of the great spheres and the spot of dull yellow that marked the door of the stone hut. Then of a sudden the two disks winked out and between them sprang a thin shaft of vivid, violet flame, spreading into a fan of flickering electric fires, then gathering suddenly into a dazzling blue-white ball where the second disc had been. On its heels came the crash of shattered glass and tearing metal, and a blinding glare of white flame burst from the door of the little hut, driving before it a blinded, stumbling thing that staggered off into the dark. A second burst of flame revealed the old man, his ancient hands groping in eternal blackness, tottering down the hill to the towering shaft of the mighty machine. Then only flickering crimson shadows scuttled among the rocks around the burning hut.

Blind, agonized, the gaunt old man dragged his tortured body up the last endless yards of ladder, beside the softly whirring silken belt, glimmering ever so faintly with a soft light that he could never see. He toppled forward on the steel floor of the great room within the sphere and began to inch his

way over its cold, harsh surface toward the looming casque of steel. His hands came up, fumbled among the heavy cables, seized and tore one loose with a sputter of fat, hot sparks that shook his frail frame cruelly. He clutched at the disc before the great steel door, the disc that had failed to slip aside at his bidding, so that a quarter of a billion volts crashed through writhing conduits into the wrecked control-board of the little stone laboratory. Stiffly it slid down, revealing the glowing mite of radium within. Sick and faint, the old man sank face down upon the cold steel floor, beside the open vault. Far below the motors droned their song, piling up the charge, up and up and up. ...

Something, some voice from nowhere, whispered to the circling flyer. His stubby craft split the starry heavens, zooming up into the frosty night, up and up and up, until the valley was a speck against the starlit snows, then the wraith of a memory, and then was gone.

Out of the heart of the snows hurtled a pillar of seething flame, star-white, blinding, leaping out into Space! Out of the little upland valley burst an awful, beating wave of thunderous sound, seizing the little fleeing plane and throwing it mile on shrieking mile into the gaping skies, until its pilot gasped in the thinning air and with the fierce strength of speeding life threw his controls into a screaming dive toward the burning snows!

That sight seared itself forever into his memory. The bowl of the circling ranges was alive with leaping, cavorting shadows, capering in fiendish glee about the flaming shaft that hurled itself three thousand feet into the night! Out of the heavens came the wild winds of the world, battling, clashing, tearing the air to tattered shreds and flinging them into Space! Out of the holocaust at the valley's heart stabbed the cruel rays of chaos, battering at molecule and atom, crushing them, shattering them, bursting their crowded nuclei and freeing raw, new-born hydrogen that in an instant flamed into fierce crimson fire, burning in great leaping tongues from every crag and every ice-spire of all that great hollow in the hills, sending huge lurid plumes and streamers of destruction up from the flaming peaks, freeing such a hell as earth had never known! Out of the darkening heavens rushed the curtains of the aurora, cackling wildly with unearthly glee, and out of the splitting skies burst the mutter and mad laughter of the storm.

A week later, native hunters found a raving human beast who had seen Judgment. In a month they returned to the outposts of the white men, telling of a land of burning mountains where the old gods battled and the rivers blazed. Six months, and out of the south came an army of 'seekers' for the actual truth.

The peaks no longer burned. They climbed their outer flanks, stood on their crumbling summits, riddled by the gutting rays. Far away, at the heart of a desert waste of dead, gray dust, a pool of white fire still blazed in the night. Day after day, week after week, they were smothered by the ash of atoms, that rose in great dense clouds about them. And as they crept nearer and ever nearer, the glow of the flaming pool waned and died, until, when at last they stood at the lip of the little valley that had been, only the dull red glow of heaving molten rock remained for them to see.

They never dared to try what he had tried. They never even knew his name. But a great gateway had been cut through the mountains in that desolate land, and on either side of its broad approach towers an ebon shaft, topped with a golden ball. Men stare at them, and look out across the gray domain of death, and they shudder and turn away as they remember the man who smashed the atom.

The Time Tragedy by Raymond A. Palmer.



(Illustration by Fred)

He caused the house cat to disappear mysteriously and reappear again under his deft guidance at the controls.

"Yup, the judge is taking it pretty hard. Y'see, the boy's his only son, and him being missin' this way for more'n a month without no word; well, if you knew as well as I do the way them two has been pals, you'd kinda get the way the judge is taking it." Police Lieutenant McKennedy shifted his plug of tobacco to the other jaw and observed the big feet of the sergeant on the desk before him.

"Funny where he went," came a voice from behind the feet, "just seemed to drop clean out of sight."

"You said it. I ain't never seen anything dang it, there goes the phone again." McKennedy reached over and yanked the instrument to his chest. "Police headquarters," he barked. "Oh, hello, judge, no word yet what!"

The sergeant's feet thumped to the floor at the incredulous enunciation of the last word. McKennedy clapped his hand over the mouthpiece. "My God, sarge, the judge is going nuts says he's going to commit suicide. Get out the squad and hurry down to his place while I try to stall him."

McKennedy removed his hand from the mouthpiece as the sergeant turned on his heel. "Wait a minute, judge; say that again."

The voice from the receiver sounded clearly in the silence of the office. "I said I'm going to kill myself. I'm going to go insane otherwise."

"Good Lord, judge, don't do that. We'll find the boy soon now"

"No you won't. He's dead."

"Who told you that? We've no report indicating anything"

"I tell you he's dead! And I killed him! Now listen, McKennedy; my mind is going and I've got to tell you before I die. I killed him, I tell you, over thirty years ago!"

McKennedy's face paled at the terror shrilling into his ear through the receiver, but his attempt at interruption was vain. There was no stopping the voice. It rang on.

"Don't try to stop me. I've got to tell the story from the beginning. You've got to believe it. This afternoon the photographer delivered the prints of a snapshot I took just before William disappeared. Then the newspapers called asking for some information about the missing boy, and I got out an old scrapbook of family clippings. A similarity between the photo I had just received and an old newsprint picture drew my attention ... but I must begin at the beginning or you won't understand." And this is the judge's story:

* * * * *

In the spring of 1901, two years after I took the bench, my father, Andrew Gregory, was murdered. I remember the night horribly well. Father had gone into the library to secure a book on law to substantiate a point in argument, while I remained seated before the comfortable fire in the living room--you know the situation; the house is the same now as it was then. Suddenly I heard a peculiar whining noise, the noise that a swiftly running dynamo might make, then a crash. Father cried out and I dashed toward the library to investigate, but I was too late. On the floor, blood oozing from a deep wound in his head, was Father, and standing over him in an attitude of stupefaction was a young man, perhaps twenty-five years old. A heavy andiron from the library fireplace was in his hand.

For a moment we faced each other, the young fellow staring at me with what seemed, at the time, an unnaturally horrified air. I tell you, that young man was more terrified at the sight of me than he was of the deed he had just committed.

"You!" he gasped. Then pale as a ghost, but with an astounding alacrity, he leaped from a window and was gone.

Our police department was as efficient as it is now, and before the night was over, he was in a cell.

I went down to see him the next day.

When I appeared at the entrance to his cell, he leaped to his feet, presenting an extremely disheveled countenance to my view--a face that had gone through hell.

"God, no!" he cried, thrusting an arm before his eyes protectingly. "It can't be true!"

"But it is, you scoundrel!" I retorted. "Young man, do you realize that you are a murderer?"

He did not answer, continuing to cower back in that strange terror of me. "What is your name?" I tried another question.

He turned downright ashen then, dropping his arm from his eyes to stare into mine. "William Gregory," he choked out, as if the words were the hardest he had ever spoken. I was taken aback. It was something of a shock to learn that his last name was the same as mine, and thus, of course, also that of his victim. I remember how the newspapers played that up.

I pursued my questioning. "What was your errand in my house last night? You don't look like a thief."

He ignored my question, continuing to stare at me. I grew uncomfortable under the horror possessing the depths of those black eyes. Then suddenly he burst out, "Tell me," he begged, "tell me, what year is this? They told me it was...." he halted, as if dreading to mention it.

"What year?" I asked in an astounded tone. "Why it's 1901, of course. Are you trying to feign insanity? If you are, you aren't going to get away with it."

At once he dropped to his cot, a blank look of despair settling upon his face, and he addressed no one in particular. "William Gregory--1901--sentenced

to... no!" His shout was sudden and determined. "No, I'm not insane. My mind is as clear as yours--a whole lot clearer. As to what I was doing in your house last night, I cannot tell you. You would not believe, nor would it change the course of events were I to tell you. What has been, must be."

From that moment on, McKennedy, I marveled with everyone else at the silence the youth steadfastly maintained. All through the trial we could get nothing from him but an admission of his guilt and the meaningless statement that what had been, must be. The jury found him guilty in what was claimed record time. They were influenced by what the papers decried as "incredible stubbornness and an apparent indifference to his crime."

On May 29, 1901, I sentenced him to hang by the neck until he should be dead--on July 8 the sentence was carried out. I have the clippings before me bearing those fatal dates. Until this day I have had no reason to examine them closely in an effort to refresh my memory, but now they burn in my brain in letters of fire. But to continue my story in proper sequence, William Gregory, the murderer, became but a dim, hardly remembered memory that finally faded out entirely. In 1908 I married, and in 1909 my son was born. A momentary recollection of the case flashed into my mind at the news that my wife had selected William as the name for my son, but I dismissed it as unworthy of mention, since she seemed so thoroughly to like the name.

During the years that passed, would to God that I had scanned my scrapbooks, but being modestly inclined, I disliked such egotistical indulgence. If I had, I might have noted the growing resemblance and when the time came, done the one thing that might have changed the future. But I did not, and the scrapbooks gathered dust in the garret.

William progressed finely in school, evidencing a promising engineering ability along with a keen scientific mind. He discussed with friends things far beyond my own mental interests, and finally I abandoned the fond hope that he would become a practical engineer when I perceived that his mind strayed more into theoretical channels. I was quite satisfied that he should be an inventor, and since my own fortune had accumulated to a satisfying degree. I allowed him to develop his life work in his own way, acting merely as the source of supply for materials upon which to vent his genius.

You know his success as well as I do. He did fine work in the development of radio. Television reached a degree of perfection through one of his theories, although he himself did not achieve the final result due to what I sometimes considered his foolishness in immediately publishing his theories, allowing other inventors to keep stride and even to forge ahead of him in actual development. But then, it was his keen insight into the future that told him of the deadlock that would result because of the extreme costliness of practical use.

Thus, early in 1933 he turned to a new theory. He studied Einstein's concepts until he understood them as perfectly, I believe, as even the great mathematician himself. Finally his interest devolved down to one important item. Time, its meaning, and the answer to its riddle, became his one interest.

For long months he worked on his new apparatus, telling no one exactly what he was searching for, nor his purpose, until about five weeks ago. He came to me then with a light of exultance shining in his eyes and his lips brimming with scientific explanations. Time-travelling, he explained, had been his object, and impossible as it seemed to me, he insisted that it was a fact--he had accomplished his objective!

As I gazed at the complicated array of machinery that confronted me in his laboratory above the library, I was suddenly possessed with the certainty that he had done something unknowable. The machinery had a veritable aura of untried possibilities emanating from its shining parts. I felt it, too, in his enthusiasm as he explained it all to me. An uncanny feeling of foreboding crept over me. but I shook it off. Complicated as this machine looked, I was sure that it could not offer anything of harm. There were no moving parts; electrical connections were all properly grounded and safety measures provided for any overload of current, which was unlikely, as the apparatus functioned on ordinary house current.

"Have you tried it out?" I asked him when he had finished his description of it. "No," he replied. "I am going to make several tests that will take me a few more days and then I am going to make a personal sally into time." Before I left, he made one of the tests, which consisted of a very bewildering manipulation of the house cat--causing her to disappear

mysteriously and reappear again under his deft guidance at the controls. Into the future she had gone. William said, and I had no reason to doubt him. The cat took the matter in a calm way and seemed in no wise injured by its uncanny transit. So I left him there, fully satisfied that he was in no danger. Would to God I had smashed the machine to bits!

During the days that followed. I witnessed several more concluding experiments. Then I was called away on business. When I returned, the household was in an uproar, William had been abducted! He must have been, for he was gone.

But I immediately thought of the time-machine, and commanding the servants to cease their silly rantings, I hurried to the laboratory. I must confess that there was a peculiar sensation of relief in my vitals (imagine feeling relief at the conviction that it was really abduction) as I saw that the machine was still there, in cold inoperation. William had said that the machine would disappear when actually used by someone within it, quite necessary for a return, of course. I had no reason to doubt his accuracy in that supposition.

Thus, for more than a month now we have been vainly trying to solve the mystery of his "abduction" with no success until this morning, when it became necessary to retrieve those unfortunate scrapbooks from the garret in search of an item desired by the newspaper.

Having them laid before me, I took an interest in paging through them to kill the inaction of eternally waiting for news that did not come. And then the photographer delivered the proofs of the snapshots I had ordered developed. I stared long at the picture of my missing son, and then laid the photo down upon the open book beside an old newsprint photo. As my eyes compared them, the terrible realization froze my very brain in my head--for the prints, though in different poses, were *identical!* I knew then that William Gregory, the murderer, was William Gregory, my son.

Impossible, you say? No, my dear McKennedy, I have considered it from every possible angle. There can be no mistake, though I have tried desperately to confute my reasoning. As if I had witnessed every action of my son on the day he disappeared, I know that he stepped into the time-

machine determined on a trip into the past, perhaps himself choosing 1901 as his goal, Great God! Why did he not realize that the machine would no more travel with him than a cannon travels with its projectile? But he did not, and turning the switch was hurled backward in time to 1901, and through some misplacement of space during those years, was precipitated into the library just as my father entered it in search of his law book. What happened then is obvious. Father, discerning an intruder, attacked immediately, actuated by his naturally impetuous nature. William, dazed by his trip and finding himself assaulted by a stranger, grasped the andiron and struck in self-defence.

I have already described what happened after that. It is all too true, and the contemplation of it is driving me mad. To think that I sentenced my own son to death for what was obviously not a criminal action, and to think that he knew me, and knew his fate, having read my scrapbooks through and through! God! I cannot stand it. What a paradoxical hell this life has become!

I clutched upon a desperate hope about an hour ago. Matter cannot exist in two places at the same time. Thus, I argued, his body could not have been consigned to the grave, to remain there while he was born and grew to manhood with that same body. If this were so, then the whole horrible thing was untrue; but my own family doctor, who is a scientist of no mean repute, assures me that a human being, in the space of seven years, retains no single atom of matter which formerly constituted his makeup, each cell having been individually replaced many times over in the natural processes of the body. Thus the clay that lies in a murderer's grave is not the flesh born of my wife.

I clutched another hope. What then of his body in manhood? Those terrible clippings; they refute with terrorizingly complete logic my every hope! For William's body was not buried. It does not lie beneath the soil. It was consigned to the lime-pit to be absolutely dissolved!

Continually ringing in my ears is that terrible phrase "What has been, must be." To me this life has become a hell of confusion. Which is past, and which is future? If I had known of the similarity of the two young men,

could I have saved him by smashing the machine? God, I do not know. The doubt is bringing madness.

At first I asked myself, "Why did he not save himself?" but then I realized that it was impossible. How could he make me, or anyone else, believe that I, who was not yet married, was his father? Yes, he knew that he could not save himself. What agonies he must have suffered. It is too terrible to think of. Horror is creeping ever closer. I have the gun in my hand. And, McKennedy, do not hope that anyone will arrive in time to save me, for I anticipated your action, and they will not find me at home! I will not live in madness. Hell cannot be worse than that. Good-bye, McKennedy, and God have mercy on my soul.

* * * * *

McKennedy staggered back from the phone in horror as the sharp explosion of an automatic rang in his ears. With trembling fingers he replaced the receiver and slumped down at his desk. His awed whisper broke the silence of the room. "An' I thought he was nuts!"

The Flame-Worms of Yokku by Hal K. Wells.



WITHIN the central lounge-room of the *Falcon*--space-yacht from earth bound for the cyloggen mines of Uranus--three men faced each other in a

tense tableau of smoldering menace.

The Falcon belonged to the two earth-men in the little group--Eric Larsen and Bart Wheeler. They were interplanetary adventurers, whose close friendship had been sealed by perils mutually shared on every habitable world in the solar system. Both were magnificent physical specimens.

Larsen, blond as his distant Viking forebears, had the lithe strength of a tiger in his tall body. Wheeler's dark head barely reached Larsen's shoulder, but his stocky body had the spreading shoulders and massive chest of one of earth's ancient wrestlers.

The third member of the trio was Dalo Yok, Martian navigator of the *Falcon*. In any physical combat either Larsen or Wheeler could have broken Dalo Yok's thin body in half. Yet for the moment they stood helplessly at bay before the menace of the acid-gun in the blue-skinned Martian's hand. Its spurting jet of acid-mist would crumble flesh and bone into steaming liquid, like butter melting before the thrust of a white-hot poker.

Larsen's eyes were fixed upon Dalo Yok's face, trying to fathom the reason for this utterly unexpected attack. During the twelve months that the Martian had been their navigator he had always been loyal, quiet, and as coldly efficient as an automaton. Those were the very qualities that made Martians in such great demand as space-navigators. Combat and the other more adventurous phases of exploration were left to the warmer-blooded races of Earth and Venus.

On the present trip Dalo Yok had remained quietly in his quarters in the navigating-room forward until barely two minutes ago, when he had come charging suddenly back into the lounge, confronting Larsen and Wheeler with his acid-gun and gibbering away in guttural Martian like a madman. In that excited flow of words the bewildered earth-men had been able only to make out repeated references to "Yokku, lost dead sun of Ran Yok."

Larsen's gaze studied Dalo Yok's face only briefly before he found that which he was seeking. The reason for the Martian's sudden outburst was clearly written in the slight greenish tinge of his yellow eyes and the peculiar oily sheen of his blue-skinned face. Those physical signs mean

only one thing. Dalo Yok had been chewing *luhna* weed, the forbidden narcotic plant of Mars, which for the time being drives its devotees thoroughly and hopelessly insane.

Dalo Yok snarled as he met Larsen's steady gaze. He abruptly shifted his tirade from Martian to English.

"Earth-men, no longer are you masters of the *Falcon*," he boasted. "From now on I shall dictate our course, and it will be a course that but one other man in all history has ever dared travel. We go to seek the lost dead sun of Ran Yok--that fire-ringed world of mystery to which he gave the name of Yokku. I have the charts which everyone believed were lost with Ran Yok's death.

"Do you remember how your scientists of earth laughed down Ran Yok's claims after he came hurtling in, dying and alone, from his great voyage into outer space? They said that his story was the mere fantasy of a dying madman, and the rest of the solar system believed them. Ran Yok's memory became a laughingstock. It is left to me, son of Ran Yok, to vindicate the vanished honor of the House of Yok.

"The chance for that vindication is now at my hand. The *Falcon* shall follow Ran Yok's historic trail, on beyond Uranus, beyond Neptune, and on for two billion miles more through the black void of outer space, until we find again the lost dead sun of Yokku."

The Martian drew a small silken flag from his belt-pouch and shook its folds free for the earth-men to see the intricate monogram of ancient Martian script embroidered in gold against a black background.

"The banner of the mighty House of Yok!" he shouted exultantly. "We shall plant it upon the loftiest peak of Yokku. There it shall proclaim to the entire Universe that Ran Yok was neither liar nor madman, but the greatest space explorer of all worlds and all time!

"But enough of this!" Dalo Yok checked his harangue abruptly. "I am wasting valuable time." He gestured imperiously with the barrel of his weapon toward the closed metal door behind them. "In the cage-room,

Earth-men. There you can remain safely out of my way until we land on Yokku. Hurry--I have work to do."

A glance of swift relief passed between Larsen and Wheeler. This was a better break than they had dared hope for. The cage-room--a bare steel cell used occasionally for transporting live animal specimens from other planets--had a new feature of which Dalo Yok knew nothing.

The heavy door of the cage-room locked automatically and until recently could only be opened from the outside. But while the ship was in repair dock on earth a month ago the accidental closing of the door had made a prisoner of Wheeler for nearly twenty-four hours before he was finally found. He and Larsen had promptly done away with any future danger of that kind, by installing auxiliary mechanism that allowed the lock to be opened from the inside by anyone who knew the combination.

Trying to keep from seeming too suspiciously acquiescent, Larsen and Wheeler retreated backward to the cage-room, followed by Dalo Yok with alertly leveled gun. A moment later they were inside the cell and the door clicked shut and locked after them.

Wheeler promptly reached a hand toward the new mechanism to unlock the door, but Larsen quickly stopped him.

"Not too fast, Bart," he whispered. "Wait till we're sure Dalo Yok has left the lounge. He'll have to return to the navigating-rootn to start the bow-generators for the propulsion rays, if he's going to swing us around Uranus. When we feel the vibration of the generators starting, we can sneak out and stalk him. Till then, let's get away from this door. He might take a peek in through the observation-panel and get suspicious."

Wheeler shrugged his shoulders in reluctant assent to the wisdom of Larsen's plan, and followed him over to the opposite wall. They sprawled as comfortably as they could on the bare metal floor, silently waiting for the vibration of the generators.

Larsen's thoughts were busy with memories conjured up by Dalo Yok's mention of Yokku and Ran Yok. Five years ago--back in the Summer of

2149--both of those names had figured sensationally in the news of the day.

Ran Yok, an obscure Martian astronomer, had advanced the theory that out in space, far beyond the known limits of the solar system, there was a dwarf companion to the sun--not merely another planet, but a small dark sun warmed by the smoldering remnants of its own original fires, and possibly with portions of its surface-crust habitable by living beings.

It was plausible enough as a theory. A number of men had advanced it before Ran Yok. The great majority of stars have stellar companions, and there was no particular reason why the sun should be a freak hermit. It was admitted that a small solar companion, even though self-luminous to a considerable degree, could exist far out in space and never be discovered telescopically.

But Ran Yok went farther than mere theory. He claimed to have charted the dwarf companion's actual position, two billion miles beyond Neptune's orbit. He offered a maze of figures to support his assertion, but after a cursory glimpse at them the leading scientists of both earth and Mars dismissed Ran Yok's claims as being too vaguely theoretical to even merit consideration.

Ran Yok then tried to induce space explorers to voyage out into the uncharted void in search of the dead sun, but he failed utterly. Space travel within the bounds of the solar system itself was scarcely a century old. To leave the familiar realm of the known planets and go hurtling out two billion miles into the black void of interstellar space in search of a tiny dim world whose very existence had yet to be proved--that was a proposition before which even the hardest of space explorers frankly quailed.

Finally in sheer desperation Ran Yok secured a spaceship himself and with three companions set out. Six months later his ship came roaring in out of the Martian sky and crashed to the ground completely out of control. Opening the wreck, investigators found Ran Yok's three companions gone and Ran Yok himself a raving madman who screamed incessantly of "Worms--flame-worms--giant flame-worms of Yokku!"

He was so badly injured that he died while they were removing him from the wreckage. It was believed at that time that his charts and calculations had perished with him. The ship's log was nearly destroyed in the crash, but one of the few entries remaining legible seemed to indicate that Ran Yok had actually found the sun's dwarf companion--a strange habitable little world lighted and heated by a ring of fire encircling it--and had given it the name of Yokku.

For a brief time Ran Yok became a popular hero in the sensational press. Then his story gradually crumbled before the cold logic of Earth's scientists, who pointed out that Ran Yok was a totally inexperienced space explorer, and that there was not a shred of actual proof that his entire story of Yokku was not a mere figment of a madman's disordered brain.

In the reaction that followed, Ran Yok's story was completely discredited. The most commonly accepted belief regarding his tragic voyage finally came to be that he had really landed upon some remote part of the solar system--possibly one of the three unexplored moons of Jupiter. Losing his three companions in some tragedy there, his brain had given way under the shock and he had headed back home, a pathetic madman with a "Yokku" obsession.

Wheeler broke in upon Larsen's thoughts. "Too bad we didn't know Dalo was old Ran Yok's son. There must be a taint of lunacy in the whole family."

"We had no reason to guess it," Larsen answered. "Yok is a common enough family name on Mars. I wonder how long he's been brooding over his father's wrongs and trying to plan a way to seize the *Falcon*? Probably ever since he's been with us, but never quite got nerve enough up to really start things. Then this trip he indulged in a private little *luhna jag*, and finally got himself hopped up to the point where he had enough courage to try his hare-brained--"

Larsen broke off abruptly as the metal floor suddenly began the vibration that told of the generators being started. Dalo Yok was safely back in the navigating-room.

The two men quickly rose to their feet and started for the door. They had barely taken the first step when they detected the telltale odor of burnt cinnamon. Their startled glance up at the ventilator high in the forward wall showed a pale amber mist streaming down into the air of the little room. Lethygen--the instantaneous and perfect anaesthetic!

With faces blanched in consternation, they flung themselves forward in a last desperate lunge for the door. But midway in their rush their muscles collapsed under them and they crashed helplessly to the floor.

The lethygen apparatus in the ventilator was for use when animals in the cage-room became too violent. Under the influence of the amber mist a victim could be kept in a state of suspended animation for weeks at a time. The release switch for the lethygen was in the navigating-room. Dalo Yok had apparently turned it on to rid himself of any further bother with his prisoners during the trip.

Larsen's last conscious thought was one of sheer horror at the situation in which he and Wheeler were now placed--helpless prisoners lying there in a stupor of living-death, while the space-ship hurtled on toward the unknown void of outer space, with only the mad whims of a drug-crazed Martian to direct its flight. Then every thought faded from Larsen's brain in the final oblivion of the lethygen.

HE struggled slowly, back to consciousness with a vague impression that something was wrong in his surroundings. He opened his eyes and saw that the floor was sloping at an angle that had slid both himself and Wheeler down against one wall. The Falcon had obviously landed somewhere, and the landing had been so badly botched that the ship now rested nearly over on one side.

Wheeler was already awake. The two men clambered stiffly to their feet. A moment's manipulation of the door's mechanism released the lock. They crept cautiously out and advanced through the deserted lounge toward the navigating-room. Their first glance inside showed them that caution was no

longer necessary. Dalo Yok had left the *Falcon*. Both the inner and outer doors of the air-lock were still slightly ajar where the Martian had gone out.

Wheeler entered the air-lock to look outside for Dalo Yok. Larsen made a hurried, anxious examination of the intricate control panels and mechanisms in the navigating-room, to see how badly damaged they had been in the Falcon's landing. It had been the jar of the landing that had put the cage-room lethygen apparatus out of commission, for the switch was still in the "on" position. A few other minor connections in the navigating-room were broken, but Larsen found no serious injury anywhere.

Then suddenly he discovered something that brought a smothered gasp of dismay to his lips. The anode-bar in the central control panel was gone. The six-inch piece of intricately fashioned marabite metal had been clumsily disconnected from its terminals and removed bodily. Without that anode-bar it was impossible to even start the ship's propulsion ray generators.

Larsen silently heaped maledictions upon the absent Martian's head, as he realized what had happened. With drug-inspired cunning, Dalo Yok had made sure that no one would move the ship in his absence. Wherever the Martian now was, the anode-bar was with him.

Wheeler stepped back in through the air-lock with an expression of frank amazement upon his deeply tanned face.

"Looks like that Martian idiot did just what he threatened to do about taking us to Yokku!" he announced grimly. "There's the ring of fire in the sky that old Ran Yok wrote about in his log, and from what I can see of the stars we're somewhere out about two billion miles beyond Neptune. We must have been in that lethygen sleep for weeks."

"Did you see anything of Dalo Yok?" Larsen demanded anxiously.

"Sure. I looked out just as he was passing out of sight through a gap in the cliffs. He's so full of *luhna* now he could hardly walk. Why so anxious about him? There's no particular hurry in going after him."

"Oh, yes, there is!" Larsen answered grimly. He pointed to where the anode-bar was missing. "We've no reserve bar to replace that one, and no possible chance of getting one, if we're out beyond reach of solar system supply-depots. We've got to catch Dalo Yok before something happens to both him and the bar. Otherwise we may be marooned here for the rest of our lives."

As he spoke Larsen was already handing down full equipment for their belt-harnesses from the racks in the room. He passed up the acid-guns because their range was too short for effective outdoor work, but included nitrolite pistols, selithium tubes, hand-axes, plenty of reserve ammunition, and even a tin each of concentrated food capsules.

"No telling what we'll run into out there," he commented, "so we'd better go well prepared. Remember what happened to Yokku's first visitors. Three of them were never heard from again, and the fourth returned to Mars a raving madman."

"What about one of us staying here on guard in case Dalo Yok circles back to the ship?" Wheeler asked.

"No use doing that," Larsen decided. "Finding that lunatic will be a two-man job, I'm afraid. He can't move the ship if he does circle back here. Any fool can dismantle that anode-bar, but it requires an expert to set it properly in place again. Dalo Yok couldn't get it adjusted right in less than a week, even if his wits weren't hopelessly muddled with *luhna*. Come on, let's go."

Stepping out through the air-lock, they swung the heavy outer port shut and locked it behind them, to keep any possible invaders out of the ship during their absence. Larsen caught his breath as he saw for the first time the starkly brilliant beauty of the scene around them. Like Saturn, Yokku was surrounded by a giant ring, but Yokku's ring was one of pulsing fire. Squarely overhead the great sun-arch swept from horizon to horizon in a rainbow ribbon of shimmering flame, with alternate stripes of livid blue, emerald green, and golden yellow.

The *Falcon* had landed near the edge of a vast level area of sparkling white sand that was dotted here and there by clumps of gray feathery vegetation.

Some two hundred yards away a range of high cliffs rose, jagged and sheer from the plain, in titanic masses of crystalline stone, whose naked surfaces gleamed like giant sapphires under the vari-colored rays of the sun-arch overhead. Nearly opposite the *Falcon's* position the towering ramparts were briefly broken in a narrow pass that gashed straight back into the range.

Wheeler pointed to where the hundred-foot walls towered on either side of the narrow portal. "Dalo Yok went through there," he said. "He hasn't over ten minutes' start on us at the most. With any luck at all, we ought to catch him."

They started out across the fine white sand of the plain. Not a frond of the feathery vegetation stirred in the still, dry air, and there was not the faintest trace of a cloud in the arch-lit sky overhead. Even the air seemed devoid of the tiny dust particles that give planetary skies of the solar system their azure hue. Yokku's sky, save in the direct vicinity of the sun-arch, was a dark gray-black in which the stars shone clearly visible.

Larsen glanced swiftly at the stars and saw that Wheeler's first report had been correct. There was no doubt that they were on Ran Yok's lost sun. That glowing yellow star down near the horizon was their own sun, now so far distant that it did not show as a disc to the naked eye. Small wonder that Yokku had never been discovered telescopically. Its gravity indicated that it was very little larger than earth itself. It was doubtful if the telescopes of Earth or Mars could discern that tiny radiant speck so far out in space even if they were trained directly on its position.

With every step the men took toward the cliffs, they were impressed anew with the utter strangeness of the flora and fauna around them. The seemingly fragile stems and feathery fronds of the gray vegetation proved upon contact to have the unyielding hardness of hammered metal. There was the same striking metallic suggestion everywhere in the life that teemed in the thickets.

Crab-like crustaceans with armored backs that sparkled as though encrusted with flakes of mica, clambered with spidery legs about through the branches. Through the tops of the thickets weirdly beautiful flying things

drifted in graceful flight, looking like golden nuggets set in the center of gossamer webs of spun silver.

Scores of small lizard-like quadrupeds scampered over the sand under the gray bushes, with chunky bodies whose rough surfaces glittered dully like living nuggets of copper. The manner in which the brutes fed was spectacular proof of how utterly different Yokku's life forces were from those of planets in the solar system.

Set in the center of the bulging foreheads on the lizard-thing's hideous heads was a triangular group of three slender rod-like antennae. When a certain frond of the gray vegetation was selected to be devoured, strange pencil-beams of pale light shot from the tips of the antennae, one ray blue, another yellow, and the third green. As the rays came to a focus on the bit of vegetation a swift and startling reaction occurred. The vegetation glowed in fiery incandescence for a brief second, then vanished in a small dense cloud of swirling oily black vapor shot through with leaping tongues of scarlet flame.

Abruptly the rays from the antennae ceased, and the black vapor swiftly thickened and coalesced into a shapeless blob of viscid ebony. A long slender tongue, three-pronged at the tip in grotesque parody of a hand, darted forth from the lizard-things mouth and snatched the molten black lump with it as it returned and the bony jaws again snapped shut.

The sight recalled to the minds of the men with new force the words Ran Yok had screamed in his last delirium. With the existence of Yokku itself already proved to be actual fact, there was no reason to doubt that Ran Yok had also spoken truth when he had screamed his horror of the mysterious monsters he had called "Flame-worms--giant flame-worms of Yokku."

Wheeler and Larsen searched their surroundings with redoubled vigilance as they neared the crystalline blue cliffs, but they saw nothing more formidable than new droves of the small lizard-creatures that fled in blind panic as they approached. Then they entered the pass and for the moment forgot all thought of Ran Yok's flame-worms as they concentrated their full attention on the problem immediately at hand. Somewhere on the other side of that narrow pass through the cliffs was wandering a hopelessly crazed

Martian, carrying with him in his blind flight a tiny bit of metal that represented their only chance of ever leaving this sinisterly beautiful world of metal lizards and crystal mountains.

The gap was a thirty-foot-wide strip of white sand, that cut straight back for nearly two hundred feet before opening into another valley. Near the center of the pass its narrowness was accentuated by a great overhanging area that bulged out from one of the side walls until it more than half closed the space overhead. Wheeler and Larsen passed the overhanging area, and another sixty feet brought them to the other end of the pass. Before them was a circular shaped level valley, approximately a quarter of a mile in diameter, and almost completely walled in by the jagged mountains that rose in glittering splendor on every side.

Their first glance showed them that if Dalo Yok were still within the valley he was safely trapped. The only exit from the place was through the pass itself. On every other side mighty cliffs of sapphire crystal arose sheer and naked for hundreds of feet.

They searched the valley floor without seeing any trace of the Martian among the many masses of vari-colored crystalline boulders that littered the white sand. Then as they emerged from the shelter of the pass and started forward, Dalo Yak made his presence known with startling suddenness.

They were barely clear of the walls of the pass, when there came the crashing explosion of a nitrolite bullet against the cliff so near them that they were flung to the ground half dazed by the concussion. Scrambling madly to their feet, they succeeded in gaining the shelter of a rock heap just as another bullet burst close behind them.

From their shelter they soon located Dalo Yok's position among the jagged litter of a high heap of rocks near the valley's center.

"It shouldn't be hard to drive him out of there," Larsen commented confidently. "You stalk him from this side. I'll take the other. Whatever you do, be careful not to make a direct hit on him. If that anode-bar ever caught the full blast of a nitrolite bullet it would be wrecked beyond possible

repair. We'll just have to keep trimming the corners around him till we get a shot close enough to stun him. Let's go."

A swift fusillade of nitrolite against Dalo Yok's position drove the Martian to cover, where he lay long enough for Wheeler and Larsen to dart from their own shelter and begin stalking their quarry. Skilled veterans that they were in a score of similar battles upon foreign planets, they set about their task with a methodical efficiency, against which the *luhna*-crazed Martian had little chance.

Wheeler worked along the left wall of the cliffs, Larsen along the right. Dodging from cover to cover, coordinating their attack perfectly to help each other's progress, they swiftly flanked the Martian and drove him from one rock heap to another, inexorably driving him near and nearer the barrier cliffs at the valley's rear. Dalo Yok's answering shots were wild, inaccurate efforts that did no damage other than occasionally to shower one of his attackers with flying sand and rock fragments.

As Dalo Yok retreated the available cover rapidly thinned, until the only rock-masses breaking the level white expanse of the valley floor were occasional isolated boulders scattered here and there like gargantuan jewels. The time inevitably came when Dalo Yok was momentarily caught in the open as he dashed from the shelter of one boulder to another.

It was the chance for which Wheeler and Larsen had been waiting. Their bullets exploded in the sand within a yard of the fleeing Martian. Dalo Yok was flung bodily from his feet by the terrific concussion. He sprawled in a limp heap on the sand, completely stunned.

Wheeler and Larsen started toward the unconscious figure. Wheeler was much the closer of the two. He had nearly reached the Martian while Larsen was still fifty yards away. Then, as Wheeler passed close beside a huge green boulder that rose from the sand near Dalo Yok, disaster struck with bewildering swiftness.

Before Larsen's startled eyes the great, green boulder for one flashing moment came to life! Its jade front gaped open, releasing blood-red tentacles that lashed out and enveloped Wheeler before he could move. The

crimson tissues instantly snapped back inside the cavity with their prisoner, and the crystal front of the boulder again clicked shut like the closing jaws of a steel trap. The entire incident occurred with a lightning speed that stunned Larsen.

A moment of mad racing over the sand brought him to where the great block of opaque green crystal towered as stonily motionless as it had been before Wheeler was engulfed. Roughly oblong in shape and towering upward nearly eight feet, the thing looked somewhat like a great, jade coffin standing on end. Long ribbons of what seemed to be dried vegetation festooned its sides, adding to its appearance of having stood there lifeless and motionless far centuries.

Yet Larsen knew that within that stony shell there was hideous life--life that was probably even now smothering the hopelessly trapped body of Bart Wheeler. The line where the lips had closed was faintly visible in the front wall of the stone. Stepping between the dangling brown ribbons that trailed over the sand at the boulder's base, Larsen snatched the heavy little hand-axe from his belt and savagely attacked the closed lips.

For all the effect his blows had, he might as well have been assailing the metal shell of the *Falcon* itself. The green boulder did not even quiver. Larsen stepped back, baffled for the moment.

Realizing that seconds might mean the difference between life and death for Wheeler, Larsen drove his racing brain in an agony of effort to find a way to pierce the crystal-armored walls. He dared not use nitrolite. Any explosion violent enough to wreck that stony colossus was almost certain to be fatal to Wheeler as well.

Larsen stepped despairingly forward to make a last attempt at prying open the closed jaws. As he did so he trod upon one of the trailing brown ribbons. The green wall instantly split open for its full height, as if two doors were operated by a hidden spring. Larsen's instinctive leap backward saved him by inches from the tentacles of red flesh that lashed out from the boulder's interior.

The red tissues snapped back within the thing and again the stone jaws clicked shut, but not before Larsen had caught a brief ghastly glimpse of an inner cavity of pulsing red membranes, among which Wheeler's stocky body still struggled feebly.

Swift realization flashed through Larsen's racing brain. He knew now how to make the powerful jaws snap open. Those apparently innocent, brown ribbons were, in reality, cleverly disguised sense-organs for the thing. When an unwary victim trod upon one of the ribbons, the jaws automatically snapped open and the lashing red membranes swept the captive inside, to be digested at the thing's leisure.

Larsen's lips set in a grim straight line as he snatched a selithium tube from his belt. There was one morsel that the thing would not relish. He pressed the switch in the handle. The tube's six-inch selithium tip--used by explorers for both light and warmth--glowed in white-hot incandescence.

Larsen warily trod again upon one of the brown ribbons. The jaws snapped open in instant response. In the fleeting second they remained open Larsen flung the flaming tube between the curtains of membrane deep into the body cavity.

The jaws clicked shut again. For a brief second, as the thing remained stonily motionless, Larsen thought his ruse had failed. Then the crystal came to sudden and frenzied life. Its festooning ribbons writhed like tortured snakes, while the whole vast bulk shuddered and rocked crazily on its base.

For a moment the evidences of agony continued. Then abruptly the jaws gaped open and remained open while the tortured membranes of the inner cavity retched in a mighty effort to expel the object that was causing excruciating pain. Wheeler's body was ejected with a violence that hurled it ten feet away.

With Wheeler safely clear, Larsen sent a swift burst of nitrolite bullets into the gaping body cavity. When the explosions ceased, nothing remained of the thing but a shattered heap of green crystal fragments and torn scarlet membranes of quivering flesh.

Wheeler, his clothes smeared with the body juices of the creature's maw, was climbing dazedly to his feet as Larsen turned toward him.

"Thanks, Eric," he said weakly, scowling in disgust as he wiped the slime from his face. "About one more minute in that hellish thing and I'd have gone raving crazy. I'm all right now--just messed up a little is all. You'd better take care of that Martian, though. He seems to be coming to."

Heeding Wheeler's warning, Larsen promptly stepped over to where Dalo Yok was groggily rising to his feet. The Martian made no effort to resist as Larsen stripped his belt-gear from him, merely staring at Larsen with lusterless eyes that told of a brain that was hopelessly dazed, now that his first murderous frenzy had passed. Larsen drew a breath of deep relief as he found the anode-bar cached in the Martian's belt-pouch.

"Find it?" Wheeler queried. "Good. Now let's beat it back to the *Falcon*. I've had about all I want of Yokku for all time!"

"I've no craving to linger here any longer," Larsen assented. "Now that we've recovered the anode-bar we might as well--"

He broke off abruptly as a startling outcry came from beyond the cliffs. There was an indescribable metallic quality in that grating roar, as of great sheets of rusty iron rasping together. The sound lasted for nearly ten seconds, then died away into silence.

Larsen's eyes met Wheeler's, the same thought in both their minds. That metallic roar came from the spot where they had left the *Falcon*!

Without a word, they started grimly for the pass, dragging the still dazed Martian along between them. When they at last emerged from the other side of the narrow gap, they stopped short in horrified consternation at the sight which confronted them.

The *Falcon*, resting there upon the sand two hundred yards away, was enmeshed in the coils of two great serpent forms, whose colossal size seemed to dwarf even the graceful cylindroid of the space-yacht. Each of those great serpentine figures was a full sixty feet in length, with bodies

nearly six feet in diameter. The lustrous, metallic, bronze-colored scales, that armored their undulating coils, glittered with a savage and sinister beauty under the tri-colored rays of the sun-arch overhead.

They possessed the same peculiar flame-creating equipment that had been noted in the small lizard-like quadrupeds, the three short rigid rod-antennae set in the foreheads of their great ugly heads. One of the giant worms was already focusing the pale rays of green, blue, and yellow upon one of the Falcon's closed ports. Where the rays met a swirling cloud of greasy, black vapor began to form.

Staring at the metallic colossi with blanched faces, Wheeler and Larsen realized that they were at last facing the monstrous things of which Ran Yok had babbled in dying delirium. Here were the "flame-worms of Yokku" in all their appalling power and terrible beauty!

The sight of the great serpents seemed to strike a sudden responsive spark in Dalo Yok's drug-colored brain. Before they realized what he was doing he wrenched himself free from their grip and started racing headlong across the plain toward the *Falcon*, shouting an incoherent gibberish of guttural Martian as he ran.

Larsen drew his nitrolite pistol. "Come on, Bart," he said grimly. "We've no chance to head that flying lunatic off, but we've got to fight our way into the Falcon some way before those things fuse the ports with their flame-antennae and bar us completely out."

They started warily toward the ship. Dalo Yak had already covered half the distance. The great metallic worms had seen the oncoming Martian and were deserting the Falcon for the moment to investigate.

The progress of their colossal bodies was a miracle of effortless speed, as they writhed forward toward Dalo Yok. Gray vegetation and everything else in their path was crushed ruthlessly beneath them. Drove of the small lizard-quadrupeds fled in blind panic before the monsters' advance.

Dalo York showed no fear even when the on-coming titans were squarely upon him. He stopped and, with fists lifted in pathetically futile defiance,

awaited their coming. One of the great worms trained its triple antennae upon the Martian.

Wheeler and Larsen swung their pistols into line to make a last desperate effort to save Dalo Yok, but a new drove of the panic-stricken lizard-things came hurtling against their legs just as they were pressing the triggers. Their shots flew wide. They staggered for a moment, then recovered their balance as the lizards flashed on past them in their mad flight, but the brief delay had meant death for the Martian.

Where his body had stood, before those lethal rays had focussed upon it, there was now a pillar of swirling oily black vapor, shot through with angry flashes of leaping red flame. Then the rays vanished, and the vapor almost instantly coalesced into a shapeless lump of molten black. The giant worm sent a long ribbon-like yellow tongue flickering out to enclose the black mass with its three-pronged tip and whisk it back into the gaping mouth.

In a revulsion of horror at Dalo Yok's hideous death, Wheeler and Larsen flung nitrolite against the monster's armored bodies until the explosions merged into a single rippling crash. The rod-antennae retracted into the massive skulls until they were little more than pointed bulges, and the deep-set eyes were filmed over with protective plates of transparent crystal, but the giant worm-figures held their ground with stony immobility, even in the face of that crashing bombardment. When Larsen and Wheeler at last ceased their fire they saw to their despair that the bursting nitrolite had had no apparent effect whatever upon the monsters. There was not even a break in the lustrous bronze of their scales.

The instant the nitrolite barrage ceased the worms began gliding warily toward the men. Larsen and Wheeler started slowly giving ground, backing toward the pass. Then the silent pistols seemed to reassure the worms. They began closing in with increasing speed.

Knowing that any attempt at flight would be made futile by the incredible speed of the worms, the men again stood their ground and once more stopped their pursuers for the moment with a crashing fire of nitrolite. This time they concentrated their aim upon the hideous heads, searching every inch of the massive skulls to find a vulnerable spot. They failed utterly. As

far as nitrolite was concerned, the giant worms were absolutely invulnerable.

Again they ceased their fire, and again they had to retreat as the worms once more resumed their resistless advance. This time, as their silent pistols threatened a new outburst of speed from the pursuing worms, Wheeler and Larsen tried different tactics.

Instead of standing their ground and bringing the worms to a complete halt with a concentrated burst of nitrolite, they contented themselves with a slow steady fire against the great heads in an effort to merely slow their pursuers down enough to keep them at a safe distance. Their plan worked for the moment.

The bursting nitrolite, though powerless to wreak any real injury upon the metallic titans, seemed to both annoy and puzzle them. They slowed their advance down to a steady, cautious progress that kept them some fifty feet behind their retreating quarry. There was a leisurely, almost contemptuous, quality in that slow, inexorable advance, as though, in the knowledge of their own resistless power, the monsters were content to bide their time for the moment, until the annoying explosive stings of their puny victims should be exhausted.

Larsen and Wheeler fought doggedly on to hold the worms at bay as long as possible, but they knew that the final result was inevitable. Their ammunition could not last forever. The pass through the cliffs was nearly at their backs now. To go on through it meant being trapped in the cliff-walled valley beyond. Yet escape to either side of the pass entrance was nearly as futile. They were bound to be overwhelmed in the end, anyway.

Better to make a last fighting stand and get it over with. The pass itself was probably as good a place as any. They were at least guarded from any flank attack there. Larsen started to suggest the idea to Wheeler, then abruptly stopped, as thought of the pass brought a sudden inspiration flashing through his brain. There was a possible weapon that might vanquish even the colossal power of the great worms.

"Load your pistol to full capacity, Bart," Larsen snapped tensely. "Then give me all your reserve ammunition. I'm dropping back into the pass to lay a trap for those brutes. Keep them at bay as long as your ammunition lasts. Then break and run for it back through the pass. I'll be waiting to cover your retreat."

The worms briefly threatened to surge forward as Larsen darted back into the pass, but Wheeler quickly increased his fire to a smashing fusillade that again brought them nearly to a halt. Larsen raced on back to where the wall bulged out in that titanic overhang. Beginning about twenty feet above the floor of the pass, the overhanging area extended for nearly seventy feet along the wall.

Larsen took the first likely spot he found, a shallow cavity in the wall just under the center of the overhang. Dumping all the reserve nitrolite from its safety containers, he made a compact pile of the deadly pellets in the niche. There was enough nitrolite in that small pile of blue-black capsules to annihilate a city. It required only one smashing blow to set the whole thing off.

He hastily packed rock fragments around the explosive to divert as much of its force as possible against the cliff face, leaving a yard-wide hole through which to send the bullet that was to explode the pile.

Just as Larsen finished his hurried job, Wheeler's ammunition was exhausted. Larsen heard Wheeler's fire abruptly cease as Wheeler came racing toward the pass. Larsen dashed twenty yards beyond the mine spot to get as far as possible from the terrific blast of the nitrolite. Then he dropped to one knee to steady his aim as he trained his pistol upon the niche.

Wheeler, his face contorted with effort as he forced every last ounce of speed from his stocky body, was barely beyond reach of the racing worms behind him as he entered the pass. The pursuing titans abruptly slowed down as they saw Larsen waiting ahead of them with leveled pistol. For a moment they came to a full halt, watching Larsen's motionless figure with shielded eyes, apparently expecting the tormenting hail of nitrolite to start against their faces again.

Wheeler raced on past the overhanging area to safety, and flung himself flat on the ground beyond Larsen in response to Larsen's tersely worded command. The worms' hesitancy vanished as Larsen's pistol remained silent. They started cautiously forward again, their great glittering bodies seeming to nearly fill the pass as they advanced side by side.

Larsen's eyes glowed in satisfaction. The situation was ideal for his plan. With the worms advancing abreast as they now were, he had an excellent chance of getting both of them.

He held his fire for a long tense moment. Then, when both the great ugly heads were squarely under the overhanging cliff wall, he sent a single bullet hurtling accurately into the niche where the nitrolite lay.

There came the sharp report of his bullet exploding, almost instantly blotted out in a terrific blast of fire and crashing chaos that seemed to rock the very universe. Larsen's senses reeled for a brief second in the cataclysmic fury of that blast. Then something crashed against his forehead, bringing swift and complete oblivion.

He struggled back to consciousness to find Wheeler working over him. "A rock fragment bounced off your skull," Wheeler explained briefly. "Why didn't you get farther away before setting off that blast, you idiot?"

"I got as far away as I could and still be able to get a shot inside the niche," Larsen answered. "Did it work?"

"Did it work?" Wheeler retorted. "Boy, you brought a whole mountain down on those brutes! Get up and take a look."

Larsen staggered dizzily to his feet and saw that Wheeler's statement had been no exaggeration. For a distance of nearly thirty yards the pass was chocked with a chaotic mass of great jagged blocks of blue crystalline rock. Crushed and broken beneath those countless tons of rock and crystal were the bodies of the two giant worms. The only remaining traces of their great metallic figures were a few torn shreds of bronze-scaled flesh among the rock rubble at the edge of the mass.

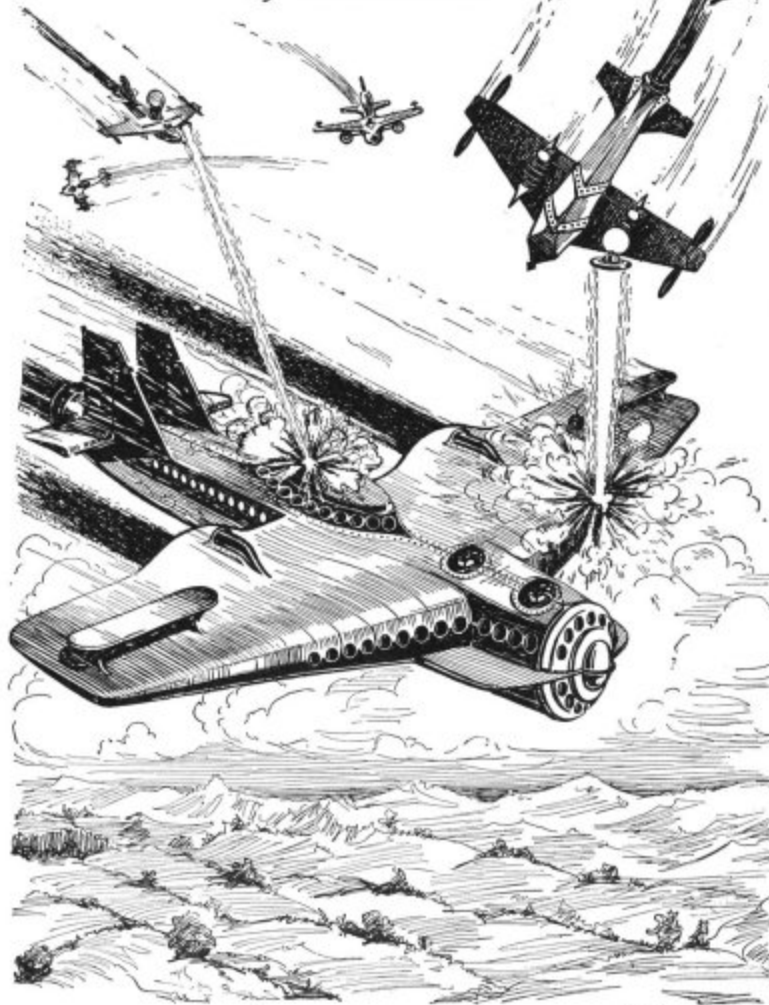
"We'd better climb on out of this place before the noise of that battle attracts some of the brutes' little playmates," Wheeler suggested.

Climbing over the ragged pile of fallen rocks was a precarious task, made doubly so by several remaining masses high up on the shattered cliff wall that threatened to fall at any minute, but they made it without mishap. Leaving the pass they quickly crossed the plain to the *Falcon*. They opened the entrance port, then stopped and turned for a last look back at the pass.

As they looked they saw one of the precariously balanced masses high on the shattered cliff tremble for a moment, then go crashing down. The great block struck against the crystalline boulders in the pass with a clear ringing impact that the acoustics of the narrow gap magnified until it was oddly like the single chiming note of a giant crystal bell struck in requiem over the shattered bodies of the mighty flame-worms of Yokku.

The Heat-Ray by O. L. Beckwith

The Heat-Ray
by O.L.Beckwith



(Illustration by Leonard)
When the crash occurred, they stated that they had observed flashes of intense light vomiting from the attacking planes. Two hundred men were killed or injured.

PART ONE (1938)

THE room was pitch dark, save for a slender finger of light that issued from a tiny aperture in the ceiling and fell straight into a funnel-like receptacle on the dimly seen table. Only the upper part of the receptacle, however, resembled a funnel; the lower part had the vague form of a moving picture projector. The room itself, so far as could be made out in the very faint illumination, was fitted up as a laboratory. It was crowded with chemical paraphernalia--retorts, test-tubes and other articles that were thrown roughly about, helter-skelter, on wall-racks, standards, and the littered floor.

There was a movement beside the table, and for the first time it might have been seen that the room held a human occupant. Earnest, weary-eyed -- Anton Babel was engaged in an experiment.

His long, deft fingers drew back, carefully and swiftly, a little slide on the out-thrust muzzle of the mechanism on the table, while with the other hand he pressed a button on its nearer side. From that muzzle a pencil of warm, yellow light shot out, touched the further wall, and then disappeared as the man released his pressure on the button. The air seemed suddenly very close and humid.

Babel strode quickly to the other side of the laboratory and seized an L-shaped trough about ten inches wide, with the upper side of the L some five inches long. This, together with a cylinder of iron, two pieces of phosphorus, and a square of wood, he carried back to the table. He placed the trough upright near the table's edge, in line with, and nearly three feet from, the muzzle of the projector. In the center of the trough he arranged the pieces of phosphorus, then moved again to the machine and repeated his former motions.

As before, the yellow beam flashed immediately into sight, and simultaneously the pieces of phosphorus flared up in a blaze and were gone. Babel then tossed the wood to the same position, and intently observed the action of the beam upon it. The result did not vary in the slightest degree from that of the first test. The time of ignition, so far as could he seen, was exactly the same.

Hardly able to contain his exuberation, the experimenter ran to the door of his laboratory and flung it open.

"Adams!" he called. "Adams!"

Twenty yards away across the lawn the door of an outhouse opened, and a spectacled head was thrust out.

"Adams!" reiterated Babel. "Come here quick--I've something to show you!"

Obediently a lanky body followed the head into the open, and Samuel Adams, undergraduate assistant to Babel, hurried across the grass and into the open portal of the laboratory.

"What is it?" he asked, panting a little.

Babel gently touched the projector.

"It's this--a heat concentrator."

"Yes? But what does it do?"

"Watch!"

Babel was almost bursting with exultant pride. It was with some difficulty that he now placed the cylinder of iron in the trough and applied his finger to the button. The yellow ray sprang out, reached the cylinder and for a moment seemed to caress it softly; then, before the astounded eyes of the two men, the heavy iron was melting, melting in a white-hot pool that spread, steaming, for an instant, then as swiftly hardened again.

ADAMS blinked, and rubbed his glasses.

"That iron isn't really melted, is it?" he cried. "It's just a trick--" and before the stupefied Babel could prevent him, he thrust his hand toward the metal--

thrust it full into the yellow beam.

Adams let out one horrible cry, and the room was full of the odor of burning flesh. Babel caught him around the shoulders, but he did not fall, only stood there as if spellbound, looking down at the blackened thing that had once been his hand. Babel was nearly hysterical.

"Hold on, Sam!" he half-screamed, quaveringly. "For God's sake, hold on! Can you sit down? Can you sit down? If you can sit down, I'll call a doctor. Can't you speak? Can't--"

Adams jerked himself free, and in one staggering rush was across the room. Words now came in a flood from his lips.

"It'll never hurt anyone else! Damn it--damn that thing! I'll fix it!" He had caught up a wrench and was coming back toward the table. "Never burn anyone else!"

Babel caught his upraised left arm and held it.

"Stop it--drop that!" He was aware that Adams did not hear him, and he spoke no more, devoting his energies instead to pulling the wrench from the crazed man. There was a confused tangle of arms and legs--from somewhere the wrench had come into his own hand and he tried to throw it over the other's head; and somehow an upflung arm had deflected it and crashed it down....

Babel stood alone and looked down at the inert mass lying at his feet. Once he whispered, "Sam." Then he laid a hand gingerly on the silent figure. Precariously balanced, it rolled half over and into the light from the doorway. The head was split.

A voice said "Murderer!" in Babel's ear, and he swung around, feeling in that moment a detaining hand laid sternly on his shoulder. There was no one. The yard and the laboratory were empty--save for that shapeless thing....

Like some wraith, Babel tiptoed over to the table, caught up the projector and a portfolio of papers, turned, and went softly out. A moment later came the roar of a powerful motor, and a small airplane went swiftly aloft, its helicopter screws spinning madly. Then it disappeared in the sky.

And so the Heat Ray came into existence. Born in blood it was, and nourished upon slaughter and destruction; and the evil record of its achievements was to grow and expand until a nation trembled before the menace of its yellow, molten beam.

"TELEGRAM for you, Ant!" The speaker was Jesse Farnis, roommate of Anton Babel; the place was Stanford University, California; the time, two o'clock in the afternoon.

Young Anton, just back in his room after a tiresome two-hour session with chemistry, looked up lazily.

"If you're kiddin' me to grab this chair," said he, "somebody's gonna be carried out of here...."

"Honest. It's under my trig, there. Came about ten minutes ago."

"Give it here!"

The other complied, and Anton tore open the yellow envelope. He read:

"Expect me four o'clock Wednesday. Must see you. Will explain on arrival.

DAD."

Anton Junior whistled.

"Somethin" troublin' the old man," he said. "He can't have heard of my bustin' up the plane, can he? No--and besides, he wouldn't come clear across the continent for that. I don't understand this--at all. H'm."

"You'll understand something else again," advised his friend, "if you don't get out of here. You've got an English conference at this hour, young fellow. You told me yesterday to remind you about it."

"So I did," said the other. He got up, sighing dolefully, slouched down two flights of stairs and out onto a sidewalk. He walked slowly, humming, for it was a glorious day.

As Anton Junior went up the old concrete walk under the spreading trees, a couple of thousand miles east of him a man in shirt-sleeves was striding hurriedly down Michigan Avenue in Chicago. Under one arm he carried a portfolio; in the other hand was a bulky bag. As he walked it could be seen that a sheet of paper was slowly edging itself out of the portfolio, moving inch by inch with the regular swing of the man's arm.

A messenger boy came out of a cross street just in time to see the paper fall to the pavement. Being honest, he called out sharply and touched the man on the shoulder. The resulting phenomenon furnished him food for thought for some weeks.

What the messenger boy had said was: "Hey, mister, you've dropped somethin'!" But the man in shirt-sleeves evidently misunderstood him very seriously, for at these words he turned around a fear-tortured face, and beholding a uniform--however small the wearer--within grappling distance, he took swiftly to his heels, nor did his baggage seem to hamper him to any great extent in performing this athletic feat.

THE boy watched him with some amazement; then stooped to pick up the document, but it was suddenly gone. One of those little whirlwinds, which

resemble miniature tornadoes on hot days in the country, had picked it up and carried it, eddying and twisting, through an open window of a tall office building fronting on the street. It dropped very nonchalantly upon the wide desk which overlooked the window; and Fate, seeing that matters had come about as she had planned, left it there.

Now John Merton Graves believed in Fate, and he accepted the paper in the same mood in which he had received a quiet hunch to stay later than his usual wont in the big office building that fronted on Michigan Avenue. As it happened, John Merton had no right to be in that building; in fact, if certain members of an efficient Chicago police force had known of his whereabouts, they would have quickly taken steps to see that he was furnished more suitable quarters. For John Merton was a criminal; what is more, he was one of those called by fictionists "master minds." His quiet insurance business was nothing but a clever mask to cover his more flourishing activities outside the pale of the law.

He read the paper through--and instantly, complete as though it had been conceived centuries before, a Napoleonic plan leaped into his fertile brain. It was to take him three years to put it into execution, and eventually to cost him his life, but John Merton Graves neither knew nor cared for these things. Instead, because of the mental agility that was habitual to him, he began at once to build the framework for this structure of his thoughts.

We who spend our lives in offices, in stores, in factories, on farms, can have no conception of the tremendous power wielded by the head of one of our many modern criminal bands. His immense authority is second only to that of the super-gangster who controls the underworld of a whole city, and emperors of old might well have had reason to envy such a one. In him absolutism has reached its peak--there are no parliaments to curtail his prerogative, no rebel people to rise up against him, only a few powerful henchmen to be subordinated. Graves was a man of this type: a type almost entirely the product of modern civilization. And it is not surprising, under these circumstances, that John Merton found means to track down the writer of the paper that had fluttered into his window.

His ways of accomplishing this were devious, innumerable. By a simple process of elimination he discovered who had written the paper. He knew

that only a few men in the world could have written it, and his mind disposed of them one by one. He alighted at length on Anton Babel. His men it was who first found the body of Adams, Babel's assistant, in the laboratory to which they had gone to search for him; it was his men who followed the trail of the scientist's big plane across the country to the dealer's shop where it had been disposed of; and it was they who flew behind the worn out Babel in his new plane, when the inventor came at last to Leland Stanford University.

To be precise, it was not only John Merton's men who were flying two miles behind Anton Babel; it was also John Merton himself, and two of his best lieutenants. No one could say of him that he ever failed in any undertaking because he entrusted important work to men who were not capable of doing it.

Down to the landing field they went, following Babel by half a minute. They were not a half dozen steps away when they saw him motion to the nearest taxi, and they plainly heard him give the address of his son's fraternity house. Babel entered the cab and it drove off; behind him the three men engaged another car, promising their driver an extra fare to follow the first conveyance. It was easily done. When Babel's cab stopped at a pretentious Greco-Roman mansion, the other one was not fifty yards to the rear.

STEPPING to the ground, the inventor strode into the building, accosted the nearest student, and followed his guide to Anton Junior's room. Once inside, he sat down, sinking completely out of sight in one of the soft Morris chairs. He closed his eyes, for he was very tired, having slept very little for four nights.

Down below in their taxi, the three conspirators debated the next course of action. Opinion was divided: John Merton, unusually audacious, argued that it would be better to keep in sight of Babel, while his two lieutenants held that, since the scientist could not guess that he was being dogged, it was the part of discretion to wait until he came out again. They were not at all sure

why Babel had come to Stanford University; even less sure why he had come to this exact spot. Somehow, in spite of the intensive search of John Merton Graves into the private life and affairs of his quarry, he had not come upon the fact that Babel had a son. This error was destined, in time, to prove an important element in later events.

Graves won at last over his reluctant comrades, and they formed a plan of battle. John Merton was to enter the house, to inquire after Babel, to find him, to take that for which they were searching. The other two were to dismiss their first taxi, and, by taking advantage of a near-by telephone booth, to order another, which was to be at the door of the fraternity house in five minutes. Then, when John Merton came out with the booty, a convenient and almost untraceable method of escape would be ready for him.

Graves opened the door of the house and entered. Night was fast coming on, and in the dusk he nearly walked into a student, who was lounging out of his chair to turn on the lights.

"Pardon me," said John Merton. "Did Mr. Babel just come in?"

The youth wrinkled his brows. "You mean Anton?" he asked.

"Yes."

"Why, no, I didn't see him."

"Are you sure?" persisted Graves. "I was positive I saw him."

"Well, maybe you did. I'll take you up to his room, if you like."

"Please."

The two went up the stairs and to the open door of Anton's room. Graves, seeing the head above the dim back of a chair, said, "Ah, I thought so," with much satisfaction, and gently but firmly closed the door behind him as he went in.

Then he moved to the front of the sleeping man and stood watching him intently. There was a suit-case by the side of the sleeper, but Graves did not touch it.

Instead he whispered, "Mr. Babel!"

The figure stirred.

"Babel!" repeated John Merton. "Anton Babel!"

The sleeper was wide awake now; he lifted one hand as if for defense.

"Don't arrest me," he said, weakly and hopelessly. "I didn't mean--I couldn't help--"

GRAVES laughed. "That's all right," said he. "Brace up, now, and we'll talk. I've no more love for the police than you have."

"You mean--"

"I'm not in the habit of beating around bushes," said John Merton, pulling up a chair to face the other, "and I'll not do it now. What I want is your heat-concentrating contrivance, and its formula, and any other papers that may deal with it. If you're decent about it, I'll offer a thousand for the whole thing. If you're not, why--" Graves spread his hands wide-- "I'll have to turn you over to the police."

"Then--it's blackmail?"

"Come, come," impatiently, "I told you I'd offer a thousand. That's generous-- considering that I could get it for nothing if I really wanted to."

Babel thought a moment. Then he spoke, slowly: "I don't know how you learned about my invention, and I don't know who you are, but I do know this--that you can't have it!" Graves shrugged. "Just as you say. I think, though, that I'll go down and phone police headquarters."

Babel, getting to his feet, walked slowly over the window and stood, looking out. It was pitch dark outside, and from all over the campus little flickers of light gleamed--house windows, and street lamps, and car lights. He turned back to the room.

"Do you know," said he, "I think you're bluffing. I don't believe you would want the police up here any more than I would myself."

"Oh, don't you?" said John Merton, softly, with an ugly little sneer on his lips.

"No."

Suddenly both of them heard running footsteps on the stair. The quick slap of soles striking carpet was accompanied by a tuneless, happy whistle.

"Anton!" cried Babel, and he took a step toward the door.

John Merton made two movements simultaneously. He jerked a heavy automatic from his pocket, fired--and leaped to the light buttons. He fired again, twice, in the sudden darkness, and the soft-nosed bullets made a horrible, thudding sound.

Anton Junior opened the door on a sight that he was never to forget. The room was lighted by a soft beam of moonlight that came through an uncurtained window, and in the very middle of the beam, appearing as if detached from its body, was a human head, lips drawn, teeth clenched, the whole a picture of beastliness incarnate. He saw only dimly the rest of the body; perceived a pistol held in one hand and a suitcase dangling from the other; then there was a lancing flame, and he saw only darkness ... and darkness....

PART TWO (1939)

COPY of a letter sent by Professor Matthew E. Winton of the Howland Institute of Technology, to his brother, Jamison Winton:

"My dear Brother:

Today I have taken one of the most decisive steps in my whole career. In writing to tell you of it, I will give you the exact details, as nearly as I can remember them, and you may judge for yourself of the wisdom of this action. If you think it wise, you will of course accept the proposition that I intend to state further on.

"Yesterday morning my man brought in a middle-aged gentleman, very well groomed, and with that prosperous look that most successful men have. He told me his name was John Merton Graves. I faintly remembered having heard the name before, and I spoke of this. He grinned and answered: 'My name is often in the newspapers--but very little good is ever written of me'."

"When I questioned him as to his seemingly paradoxical answer, he replied: 'I am a gentleman carrying on an extra-legal profession.' You may judge my surprise, my dear brother, when he said that. Instantly I jumped to the conclusion that he intended to rob me, and I told him I regretted it very much, but he would hardly find a dollar in the house.

"'You pain me, Professor Winton,' he said. 'I'm not that much of a piker, I'm not going to rob you at all; rather, I'll enrich you.'

"Said I: 'I don't know what you mean, sir.'"

"Then he explained. I give you my word, Jamison, my head positively swam with the things he told me, though I'm by no means a man easy to surprise or awe. It seems that he has stolen an invention from a man-

-I forget the name, something like Bibil, I think it was--that works on the principle of a giant burning-glass. A beam of sunlight enters the top of the contrivance, and is reflected downward from there by a series of mirrors until it is imprisoned between two of them. This, you know, has always been theoretically possible, but because of defects in the mirror-glass, could not be accomplished practically. This inventor, however, has perfected a type of glass that is flawless, or, one might say, a type whose reflecting surface is a perfect plane, so that the two mirrors hold the sunbeam quite well. But this is not all.

"BY operating a slide, one of the mirrors is tilted up and the beam shoots out beneath it. In some manner (I haven't yet read the whole of his formula) he manages to secure an immense concentration of that beam, so that it has nearly fifty times its original heat. This beam, concentrated as it is, can be thrown out through a projector and turned on any object desired. You may doubt this--as I did--but that object acts as it would if it were only a few feet from the intense heat of the sun--in other words, it either melts or instantly burns up--depending, of course, on the type of material of which the object is composed. The range of this weapon is somewhat limited, for it loses a great deal of its heat through contact with the air, but the one that Graves had is able to ignite wood at two hundred yards. This, with only a momentary flash. If it were held on for some seconds, iron or steel would be melted, granite blocks cracked into tiny chips, and so on.

"You can see what possibilities there are in this thing. With larger glasses constructed and installed on vessels, airships, and other war conveyances, an enemy could be wiped out almost before a shot was fired. It practically makes guns extinct. And I think I can find a way to eliminate its only fault--its uselessness at night--by perfecting a storage tank for sunlight with which the thing would be equipped.

"This was not all that Graves told me. He has very little scientific knowledge himself, and he wishes some skilled electrical engineer, and a trained scientist who can interpret the inventor's notes, to make more

of these heat concentrators for him. What he will use them for I don't know, but from some hints that he dropped I gathered that he plans to transform his gangs of rum-runners, drug-sellers and the like into a band of air bandits, who, using fast planes and armed with this heat ray, will prey on air and land shipping. He was careful to tell me that there would be no danger for the makers of his heat ray projectors, as they could easily explain, in case they were arrested, that they were ignorant as to the purpose of the machines they were building.

"In short, he offered me a princely salary to find a mechanic and make these projectors for him. As you know, I have often wished for more money to carry on some expensive researches, and the proposition seemed to me to be an answer to my wish. Scruples of conscience? As to that, I feel no guilt. I am not committing a crime if I make those machines, and though I may help another to ... well, I have long ago ceased to believe in eternal fires. Have I made it plain that I accepted?

"When Graves mentioned an electrical engineer, my mind leaped at once to you. Will you take this chance and become rich, or do you intend to stay in a rut all your life? I think I have made myself sufficiently clear as to our work, and if you accept, Jamison, you must write me at once. If you don't, I trust you to keep the contents of this letter entirely to yourself.

Very truly yours,

Your brother, Matthew."

PART THREE (1941)

DURING the year 1940, the people of the United States had become suddenly aware for the first time that something more than the

conventional, hide-in-the-dark bandit had established himself in their fair land. This revelation came as a complete surprise to them. Before April of that year the clergy and the law enforcement officers had been congratulating themselves on the success of their efforts to suppress criminality, for the number of crimes committed had rapidly diminished. The editor of more than one magazine of large circulation had ventured to comment on the increasing of the law-abiding spirit among the citizens; it was orated on by legislators, and the President devoted a goodly amount of space to it in his annual message to Congress. This advance, together with the increase of invention and knowledge, seemed to herald a new Golden Age of man. But the quiet was only the lull before the storm, the momentary pause before the cyclone.

John Merton Graves had devoted the winter months of that year to the organization and building up of his various forces. He rapidly trained good crooks to be better pilots; or, when this was not possible, he bought pilots outright from the numerous passenger and freight companies. He secured airplanes--the best, of types that had not yet been placed on the market. He slyly kidnaped Loren d'Antorut, the young French aircraft engineer, and as a result it was John Merton's planes that first appeared with the tiny helicopter vanes on the tip of each wing, a development of this same d'Antorut. He established a base in Amberton, somewhere in the hinterland of Illinois, and moved enough Chicago rum-runners and bootleggers to that little town to reduce the Windy City's crime record considerably. He spent millions in money, months in labor. And then, at the end of March, he finally looked over his work and pronounced it good. ...

The first blow was struck on April second, when his ships, communicating by radio telephone, forced down the big *Toledo*, route-ship from Chicago to Detroit, and took twenty thousand dollars in gold from her. Two days later they met the *Edsel Ford*, which opened fire on them from automatic machine-guns mounted in her middle engine rooms. It was the opinion of watchers that the passenger ship might have won out, had not the big gasoline tanks, mounted in the wings, exploded from reasons unknown. Two hundred men, delegates to a business convention in Detroit, were either killed or fatally injured when the huge plane burst into myriad bits of

duralumin. Not without creating a furor were some of the leading business men in the country wiped out.

Then rumors began to spread that a new weapon was being used by the bandits. Just how the rumors began is hard to say. Reports of farmers, at work near-by when the *Edsel Ford* crash occurred, stated that they had observed flashes of intense yellow light vomiting from the attacking planes. Undoubtedly the boasts of certain of Graves' gangsters had reached the ears of the police, and possibly these whispers had spread further than they were intended to. Be that as it may, the rumors did spread, and when a small cabin plane belonging to Associated Mining, fortunately carrying only pay-checks, was hailed by one of the bandits, the cabin plane took to earth at once, although it was a very fast ship. Its pilot made no attempt at resistance, for he realized that the checks would be worthless to the bandits. Moreover, he was consumed with curiosity as to whether or not the rumors of a strange weapon were true, and, while preparing for a landing, he formulated a plan to discover the truth. So he had hardly brought his machine to a halt before he set his stick a trifle back, opened the throttle wide, and plunged through the cabin door and to the ground. Then he lay behind a shrub and watched his stout ship speed unmanned across the sand and rise into the air as steadily as though a hand were upon the controls.

BUT the bandit plane appeared little disconcerted by this maneuver. Hawklike, it swooped down upon the slowly-climbing cabin plane, sending out long stabs of yellow light which slashed hither and thither about the helpless ship. The result--inevitable, as the man on the ground well knew--was that the latter's gasoline tanks blew up, and the plane, a hopeless, burning wreck, plunged earthward.

Some few moments after the bandit had disappeared in the distance, the pilot came out of his hiding place and walked over to the flaming ruin of his ship. With water from a nearby creek he succeeded in quenching what was left of the fire, and he managed to draw part of the wings and fuselage away from the main body. These he turned over and over again, until he found a

tiny hole burned in one all-metal aileron, as if a red-hot poker had been thrust through it.

"This," he said to himself, "is not as it should be." Then he walked away toward the smoke of a farm chimney with a chaos of thoughts rioting in his brain: "Burned hole. How? Heat. How? Oxygen torch? No. Heat ... heat ... heat ... By Gad! Then that's their weapon--a heat ray! Well, by Gad!"

"And yet," he said aloud, "that doesn't mean anything. We know there's lightning, but that doesn't prevent it from hitting trees...."

The young pilot was Anton Babel, Junior.

Three months went by, and the perils of the air grew daily. No one, from the billionaire in his palatial air yacht to the commoner out for an airing in his two-seater, was entirely free from danger. No one could foresee the next move of the air bandits; no one could guard his possessions so carefully that he could prevent them from being seized in the next swoop of those ruthless pirates. Police forces were doubled, tripled, quadrupled. But day by day it became more evident how far behind the times the officers of law enforcement were. Bandits flew circles around the slow police patrols; they amused themselves by dropping straight down onto police landing fields, and rising again, before their enemies' ships, unequipped with helicopter vanes, could gain flying speed. Police began to be afraid to open fire on the bandits, knowing that the retort would be swifter, more unerring, more deadly, than all the machine guns ever invented could send out. Many a patrolman, remembering that he had a wife and family, turned his back where he should have turned his revolver barrel; many a police commissioner forgot his duty, to think of his life. And the effects of this whole corrupt, cowardly system began to spread. A general deterioration was observed in public morals: dope-peddling, bootlegging, and prostitution gained, while the church and other beneficent institutions lost influence, fell off; lobbies and trusts began to appear in politics and business; crime and vice walked unrebuked in high places....

IN the offices of the Middlewest Aircraft Corporation, Robert H. Crawford, superintendent in charge of transportation of that corporation, told his secretary to show in a young man who had just been taken on as a pilot. The young man took a seat in front of the tennis court of mahogany that Mr. Crawford called his desk.

"Humph!" said Mr. Crawford, who had read in some book that great executives talked like that.

"I agree with you," said the young man.

"Eh--what's that?" gasped Mr. Crawford.

"I said, did you want to see me?"

Mr. Crawford consulted a card on his desk, said "humph" again, and then condescended to talk with the young man.

"Yes," he said. "I did. Your name's Thompson? You came to us from California? Recommended?"

"Answering your questions in proper order," said the young man. "It is. I did. I was."

Mr. Crawford looked at his card again.

"Very well. You take the Langley to New Orleans this afternoon. Two o'clock."

"I do *what?*"

"I know," said Mr. Crawford, melting as much as his dignity would allow, "it really is--ah--hard on you. A new pilot, new route-- But we haven't any choice. It's you or no one. Dinle got in two hours ago--tired out, says he won't take another ship out for a month. Beale and Watson absolutely refuse to fly over the well-known center of the whole bandit gang, and two other pilots are in the hospital. As I say, we have no choice."

"We-l-l-l, if that's it, far be it from me to object. I'll take her down to New Orleans, and regret that I've only one life to give to my corporation. You don't mind if I sleep till two? I can't get used to this Chicago noise at night, and I'm groggy right now."

"No--not at all," said Mr. Crawford, hastily. "Sleep all you wish. I'll have a taxi call for you at one-thirty."

"Until then," said Thompson, yawning in Mr. Crawford's face. He threw himself down on the comfortable leather davenport in the waiting room, reflecting on the fact that he had fooled Crawford completely. When as Anton Babel he had been discharged following his desertion of the plane carrying the Associated Mining's pay checks, he had found it necessary to bury his past and get a new job, establishing his identity as "Carl Thompson." On the basis of this identity of "Carl Thompson--first class pilot" he now pillowed his head on a brief case, and was soon asleep.... Two hours later, by dint of much shaking and jerking, the driver of the taxi got him awake, bundled him into the cab, and drove him down to the airport in time to have him change to flying togs before two o'clock.

THE five-ton *Langley* left Chicago on schedule time, with a merry-eyed youth in the pilot's seat and fifty passengers in the cabin.

The trip to New Orleans had never been accounted a difficult one, for the region over which the route lay was well settled, and the broad Mississippi was nearly always in sight in case the compasses went wrong. But all this had changed with the establishment of the bandit headquarters at Amberton, which was well in the southwestern part of Illinois. Ships passing along the trail to New Orleans had been the most frequently robbed; in fact, it had become an afternoon's pastime for the bandits to stop passenger planes in order to replenish their pocket-money. Travel to New Orleans had become actually dangerous, and in consequence the number of paid fares had diminished. Whereas formerly three ships a day had been sent over the route, the number had now fallen to one, and that one was more than likely

to carry a light load. People went to New Orleans only when necessary; and even the pilots began to complain of the danger to their lives.

Such was the situation that Anton Babel faced. He was a good pilot. Upon the death of his father he had refused the aid of condescending relatives, and had entered an aviation school. After two years of study and work he had graduated, had immediately found a position with a Los Angeles firm, and had been sent by it to the Middlewest when the two companies merged. He was now twenty-three, and as nearly happy as any man can be who has seen his father killed before his eyes. He had one love--for aviation; one aim in life--to find his father's murderer.

A half-hour out of Chicago he sighted Amberton. He knew the town by the numerous newspaper photographs that he, like all the rest of America, had seen. One might have thought, by the number of features and articles that had been written about the town, that the country was proud of it.

Anton rose to the "ceiling" of his plane--twenty thousand feet. He had no wish to be sighted from below.

Down on the ground "Slick" Nethers, a fine pilot and a man high in favor with John Merton Graves, looked at his wrist-watch and cocked an ear inquiringly toward the north.

"That route-ship should be comin' over about now," he said, dropping his feet to the floor from the window sill where they had been resting. "Wonder if we scared 'em out--I don't hear it."

Lan Higby, interestedly scanning the beauties of a lady on a magazine cover, said out of the corner of his mouth, "Get the binocs."

Nethers removed the binoculars from a shelf, walked outside, and surveyed the northern sky.

"Got 'im," he said, with a smile; "he's way up! Must be carryin' somethin' valuable."

"Don't seem as though he would," said Higby, "he's certainly been stuck up enough. He may have, though. Les' go up and get him."

JOHN MERTON GRAVES, passing by the door, heard the last sentence. "What's this?" he asked, stopping. Nethers explained. "Good," said the other, "I say--wait a second and I'll go up with you. It's confoundedly hot down here."

They moved a plane from the hangar, clambered in and set it in motion. Once off the ground they shut down the helicopter vanes, turned on the tractor motor, and rose in great, sweeping circles. Five minutes brought them slightly behind and above the *Langley*. Graves opened their radio circuit and tapped out, "Land at once," the conventional opening threat of the air bandits. Anton, who, for the sake of comfort, had removed his radio headphones, did not hear the signal. The big ship drove steadily on.

Graves pressed a button on the instrument board of his plane. In the *Langley* Anton suddenly saw a vivid beam shoot once, twice, thrice across his line of vision. He started, and turned his head to the rear. Through the thick glass port-hole he saw a small plane hovering, saw again the thrust of that yellow beam.

Anton's blood raced in his veins. For one brief moment he pulled his throttle wide, and then, looking up, he saw a little placard pasted on the edge of the wind-shield glass. It read, succinctly, "*The Passenger Always Comes First.*" Anton shut off power and put his ship into a glide. ... He landed on a gently-rolling meadow.

After a moment the bandit plane floated down beside him. It swung around so that Anton could see the queer box-like apparatus under one wing; he noticed that it pointed directly toward himself. One of the bandits leaped to the earth and ran over to the *Langley*.

"Snap into it," he called crisply. "Everybody out. Line up here under the wing." He waved an automatic, suggestively.

The passengers, in various stages of fright and amusement, lined up quietly. Nethers went down the line. "Shell out." Wallets and pocket-books were handed over without question; now and then Nethers would see a ring or a dully gleaming necklace disappear, but a quick motion of his revolver was sufficient to bring the object to his hand. It was, on the whole, a rather dull and uninspired robbery.

Anton was the end man, and when Nethers came to him he handed him something very quickly. The other scowled at the object in his hand.

"What's this?" he asked.

"A nickel," said the pilot, coolly.

Nethers handed it back. "Keep it," he said.

With an airy gesture Anton waved the coin away. "Oh, no," he said, "does not the Good Book say, 'Give one-tenth of your fortune to the poor?'"

"Don't get fresh!" jerked Nethers. Then--"Where's the rest of the stuff?"

"This," remarked Anton, bowing, "is all."

NETHERS scowled again, but he said nothing. He went over to the *Langley*, thrust his head inside the doorway and ran his eyes down the long rows of leather seats. But he saw no suspicious parcels, and so, after another prolonged scowl at the restless passengers, walked again to his own plane.

"That's all," he said, dumping an arm-load of assorted trinkets and money-containers on the runway. He clambered in after them. The bandit chief, changing to the pilot's chair, looked over at the *Langley* a moment before starting the engine. And then, as it happened, the sun was reflected from the shimmering tail-surface of the passenger plane in such a manner that it shone straight on the window of the bandit ship; and in that momentary

glare the head of John Merton Graves seemed, to an onlooker, to be suspended alone in the air. And in that moment Anton Babel, turning to look once again at the robbers, saw a picture that was the duplicate of one that had met his eyes three years before! Only for an instant did the resemblance hold, but that instant left him weak and shaking.

Without an instant's hesitation he knew what he would do. He ran across the sward and caught the landing gear of the rising plane. Swinging his feet up, he twisted them around the trusses and supports; he gripped the axle of the two wheels with his strong fingers and hung on.

The wind howled in his ears, tore at his hair, slashed at his raw face with cruel claws time and again. The ground swam beneath him; the sky toppled and swayed above. He was sick, dizzy, breathless, dying! He saw mountains swing beneath him, forests leaped up and then a clearing. Then he saw buildings rushing to meet him; and the little plane, as lightly as a feather, came down on the landing field. Forward it rolled for a few yards--with the spinning wheels inches from Anton's face--until it came to rest in the darkness of the hangar.

Voices sounded, and he saw three pairs of flying boots strike the floor, one after another, and stride off. He dared not move. Greasy overalls came and pushed the plane farther on in a corner; finally dusk and quiet reigned.

He dropped to the floor and lay there, exhausted. At last he summoned strength to crawl out and stood weakly, clinging to the strut of an airplane, while he oriented himself.

The hangar was a place of shadows, out of which the edges of the giant doors showed as arched lines of white. A smaller arch marked a side door. Anton moved to it and opened it a trifle.

HE saw three hangars stretching away from him in a long line. They were strangely quiet. Not a motor sounded; only a few footfalls struck now and then, as mechanics went out of the buildings, locking doors behind them;

the whole scene was buried in the deep quiet of a hot summer afternoon. Out of the corner of his eye he saw three figures enter a small house far to the left, and recognized one of them as the man who had held up the *Langley* five minutes--or was it, five years!-- before.

Anton looked down at himself. He was dressed in the ordinary costume of the pilot: flying boots, moleskin riding breeches, white shirt, helmet--with the leather coat removed out of respect to the weather. A sudden impulse seized him: he stooped down, picked up a daub of grease, and smeared it lavishly on his shirt. He pulled down his helmet a little over his eyes, and stepped out into the sunshine.

It was even easier than he had thought. No one questioned him as he walked slowly past the edge of the hangar and into the yard. He met no one as he crossed over to the tiny house, strode up the steps, and entered the porch. There he halted, tense, as he heard voices proceeding from the door in front of him....

... "But really, Graves," a cultured voice came out to the listener, "It's much more serious than you think. I'm sure I don't know what's become of the paper--it was sheer carelessness of us not to make copies of everything before this-- but the fact is that it is gone. And it must be found."

"But why?" said another voice, curtly. "What's so important in it?"

The first voice went on patiently. "It's a formula, one of the few that Babel devised. It explains the casting of the mirror glass without which the whole ray-projector is useless. It has to be found. There's nothing else that can be of any avail."

"Come, come! Can't you copy the mirror glasses that you made for the first projectors?"

"No," said the other, firmly, "we must have that formula. I know."

Graves flung his hand down on the desk and swore fluently until the other broke in:

"For a leader of crime, Graves, you're singularly infantile! Profanity won't do any good."

"Well, then, what will? Can't you do anything? Gawd knows I'm paying you enough."

"I told you, it's being searched for all over the shop now. If human efforts can find it, we will. Just be patient--by the way, I brought over all the rest of his papers. Have copies made of them at once, will you? We certainly don't want anything like this to happen again. There are two other formulas here that are invaluable, and that couldn't be replaced if lost."

Anton heard the scrape of leather as a battered portfolio was pushed across the desk to Graves. He tiptoed nearer to the open doorway.

"All right, Winton," said John Merton, caustically. "But get busy and find that other paper, or it won't be so pleasant for you! Besides, you've been taking altogether too much of a high hand with me. Watch yourself, or I'll show you mighty quick where you get off!"

MATTHEW WINTON laughed. Then he looked at his companion with amazement, for John Merton had straightened up and was staring at something behind Winton's back.

"Say, where d'you think you are?" came from Grave's lips. "Didn't I tell you men not to get soused till Saturday? You know you're not supposed to come in here."

Swinging around in his chair, Winton saw a pale-faced, flaming-eyed man standing in the doorway. The man was looking straight at Graves, and there was neither respect nor apology in that look.

"I'm not drunk," said the man, "and I know very well where I am. I'm looking at a dirty murderer and a miserable, dastardly coward!"

John Merton leaped to his feet. "What the hell do you mean by that?"

"Just this. Three years ago you shot and killed an unarmed man, and robbed him afterward. Then you shot his son and thought you killed him. You didn't! I'm that son. My father was Anton Babel!"

Blue flame sputtered from the desk, and Anton's cheek burned as the powder stung it. Then he had jumped to Winton, sent him staggering across the room, and shoved the desk hard into John Merton's stomach, as the latter fired again. He knew in that moment what he must do, and he vaulted over the wrecked furniture and fell compactly on the prostrate form of the master criminal. He felt the hard steel of the gun in his hand; jerked around and halted Winston's rush in mid-air. He caught up the brief-case that had fallen to the floor and backed swiftly away, squeezing with desperate abandon on the trigger. Bullets began to spray from the blunt end of the pistol and bore holes in the flimsy walls and floor. The door handle turned in his fingers and he was outside.

There were figures running all around him, and he turned the still spouting muzzle on them; watched them fade and vanish like mist before a wind. He was running himself before he knew it, running back and forth, wildly, like a trapped rat. Far off on the edge of the flying-field he caught sight of a plane standing with propeller turning idly, and he rushed blindly in that direction. Shouts arose; somewhere revolvers cracked, and lead smacked on the concrete all about him. But he was in the plane, and he raced the motor with a roar like the fabled Minotaur. Down the field, up, up, and still up! He was free!

Back in the ruined room, Graves had leaped to his feet the moment Anton was gone. He dragged Winton to his feet, shrieking madly, "He's got those papers!" and the two men stumbled out in the open air.

"Get a plane!" shouted Graves. "For God's sake get a plane! Don't let him get away! It's life and death to us!"

A new ship was hauled out of the hangar immediately, and Graves and Winton sprang into it. Again the beat of a motor was heard on the field, and

again a plane took off. Watching the ship rise stood a motley mass of the bandits, and more than one of them shook his head uneasily.

WITH eyes on the compass and engine opened wide, Anton kept just below the level of the clouds and drove straight on. The reaction from those few exciting moments had come, and he laughed and sang as he listened to the steady "throb, throb," that was carrying him along. He felt calm, secure, safe. He patted the brief-case beside him in the seat; snuggled back into the soft comfort of his chair.

"Beastly luxurious blighters, those bandits," he murmured, laughing aloud again at the thought of their confusion, when--something yellow flashed past his propeller--flashed, and flashed once more.

He went into a side-slip, and dropped two thousand feet in a twinkling. Back he swung, leveled off, and looked up. Coming down on him, like a meteor gone mad, was a tiny ship, with the wind whistling through its struts and a yellow eye winking now and again under its left wing.

"This," he thought humorously, "is no place for me." And he went into an inside loop, came out of it, and began climbing. He was hanging on his propeller. He went higher and higher, and as he looked back he saw the other ship following relentlessly. Suddenly an idea occurred to him; he turned and ran his eyes over the instrument panel, stopping them when he saw, on the further end, a little white button. He pressed it; watched the air just ahead of his left wing. He knew then that he had not guessed wrong, for a yellow tinge seemed to envelop the ship!

Then it was battle of pilot against master pilot--of the hunted against the hunter. Back and forth the two flashed across the sky, going higher and higher with each change of direction, till they were alone in the cold vastness, many thousands of feet above the ground.

Yellow ray against yellow ray--skill against skill!

Neither thought of retreat as they turned and twisted. Once Graves' heat ray caught Anton's ship just behind the cabin, and only the distance that separated them and the almost superhuman quickness of Anton saved him. Anton himself, after a few thrusts with his ray, used it no more, but devoted all his time to his controls. And the wisdom of his tactics began to show. In every maneuver he gained ground on the other, in every sweeping circle he drew nearer to his objective. Graves fought valiantly, but he could not prevent the inevitable; and at last Anton secured the position he was aiming for, over and far behind the bandit. Here John Merton could not reach him with his heat ray, and Anton, knowing it, swooped down in a swift, merciless curve. A golden, dazzling beam came from the under side of his wing; it caught the other ship in a cruel halo of radiance....

And then, only Anton flew the higher skies--alone, watching with set eyes a thing of flames that staggered crazily, end over end, down and still down, till he could see it no longer! John Merton Graves had lost for the first time--and for the last.

BEHIND the falling plane, after a moment, came Anton. He followed it in its wild career up to the time it dashed to earth; then he switched on his helicopters and landed not far from the burning wreck. He got out and stood for a while on the soft green grass, watching the flames. The two ships had come down in a small dell, hedged in on either side by magnificent trees, its interior carpeted with the most vivid of grasses, while a spring flowed from the tiny knoll in the middle. The roaring holocaust near one fringe of trees was in terrible contrast to the peaceful beauty of the surrounding scene. One would have declared that the anger of man could never have penetrated into this quiet vale. The flowers and the fernery seemed to stand aghast at such intrusion!

Reaching into the inside of his cabin, Anton took out the portfolio. Then, sitting there on the grass, he read, page after page, the diary and the records of his dead father. Some parts of these he could not understand, but the whole plainly showed the agony, the tireless labor and the unutterable longing of the man to complete his invention. Failure after failure--the man

had fought his way through, and in the end he had won--what? Fear and Death! And how little, thought Anton, could his father have known, how little foreseen, what misery and destruction his invention would bring upon his country! Anton began to see, as he sat silent there in the glow of the afternoon sun, that it was no fault of his father's that the evil had come. It was not even the fault of the lifeless thing that had been John Merton Graves, charred and burned now in the ashes of his airplane. It was the genius of misguided and thoughtless invention that had created the evil; the thirst for power, that had been willing to kill in order to get possession of it; the selfish desire common to all men, that had made the ray a source of misery. But like a boomerang the heat ray had brought disaster to the individual men who had owned it.

It was the heat ray itself that was guilty--not these men who had built it and used it! Anton seemed to see the black shadow of the ray, like a gigantic monster, looming over the heads of men and women, darkening the lives of innocent people, striking them down, and laughing as it struck. As he thought of these things his anger grew, and he looked around him to find a way to destroy it. He saw the spring bubbling and gurgling; he rose and walked up to the little knoll. He could not see to the bottom of the pool, so deep was the water; and his heart told him that here was a way. He lifted the portfolio.

"There shall be no more heat rays...." He dropped the portfolio into the spring. Down it sank, a vague bulk in the sparkling water, and the light, catching its polished fastenings, sent long reflected beams back to the surface until it had disappeared.

Epilogue

WITHOUT its leader, the bandit organization disintegrated. Like a house of cards crumpled the elaborate system that Graves had built up with so much

care and effort. A rejuvenated police force captured one after another of the ray-equipped planes. And Anton (for it was under his leadership that law and order won slowly back what had been lost), true to his vow, destroyed each ray-projector as it fell into his hands. Six months after John Merton Graves met death in the wreck of his plane, the last of his men was sentenced to prison; and the last heat ray, a most innocent-appearing black box-like contrivance, was placed behind plate glass windows in the Washington Museum, there to rest, the recipient of thousands of awed glances, until it should rot away into the dust from which it had come.

The World of the Red Sun by Clifford Simak



"READY, Bill?" asked Harl Swanson.

Bill Kressman nodded.

"Then kiss 1935 good-bye!" cried the giant Swede, and swung over the lever. The machine quivered violently, then hung motionless in pitch blackness. In the snap of a finger the bright sunlight was blotted out and a total darkness, a darkness painted with the devil's brush, rushed in upon the two men.

Electric lights glowed above the instrument boards, but their illumination was feeble against the utter blackness which crowded in upon the quartz windows of the machine.

The sudden change astounded Bill. He had been prepared for something, for some sort of change, but nothing like this. He half started out of his seat, then settled back.

Harl observed him and grinned.

"Scared," he jested.

"Hell, no," said Bill.

"You're traveling in time, my lad," said Harl. "You aren't in space any more; You are in a time stream. Space is curved about you. Can't travel in time when you're still in space, for space binds time to a measured pace, only so fast, no faster. Curve space about you, though, and you can travel in time. And when you're out of space there's absolutely no light, therefore, utter darkness. Likewise no gravity, nor any of the universal phenomena."

Bill nodded. They had worked it all out before, many, many times. Double wall construction of a strength to withstand the vacuum into which the flier would be plunged at the move of the lever which would snatch it out of space into the time stream. An insulation to guard against the absolute zero that would rule where there could be no heat. Gravity grids at their feet so that they would still be able to orient themselves when flung into that space where there was no gravity. An elaborate heating system to keep the motors warm, to prevent the freezing of gasoline, oil and water. Powerful atmosphere generators to supply air to the passengers and the motors. It had

represented years of work, ten years of it, and a wealth that mounted into seven figures. Time after time they had blundered, again and again they had failed. The discoveries they had made would have rocked the world, would have revolutionized industry, but they had breathed no word of it. They had thought of only one thing, time travel.

To travel into the future, to delve into the past, to conquer time, to this the two young scientists had dedicated all their labors, and at last success lay beneath their hands.

It was in 1933 they had at last achieved their goal. The intervening months were spent in experiments and the building of the combination flier-time machine.

Miniature fliers were launched, with the miniature time machines set automatically. They had buzzed about the laboratory, to suddenly disappear. Perhaps at this very instant they were whirling madly through un-guessed ages.

They managed to construct a small time machine, set to travel a month into the future. In a month's time, almost to the second, it had materialized on the laboratory floor where it had dropped at the end of its flight through time. That settled it! The feasibility of time travel was proved beyond all doubt.

Now Harl Swanson and Bill Kressman were out in the time stream. There had been a gasp of amazement from the crowd, on the street, which had seen the giant tri-motored plane suddenly disappear into thin air.

Harl crouched over the instrument board. His straining ears could distinguish the wheezy mutterings of the three motors as, despite the elaborate precautions taken to safeguard them, the inexorable fingers of absolute zero clutched at their throbbing metal.

This was a dangerous way, but the only safe way. Had they remained on the surface to plunge into the time stream they might have halted to find themselves and their machine buried by shifting earth; they might have found a great building over them, they might have found a canal covering

them. Here in the air they were safe from all that might occur beneath them in the passing centuries through which they sped at an almost unbelievable pace. They were being fairly hurled through time.

Furthermore, the great machine would serve as a means of travel in that future day when they would roll out of the time stream back into space again. Perhaps it might serve as a means of escape, for there was no foreknowledge to tell them what they might expect a few thousand years in the future.

The motors wheezed more and more. They were operating on a closed throttle. At full speed they might dash the propellers to bits.

However, they must be warmed up. Otherwise they would simply die. It would be stark tragedy to roll out into space with three dead engines. It would mean a crash which neither of them could hope to survive.

"Give her the gun, Bill," said Harl in a tense voice.

Bill pushed the accelerator slowly. The motors protested, sputtered, and then burst into a roar. Here, in the machine, because of the artificial air, sound could be heard. Out in the time stream there could be no sound.

Harl listened anxiously, hoping fiercely that the propellers would stand.

Bill cut the acceleration and the motors, once more barely turning over, ran more smoothly.

Harl glanced at his wrist watch. Despite the fact they were in time, where actual time could not be measured by clocks, the little watch still ticked off the time-space seconds and minutes.

They had been out eight minutes. Seven minutes more and they must roll out of time into space.

Fifteen minutes was all that the tortured motors could stand of this intense cold and vacuum.

HE GLANCED at the time dial. It read 2816. They had traveled 2816 years into the future. They should be well over 5000 when the fifteen minutes were at an end.

Bill touched his arm.

"You're sure we're still over Denver?"

Harl chuckled.

"If we aren't, we may find ourselves billions of miles out in space. It's a chance we have to take. According to all our experiments we should be in exactly the same position we were when we snapped into the time stream. We are occupying a hole in space. It should remain the same."

Their lungs began to ache. Either the atmosphere generators were failing or the air leakage out into the vacuum was greater than they had expected. Undeniably the air was becoming thinner. The motors still ran steadily, however. It must be a leakage from the cabin of the ship.

"How long?" bellowed Bill.

Harl glanced at his watch.

"Twelve minutes," he reported.

The time dial read 4224.

"Three minutes," replied Bill, "I guess we can stand it. The motors are running all right. It's getting colder, though, and the air's pretty thin."

"Leakage," said Harl gruffly.

The minutes dragged.

Bill tried to think. Here they hung, hypothetically, over the city of Denver. Less than a quarter of an hour ago, they were in the year 1935, now they were passing over years at a lightning-like speed--a speed of over 350 years in each space-minute. They must now be in about the year 6450.

He glanced at his hands. They were blue. It was intensely cold in the cabin. Their heat was leaking-- leaking swiftly. It was hard to breath. The air was rare--too rare for safety. Suppose they became unconscious. Then they would freeze--would drive endlessly through time. Frozen corpses, riding through the aeons. The earth beneath them would dissolve in space. New worlds might form, new galaxies be born as they whirled on in the time stream. The time needle would reach the pin, bend back upon itself and slip past the pin, to slam against the side of the dial, where it would still struggle to record the flight of the years.

He chafed his hands and glanced at the time dial. It read 5516.

"A quarter of a minute," snapped Harl, his teeth chattering, his right hand on the lever, his wrist watch held in front of him.

Bill placed his hands on the wheel.

"All right!" shouted Harl.

He jerked the lever.

They hung in the sky.

Harl uttered a cry of astonishment.

It was twilight. Beneath them were the ruins of a vast city. To the east lapped a sea, stretching to a murky horizon. The sea coast was a desert of heaped sand.

The motors, warming to their task, bellowed a mighty challenge.

"Where are we?" cried Harl.

Bill shook his head.

"It's not Denver," said Harl.

"Doesn't look much like it," agreed Bill, his teeth still chattering.

He circled, warming the motors.

There was no sign of humanity below them.

The motors blasted a throaty defiance to the desert sands and under Bill's hand, the machine came down in a long swoop, headed for a level stretch of sand near one of the largest of the white stone ruins.

It hit the ground, bounced high in a cloud of sand, struck and bounced again, then rolled to a stop.

Bill cut the motors.

"We're here," he said.

Harl stretched his legs wearily.

Bill glanced at the time dial. It read 5626.

"This is the year 7561," he said slowly, thoughtfully.

"Got your gun?" asked Harl.

Bill's hand went to his side, felt the reassuring touch of the .45 in its holster.

"I have it," he said.

"All right, let's get out."

Harl opened the door and they stepped out. The sand glittered under their boots.

Harl turned the key in the door lock and locked the ring to his belt.

"Wouldn't do to lose the keys," he said.

A chill wind was blowing over the desert, moaning among the ruins, carrying with it a freight of fine, hard granules. Even in their heavy clothing, the time explorers shivered.

Harl grasped Bill by the arm, pointing to the east.

There hung a huge dull red ball.

Bill's jaw fell.

"The sun," he said.

"Yes, the sun," said Harl.

They stared at one another in the half-light.

"Then this isn't the year 7561," stammered Bill.

"No, more likely the year 750,000, perhaps even more than that."

"The time dial was wrong then."

"It was wrong. Badly wrong. We were traveling through time a thousand times faster than we thought."

THEY were silent, studying the landscape about them. They saw only ruins which towered hundreds of feet above the sands. They were ruins of noble proportions, many of them still bearing the hint of a marvelous architecture of which the twentieth century would have been incapable. The stone was pure white, gleaming beautifully in the twilight which the feeble rays of the great brick red sun could not expel.

"The time dial," said Bill, thoughtfully, "was registering thousands of years instead of years."

Harl nodded cheerlessly.

"Maybe," he said. "For all we know it may have been registering tens of thousands of years."

A creature, somewhat like a dog, dull gray in color, with tail hanging low, was silhouetted for a moment on a sand dune and then disappeared.

"These are the ruins of Denver," said Harl. "That sea we saw must cover the whole of eastern North America. Probably only the Rocky Mountains remain unsubmerged and they are a desert. Yes, we must have covered at least 750,000 years, perhaps seven million."

"What about the human race? Do you think there are any people left?" asked Bill.

"Possibly. Man is a hardy animal. It takes a lot to kill him and he could adapt himself to almost any kind of environment. This change, you must remember, came slowly."

Bill turned about and his cry rang in Harl's ear. Harl whirled.

Running toward them, leaping over the sands, came a motley horde of men. They were dressed in furs and they carried no weapons, but they charged down upon the two as if to attack.

Harl yanked his .45 from its holster. His great hand closed around the weapon and his finger found the trigger. It gave him a sense of power, this burly six-shooter.

The men, their furs flying behind them, were only a hundred yards away. Now they yelled, blood-curdling, vicious whoops, which left no doubt that they were enemies.

No weapons. Harl grinned. They'd give 'em hell and plenty of it. There were about fifty in the mob. Big odds, but not too great.

"We might as well let them have it," he said to Bill. The two guns roared. There was disorder in the running ranks, but the mob still forged ahead,

leaving two of its members prone on the ground. Again the .45's barked, spurting a stream of fire.

Men staggered, screaming, to collapse. The rest hurdled them, raced on. It seemed nothing could stop them. They were less than fifty feet away.

The guns were empty. Swiftly the two plucked cartridges from their belts and reloaded.

Before they could fire the mob was on top of them. Bill thrust his gun into the face of a running foeman and fired. He had to sidestep quickly to prevent the fellow tumbling on top of him. A knotted fist connected with his head and he slipped to his knees. From that position he drilled two more of the milling enemies before they piled on top of him.

Through the turmoil he heard the roar of Harl's gun.

He felt the grip of many hands, felt bodies pressing close about him. He fought blindly and desperately.

He fought with hands, with feet, with suddenly bared teeth. He felt bodies wilt under his blows, felt blood upon his hands. The sand, kicked up by many feet, got into his nostrils and eyes, half strangling, half blinding him.

Only a few feet away Harl fought, fought in the same manner as his companion. With their weapons knocked from their hands they resorted to the tactics of their ancient forebears.

It seemed minutes that they battled with their attackers, but it could not have been more than seconds before the sheer weight of numbers subdued them, wound thongs tightly about their hands and feet and left them, trussed like two fowls ready for the grid.

"Hurt, Bill?" called Harl.

"No," replied Bill. "Just mussed up a bit."

"Me, too," said Harl.

They lay on their backs and stared up at the sky. Their captors moved away and massed about the plane.

A loud banging came to the ears of the two. Evidently the others were trying to force an entrance into the machine.

"Let them bang," said Harl. "They can't break anything."

"Except a propeller," replied Bill.

After more banging, the men returned and untying the bonds on the feet of the captives, hoisted them up.

For the first time they had an opportunity to study their captors. They were tall men, well proportioned, clean of limb, with the stamp of well-being about them. Aside from their figures, however, they held a distinctly barbarous appearance. Their hair was roughly trimmed, as were their beards. They walked with a slouch and their feet shuffled in the sand with the gait of one who holds a purposeless existence. They were dressed in well-tanned furs, none too clean. They bore no arms and their eyes were the eyes of furtive beings, shifty, restless, as are the eyes of hunted beasts, always on the lookout for danger.

"March," said one of them, a large fellow with a protruding front tooth. The single word was English, with the pronunciation slightly different than it would have been in the twentieth century, but good, pure English.

They marched, flanked on either side by their captors. The march led back over the same route as the future-men had come. They passed the dead, but no attention was paid them, their comrades passing the sprawled figures with merely a glance. Life apparently was cheap in this place.

CHAPTER II - Orders of Golan-Kirt

THEY passed between monstrous ruins. The men talked among themselves, but, although the tongue was English, it was so intermixed with unfamiliar words and spoken with such an accent that the two could understand very little of it.

They reached what appeared to be a street. It led between rows of ruins and now other humans appeared, among them women and children. All stared at the captives and jabbered excitedly.

"Where are you taking us?" Bill asked a man who walked by his side.

The man ran his fingers through his beard and spat in the sand.

"To the arena," he said slowly that the twentieth century man might understand the words.

"What for?" Bill also spoke slowly and concisely.

"The games," said the man, shortly, as if displeased at being questioned.

"What are the games?" asked Harl.

"You'll find out soon enough. They are held at high sun today," growled the other. The reply brought a burst of brutal laughter from the rest.

"They will find out when they face the minions of Golan-Kirt," chortled a voice.

"The minions of Golan-Kirt!" exclaimed Harl.

"Hold your tongue," snarled the man with the protruding tooth, "or we will tear it from your mouth."

The two time-travelers asked no more questions.

They plodded on. Although the sand beneath their feet was packed, it was heavy going and their legs ached. Fortunately the future-men did not hustle their pace, seeming to be content to take their time.

A good sized crowd of children had gathered and accompanied the procession, staring at the twentieth century men, shrieking shrill gibberish at them. A few of them, crowding too close or yelling too loudly, gained the displeasure of the guards and were slapped to one side.

For fifteen minutes they toiled up a sandy slope. Now they gained the top and in a depression below them they saw the arena. It was a great building, open to the air, which had apparently escaped the general destruction visited upon the rest of the city. Here and there repairs had been made, evident by the decidedly inferior type of workmanship.

The building was circular in shape, and about a half-mile in diameter. It was built of a pure white stone, like the rest of the ruined city.

The two twentieth century men gasped at its size.

They had little time, however, to gaze upon the building, for their captors urged them on. They walked slowly down the slope and, directed by the future-men, made their way through one of the great arching gateways and into the arena proper.

On all sides rose tier upon tier of seats, designed to hold thousands of spectators. On the opposite side of the arena was a series of steel cages, set under the seats.

The future-men urged them forward.

"They're going to lock us up, evidently," said Bill.

He of the protruding tooth laughed, as if enjoying a huge joke.

"It will not be for long," he said.

As they approached the cages, they saw that a number of them were occupied. Men clung to the bars, peering out at the group crossing the sandy

arena. Others sat listlessly, regarding their approach with little or no interest. Many of them, the twentieth century men noticed, bore the marks of prolonged incarceration.

They halted before one of the cells. One of the future-men stepped to the door of the cage and unlocked it with a large key. As the door grated back on rusty hinges, the others seized the two, unbound their hands and roughly hurled them inside the prison. The door clanged to with a hollow, ringing sound and the key grated in the lock.

They struggled up out of the dirt and refuse which covered the floor of the cell and squatted on their heels to watch the future-men make their way across the arena and through the archway by which they had come.

"I guess we're in for it," said Bill.

Harl produced a pack of cigarettes.

"Light up," he said gruffly.

They lit up. Smoke from tobacco grown in 1935 floated out of their cell over the ruins of the city of Denver, upon which shone a dying sun.

They smoked their cigarettes, crushed them in the sand. Harl rose and began a minute examination of their prison. Bill joined him. They went over it inch by inch, but it was impregnable. Except for the iron gate, it was constructed of heavy masonry. An examination of the iron gate gave no hope. Again they squatted on their heels.

Harl glanced at his wrist watch.

"Six hours since we landed," he said, "and from the appearance of the shadows, it's still morning. The sun was well up in the sky, too, when we arrived."

"The days are longer than those back in 1935," explained Bill, "The earth turns slower. The days here may be twenty-four hours or longer."

"Listen," hissed Harl.

To their ears came the sound of voices. They listened intently. Mingled with the voices was the harsh grating of steel. The voices seemed to come from their right. They grew in volume.

"If we only had our guns," moaned Harl.

The clamor of voices was close and seemed to be almost beside them.

"It's the other prisoners," gasped Bill. "They must be feeding them or something."

His surmise was correct.

BEFORE their cell appeared an old man. He was stooped and a long white beard hung over his skinny chest. His long hair curled majestically over his shoulders. In one hand he carried a jug of about a gallon capacity and a huge loaf of bread.

But it was neither the bread nor the jug which caught the attention of Harl and Bill. In his loin cloth, beside a massive ring of keys, were thrust their two .45's.

He set down the jug and the loaf and fumbled with the keys. Selecting one he unlocked and slid back a panel near the bottom of the great door. Carefully he set the jug and the loaf inside the cell.

The two men inside exchanged a glance. The same thought had occurred to each. When the old man came near the door, it would be a simple matter to grasp him. With the guns there was a chance of blazing a way to the ship.

The oldster, however, was pulling the weapons from his loin cloth.

Their breath held in wonder, the time-travelers saw him lay them beside the jug and the loaf.

"The command of Golan-Kirt," he muttered in explanation. "He has arrived to witness the games. He commanded that the weapons be returned. They will make the games more interesting."

"More interesting," chuckled Harl, rocking slowly on the balls of his feet.

These future men, who seemed to possess absolutely no weapons, apparently did not appreciate the deadliness of the .45's.

"Golan-Kirt?" questioned Bill, speaking softly.

The old man seemed to see them for the first time.

"Yes," he said. "Know you not of Golan-Kirt? He-Who-Came-Out-of-the-Cosmos?"

"No," said Bill.

"Then truly can I believe what has come to my ears of you?" said the old man.

"What have you heard?"

"That you came out of time," replied the oldster, "in a great machine."

"That is true," said Harl. "We came out of the twentieth century."

The old man slowly shook his head.

"I know naught of the twentieth century."

"How could you?" asked Harl. "It must have ended close to a million years ago."

The other shook his head again.

"Years?" he asked. "What are years?"

Harl drew in his breath sharply.

"A year," he explained, "is a measurement of time."

"Time cannot be measured," replied the old man dogmatically.

"Back in the twentieth century we measured it," said Harl.

"Any man who thinks he can measure time is a fool," the future-man was uncompromising.

Harl held out his hand, palm down, and pointed to his wrist watch.

"That measures time," he asserted.

The old man scarcely glanced at it.

"That," he said, "is a foolish mechanism and has nothing to do with time."

Bill laid a warning hand on his friend's arm.

"A year," he explained slowly, "is our term for one revolution of the earth about the sun."

"So that is what it means," said the old man. "Why didn't you say so at first? The movement of the earth, however, has no association with time. Time is purely relative."

"We came from a time when the world was much different," said Bill. "Can you give us any idea of the number of revolutions the earth has made since then?"

"How can I?" asked the old man, "when we speak in terms that neither understands? I can only tell you that since Golan-Kirt came out of the Cosmos the earth has circled the sun over five million times."

Five million times! Five million years! Five million years since some event had happened, an event which may not have occurred for many other millions of years after the twentieth century. At least five million years in the future; there was no telling how much more!

Their instrument had been wrong. How wrong they could not remotely have guessed until this moment!

The twentieth century. It had a remote sound, an unreal significance. In this age, with the sun a brick red ball and the city of Denver a mass of ruins, the twentieth century was a forgotten second in the great march of time, it was as remote as the age when man emerged from the beast.

"Has the sun always been as it is?" asked Harl.

The old man shook his head.

"Our wise ones tell us that one time the sun was so hot it hurt one's eyes. They also tell us it is cooling, that in the future it will give no light or heat at all."

The oldster shrugged his shoulders.

"Of course, before that happens, all men will be dead."

The old man pulled the little panel shut and locked it. He turned to go.

"Wait," cried Harl.

The old one faced them.

"What do you want?" he asked, mumbling half-angrily in his beard.

"Sit down, friend," said Harl. "We would like to talk further."

THE other hesitated, half wheeling to go, then turned back.

"We came from a time when the sun hurt one's eyes. We have seen Denver as a great and proud city. We have seen this land when the grass grew upon it and rain fell and there were broad plains where the sea now lies," said Harl.

The oldster sank to the sand in front of their cage. His eyes were lighted with a wild enthusiasm and his two skinny hands clutched the iron bars.

"You have looked upon the world when it was young," he cried. "You have seen green grass and felt rain. It seldom rains here."

"We have seen all you mention," Harl assured him. "But we would ask why we have been treated as foes. We came as friends, hoping to meet friends, but ready for war."

"Aye, ready for war," said the old man in trembling tones, his eyes on the guns. "Those are noble weapons. They tell me you strewed the sands with the dead ere you were taken."

"But why were we not treated as friends?" insisted Harl.

"There are no friends here," cackled the old man. "Not since Golan-Kirt came. All are at one another's throats."

"Who is this Golan-Kirt?"

"Golan-Kirt came out of the Cosmos to rule over the world," said the old man, as if intoning a chant. "He is neither Man nor Beast. There is no good in him. He hates and hates. He is pure Evil. For after all, there is no friendliness or goodness in the universe. We have no proof that the Cosmos is benevolent. Long ago our ancestors believed in love. This was a fallacy. Evil is greater than good."

"Tell me," asked Bill, moving closer to the bars, "have you ever seen Golan-Kirt?"

"Aye, I have."

"Tell us of him," urged Bill.

"I cannot," there was stark terror in the old man's eyes. "I cannot!"

He huddled closer to the cage and his voice dropped to an uncanny whisper.

"Men out of time, I will tell you something. He is hated, because he teaches hate. We obey him because we must. He holds our minds in the hollow of his hand. He rules by suggestion only. He is not immortal. He fears death-- he is afraid--there is a way, if only one with the courage might be found--"

The old man's face blanched and a look of horror crept into his eyes. His muscles tensed and his claw-like hands clutched madly at the bars. He slumped against the gate and gasped for breath.

Faintly his whisper came, low and halting.

"Golan-Kirt--your weapons--believe nothing--close your mind to all suggestion--"

He stopped, gasping for breath.

"I have fought--" he continued, haltingly, with an effort. "I have won-- I have told you-- He has --killed me--he will not kill you--now that you-- know--"

The old man was on the verge of death. Wide-eyed, the two saw him ward it off, gain a precious second.

"Your weapons--will kill him--he's easy to kill--by one who does not-- believe in him--he is a--"

The whisper pinched out and the old man slid slowly to the sands in front of the cage.

The two stared at the crumpled form of humanity.

"Killed by suggestion," gasped Harl.

Bill nodded.

"He was a brave man," he said.

Harl regarded the corpse intently. His eyes lighted on the key ring and kneeling, he reached out and drew the body of the future-man close. His

fingers closed on the ring and ripped it from the loin cloth.

"We're going home," he said.

"And on the way out we'll bump off the big shot," added Bill.

He lifted the guns from the floor and clicked fresh cartridges into the chambers. Harl rattled the keys. He tried several before he found the correct one. The lock screeched and the gate swung open protestingly.

With quick steps they passed out of the cell. For a moment they halted in silent tribute before the body of the old man. With helmets doffed the twentieth century men stood beside the shriveled form of a man who was a hero, a man who had flung his hatred in the face of some terrible entity that taught hate to the people of the world. Scanty as was the information which he had given, it set the two on their guard, gave them an inkling of what to expect.

As they turned about they involuntarily started. Filing into the amphitheater, rapidly filling the seats, were crowds of future-men. A subdued roar, the voice of the assembling people, came to their ears.

The populace was assembling for the games.

"This may complicate matters," said Bill.

"I don't think so," replied Harl. "It's Golan-Kirt we must deal with. We would have had to in any case. These men do not count. As I understand it he exercises an absolute control over them. The removal of that control may change the habits and psychology of the future-men."

"The only thing we can do is fight Golan-Kirt and then act accordingly," said Bill.

"The man who captured us spoke of his minions," Harl said thoughtfully.

"He may be able to produce hallucinations," Bill hazarded. "He may be able to make one believe something exists when it really doesn't. In that case, the

people would naturally believe them to be creatures which came at his beck and call."

"But the old man knew." objected Harl. "He knew that it was all mere suggestion. If all the people knew this the rule of Golan-Kirt would end abruptly. They would no longer believe in his omnipotence. Without this belief, suggestion, by which he rules, would be impossible."

"The old man," asserted Bill, "gained his knowledge in some mysterious manner and paid for its divulgence with his life. Still the old fellow didn't know all of it. He believed this entity came out of the Cosmos."

Harl shook his head, thoughtfully.

"It may have come out of the Cosmos. Remember, we are at least five million years in the future. I expect to find some great intelligence. It is physical, for the old man claimed to have seen it, and that should make our job easier."

"The old man said he was not immortal," commented Bill. "Therefore, he is vulnerable and our guns may do the work. Another thing--we are not to believe a single thing we feel, hear, or see. He seems to rule wholly by suggestion. He will try to kill us by suggestion, just as he killed the old fellow."

Harl nodded.

"It's a matter of will power," he said. "A matter of brain and bluff. Apparently the will power of these people has degenerated and Golan-Kirt finds it easy to control their minds. They are born, live, and die under his influence. It has almost become hereditary to accept his power. We have the advantage of coming out of an age when men were obliged to use their brains. Perhaps the human mind degenerated because, as science increased the ease of life, there was little need to use it. Some fine minds may still remain, but apparently they are few. We are doubters, schemers, bluffers. Golan-Kirt will find us tougher than these future-men."

CHAPTER III - The Struggle of the Ages

BILL produced cigarettes and the two lighted up. Slowly they walked across the vast arena, guns hanging in their right hands. People were filing into the place and the tiers were filling.

A roar came out of the tiers of seats before them. They recognized it. It was the cry of the gathering crowd, the cry for blood, the expression of a desire to see battle.

Harl grinned.

"Regular football crowd," he commented.

More and more poured into the arena, but it was apparent that the inhabitants of the ruined city could fill only a very small section of the thousands upon thousands of seats.

The two seemed lost in the mighty space. Above them, almost at the zenith, hung the vast red sun. They seemed to move in a twilight-filled desert rimmed in by enormous white cliffs.

"Denver must have been a large city at the time this place was built," commented Bill. "Think of the number of people it would hold. Wonder what it was used for?"

"Probably we'll never know," said Harl.

They had gained the approximate center of the arena.

Harl halted.

"Do you know," he said, "I've been thinking. It seems to me we must have a fairly good chance against Golan-Kirt. For the last fifteen minutes every thought of ours has been in open defiance of him, but he has not attempted our annihilation. Although it is possible he may only be biding his time. I am beginning to believe he can't read our minds as he could the mind of the old man. He killed him the moment he uttered a word of treason."

Bill nodded.

As if in answer to what Harl had said, a great weight seemed to press in upon them. Bill felt a deadly illness creeping over him. His knees sagged and his brain whirled. Spots danced before his eyes and a horrible pain gripped his stomach.

He took a step forward and stumbled. A hand clutched his shoulder and fiercely shook him. The shake momentarily cleared his brain. Through the clearing mist which seemed to hang before his eyes, he saw the face of his friend, a face white and lined.

The lips in the face moved.

"Buck up, old man. There's nothing wrong with you. You're feeling fine."

Something seemed to snap inside his head. This was suggestion--the suggestion of Golan-Kirt. He had to fight it. That was it--fight it.

He planted his feet firmly in the sand, straightened his shoulders with an effort, and smiled.

"Hell, no," he said, "there's nothing wrong with me. I'm feeling fine."

Harl slapped him on the back.

"That's the spirit," he roared. "It almost floored me for a minute. We've got to fight it, boy. We've got to fight it."

Bill laughed, harshly. His head was clear now and he could feel the strength flowing back into his body. They had won the first round !

"But where is this Golan-Kirt?" he burst out.

"Invisible," snarled Harl, "but I have a theory that he can't put in his best licks in such a state. We'll force him to show himself and then we'll give him the works."

The frenzied roar of the crowd came to their ears. Those on the bleachers had seen and appreciated the little drama out in the middle of the arena. They were crying for more.

Suddenly a spiteful rattle broke out behind the two.

They started. That sound was familiar. It was the rat-a-tat of a machine gun. With no ceremony they fell flat, pressing their bodies close against the ground, seeking to burrow into the sand.

Little puffs of sand sputtered up all about them. Bill felt a searing pain in his arm. One of the bullets had found him. This was the end. There was no obstruction to shield them in this vast level expanse from the gun that chuckled and chattered at their rear. Another searing pain caught him in the leg. Another hit.

Then he laughed--a wild laugh. There was no machine gun, no bullets. It was all suggestion. A trick to make them believe they were being killed--a trick, which, if carried far enough, would kill them.

He struggled to his knees, hauling Harl up beside him. His leg and arm still pained, but he paid them no attention. There was nothing wrong with them, he told himself fiercely, absolutely nothing wrong.

"It's suggestion again," he shouted at Harl, "There isn't any machine gun."

Harl nodded. They regained their feet and turned. There, only a couple of hundred yards away, a khaki-clad figure crouched behind a gun that chattered wickedly, a red flame licking the muzzle.

"That isn't a machine gun," said Bill, speaking slowly.

"Of course, it's not a machine gun," Harl spoke as if by rote.

They walked slowly toward the flaming gun. Although bullets apparently whistled all about them, none struck them. The pain in Bill's arm and leg no longer existed.

Suddenly the gun disappeared, and with it the khaki-clad figure. One moment they were there, the next they were not.

"I thought it would do just that," said Bill.

"The old boy is still going strong, though," replied Harl. "Here is some more of his suggestion."

HARL pointed to one of the arching gateways. Through it marched file upon file of soldiers, clad in khaki, metal helmets on their heads, guns across their shoulders. An officer uttered a sharp command and the troops began to deploy over the field.

A shrill blast of a bugle drew the attention of the two time-travelers from the soldiers and through another gateway they beheld the advance of what appeared to be a cohort of Roman legionnaires. Shields flashed dully in the sun and the rattle of arms could be distinctly heard.

"Do you know what I believe?" asked Harl.

"What is it?"

"Golan-Kirt cannot suggest anything new to us. The machine guns and the soldiers and legionnaires are all things of which we have former knowledge."

"How is it," asked Bill, "that we see these things when we know they do not exist?"

"I do not know," replied Harl, "there are a lot of funny things about this business that I can't understand."

"Anyhow, he is giving the crowd a good show," observed Bill.

The bleachers were in an uproar. To the ears of the two came the shrill screaming of women, the loud roars of the men. The populace was thoroughly enjoying itself.

A lion, large and ferocious, growling fiercely, leaped past the two men. A thunder of hoof-beats announced the arrival of more of the brain creatures.

"It's about time for us to do something," said Harl.

He lifted his .45 high in the air and fired. A hush fell.

"Golan-Kirt, attention!" roared Harl, in a voice that could be heard in every part of the arena. "We challenge you to personal combat. We have no fear of your creatures. They cannot harm us. You are the one we wish to fight."

An awed silence fell over the crowd. It was the first time their god had ever been openly challenged. They waited for the two lone figures out in the arena to be stricken in a heap.

They were not stricken, however.

Again Harl's voice rang out.

"Come out of hiding, you fat-bellied toad!" he thundered. "Come and fight if you have the guts, you dirty, yellow coward!"

The crowd may not have gathered the exact meaning of the words, but the full insult of them was plain. A threatening murmur rolled out from the bleachers, and there was a sudden surging of the crowd. Men leaped over the low wall in front of the seats and raced across the arena.

Then a sonorous voice, deep and strong, rolled out.

"Stop," it said. "I, Golan-Kirt, will deal with these men."

Harl noticed that the soldiers and the lion had disappeared. The arena was empty except for him and his comrade and the score of future-men who had halted in their tracks at the voice which had come out of nothingness.

They waited, tensed. Harl wriggled his feet into a firmer position. He slipped a cartridge in the gun to take the place of the one which had been fired. Bill mopped his brow with the sleeve of his coat.

"It's going to be brains now," Harl told his friend.

Bill grinned.

"Two mediocre intelligences against a great one," he joked.

"Look, Bill!" shouted Harl.

Directly in front and slightly above the level of their heads a field of light had formed, a small ball of brightness in the murky atmosphere. Slowly it grew. Vibrations set in.

The two watched, fascinated. The vibrations quickened until the whole field was quivering. As the vibrations increased the light faded and a monstrosity began to take form. Only vaguely could it be seen at first. Then it became clearer and clearer, began to take definite form.

Hanging in the air, suspended without visible means of support, was a gigantic brain, approximately two feet in diameter. A naked brain, with the convolutions exposed. It was a ghastly thing.

The horror of it was heightened by the two tiny, pig-like, lidless, close-set eyes and a curving beak which hung directly below the frontal portion of the brain, resting in what was apparently an atrophied face.

The two were aghast, but with a tremendous effort they kept close hold on their self-control.

"Greetings, Golan-Kirt," drawled Harl, sarcasm putting an edge to the words.

As he spoke, his arm swung up and under the pressure of his finger, the hammer of the gun slowly moved backward. But before the muzzle could be brought in line with the great brain, the arm stopped and Harl stood like a frozen man, held rigid by the frightful power which poured forth from Golan-Kirt.

Bill's arm flashed up and his .45 broke the silence with a sullen roar. However, even as he fired, his arm was flung aside as if by a mighty blow and the speeding bullet missed the huge brain by the mere fraction of an inch.

"Presumptuous fools," roared a voice, which, however, seemed not a voice, for there was no sound, merely the sense of hearing. The two, standing rigidly, as if at attention, realized that it was telepathy: that the brain before them was sending out powerful emanations.

"Presumptuous fools, you would fight me, Golan-Kirt? I, who have a hundred-fold the mental power of your combined brains? I, who hold the knowledge of all time?"

"We would fight you," snarled Harl. "We are going to fight you. We know you for what you are. You are not out of the Cosmos. You are a laboratory specimen. Unknown ages ago you were developed under artificial conditions. You are not immortal. You fear our weapons. A bullet in that dirty brain of yours will finish you."

"WHO are you to judge," came the thought-wave, "you, with your tiny, twentieth century brain? You have come unbidden into my time, you have defied me. I shall destroy you. I, who came out of the Cosmos aeons ago to rule over the portion of the Universe I chose as my own, do not fear you or your ridiculous weapons."

"Yet you foiled us when we would have used our weapons on you. If I could reach you I would not need my weapon. I could tear you apart, destroy you with the strength of my two hands."

"Say on," rumbled the thought-waves. "Say what you believe me to be, and when you are done I shall obliterate you. You shall be dust floating in the air, ashes on the sands."

There was an unveiled tone of mockery in the brain emanations.

Harl raised his voice, almost shouting. It was a deliberate act, done in hopes the future-men would hear, that they might realize not too late the true nature of the tyrant Golan-Kirt. They did hear and their mouths gaped as they listened.

"You once were a man," Harl roared, "a great scientist. You studied the brain, specialized in it. At last you discovered a great secret, which gave you the power of developing the brain to an unheard-of degree. Sure of your technique, and realizing the power you might enjoy, you transformed yourself into a brain creature. You are a fraud and an impostor. You have mis-ruled these people for millions of years. You are not out of the Cosmos--you are a man, or what once was a man. You are an atrocity, an abomination--"

The thought emanations which flowed from out the brain trembled, as if with rage.

"You lie. I am out of the Cosmos. I am immortal. I shall kill you--kill you."

Suddenly Bill laughed, a resounding guffaw. It was an escape from the terrible tension, but as he laughed a ludicrous angle presented itself--the twentieth century travelers millions of years ahead of their time wrangling with a cheat pawning himself off as a god on a people who would not be born until long after he was dead.

He felt the horrible power of Golan-Kirt centering upon him. Perspiration streamed down his face and his body trembled. He felt his strength leaving him.

He stopped laughing. As he did so, he seemed to be struck, as if by a blow. He staggered. Then sudden realization flashed through him. Laughter! Laughter, that was it. Laughter and ridicule! That would turn the trick.

"Laugh, you fool, laugh," he screamed at Harl.

Uncomprehendingly, Harl obeyed.

The two rocked with laughter. They whooped and roared.

Hardly knowing what he did, almost involuntarily, Bill screeched horrible things at the great brain, reviled it, taunted it, called it almost unspeakable names.

Harl began to understand. It was all a great game that Bill was playing. A supreme egoism such as was lodged in the brain pitted against them could not bear ridicule, would lose its grip before a storm of jeers. For uncounted centuries, through some miraculous power, it had lived and in all that time it had been accorded only the highest honor. Derision was something with which it was unacquainted, a terrible weapon suddenly loosed upon it.

Harl joined with Bill and hailed gibes at Golan-Kirt. It was a high carnival of mockery. They were not conscious of their words. Their brains responded to the emergency and their tongues formed sentences of unguessed taunts.

Between sentences they laughed, howling with satanic glee.

Through all their laughter they felt the power of the brain. They felt its anger mount at their taunting. Their bodies were racked with pain, they wanted to fall on the sands and writhe in agony, but they continued to laugh, to shout taunts.

It seemed an eternity that they fought with Golan-Kirt, all the time shrieking with laughter, while they suffered fine-edged torture from the tops of their heads to the soles of their feet. Still they dare not stop their laughter, dare not cease their hideous derision, poking fun at the huge intelligence which opposed them. That was their one weapon. Without it the engulfing waves of suggestion which poured with relentless fury upon them would have snapped asunder every nerve in their bodies.

They sensed the raging of the great brain. It was literally crazed with anger. They were "getting its goat!" They were ridiculing the very life out of it.

Unconsciously they allowed the pitch of their laughter to lower. From sheer exhaustion they lapsed into silence.

Suddenly they felt the terrible force of the brain renewed, as it drew upon some mysterious reserve strength. It struck them like a blow, doubling them over, clouding their eyes, dulling their minds, racking every nerve and joint.

Hot irons seemed to sear them, hundreds of needles seemed thrust in their flesh, sharp knives seemed to slash their bodies. They reeled blindly, gropingly, mouthing curses, crying out in pain.

Through the red haze of torture came a whisper, a soft, enchanting whisper, a whisper beckoning to them, showing them a way of escape.

"Turn your weapons on yourselves. End all of this torture. Death is painless."

The whisper fluttered through their brains. That was the way out! Why endure this seemingly endless torture? Death was painless. The muzzle against one's head, a pressure on the trigger, oblivion.

BILL placed his gun against his temple. His finger contracted against the trigger. He laughed. This was a joke. A rare joke. Robbing Golan-Kirt by his own hand.

Another voice burst through his laughter. It was Harl.

"You fool! It's Golan-Kirt! It's Golan-Kirt, you fool!"

He saw his friend staggering toward him, saw his face pinched with pain, saw the moving of the livid lips as they shouted the warning.

Bill's hand dropped to his side. Even as he continued that insane laughter, he felt chagrin steal over him. The hideous brain had played its trump card and had failed, but it had almost finished him. Had it not been for Harl he would have been stretched on the sand, a suicide, his head blown to bits.

Then suddenly they felt the power of the brain slipping, felt its strength falter and ebb. They had beaten it!

They sensed the gigantic struggle going on in that great brain, the struggle to regain the grip it had lost.

For years on end it had lived without struggle, without question that it was the ruler of the earth. They sensed the futile anger and the devastating fear which revolved in the convolutions of Golan-Kirt.

But he was beaten, beaten at last by men from out of a forgotten age. He had met defeat at the hands of ridicule, something he had never known, a thing he had not suspected.

His strength ebbed steadily. The twentieth century men felt his dread power lift from them, sensed the despair which surged through him.

They stopped their laughter, their sides sore, their throats hoarse. Then they heard. The arena resounded with laughter. The crowd was laughing. The horrible uproar beat like a tumult upon them. The future-men were roaring, bent over, stamping their feet, throwing back their heads, screaming to the murky skies. They were laughing at Golan-Kirt, screaming insults at him, hooting him. It was the end of his rule.

For generations the future-men had hated him with the very hate he had taught them. They had hated and feared. Now they feared no longer and hate rode unchained.

From a god he had fallen to the estate of a ridiculous fraud. He was a thing of pity, an uncloaked clown, simply a naked, defenseless brain that had bluffed its way through centuries of kingship.

Through bleared eyes the twentieth century men saw the great brain, writhing now under the scorn of its erstwhile subjects, being laughed powerless. No longer did it hold control over these creatures of a dying world. Its close-set eyes glowed fiercely, its beak clicked angrily. It was tired, too tired to regain its rule. It was the end of Golan-Kirt!

The revolvers of the time-travelers came up almost simultaneously. This time the sights lined on the brain. There was no power to ward off the danger.

The guns roared rapidly, spitting hateful fire. At the impact of the bullets the brain turned over in the air, blood spurting from it, great gashes appeared in it. With a thump it struck the ground, quivered and lay still.

The time-travelers, their eyes closing from sheer weariness, their knees suddenly weak, slumped to the sand, the .45's still smoking.

Over the arena floated the full-toned roar of the future-men.

"Hail to the Deliverers! Golan-Kirt is dead! His rule is ended! Hail to the saviors of the race!"

Epilogue

"IT IS impossible to reverse time. You cannot travel back to your own age. I have no idea of what will occur if you attempt it, but I do know it is impossible. We of this age knew travel into the future was possible, but we lacked the technique to build a machine to try it. Under the rule of Golan-Kirt there was no material progress, only a steady degeneration. We know that it is impossible to reverse time. We, as a people, beg you not to attempt it."

Old Agnar Nohl, his white beard streaming in the wind, his hair flying, spoke seriously. There was a troubled frown on his face.

"We love you," he went on, "you freed us of the tyranny of the brain which ruled over us for uncounted time. We need you. Stay with us, help us rebuild this land, help us construct machines, give us some of the marvelous knowledge which we, as a race, have lost. We can give you much in return, for we have not forgotten all of the science we knew before the coming of Golan-Kirt."

Harl shook his head.

"We must at least try to go back," he said.

The two twentieth century men stood beside the plane. Before them was a solid mass of humanity, a silent humanity in the shadow of the silent ruins of the city of Denver, the future-men who had come to bid the time-travelers a regretful farewell.

A chill wind howled over the desert, carrying its freight of sand. The furs of the future-men fluttered in the gale as it played a solemn dirge between the ruined walls of humbled buildings.

"If there was a chance of your success, we would speed you on your way," said old Agnar, "but we are reluctant to let you go to what may be your death. We are selfish enough to wish to hold you for ourselves, but we love you enough to let you go. You taught us hate was wrong, you removed the hate that ruled us. We wish only the best for you.

"It is impossible to go back in time. Why not remain? We need you badly. Our land grows less and less food every year. We must discover how to make synthetic food or we shall starve. This is only one of our problems. There are many others. You cannot go back. Stay and help us!"

Again Harl shook his head.

"No, we must try it. We may fail, but we must try it at least. If we succeed we shall return and bring with us books of knowledge and tools to work

with."

Agnar combed his beard with skinny fingers.

"You'll fail," he said.

"But if we don't we will return," said Bill.

"Yes, if you don't," replied the old man.

"We are going now," said Bill. "We thank you for your thoughtfulness. We must at least try. We are sorry to leave you. Please believe that."

"I do believe it," cried the old man and he seized their hands in a farewell clasp.

Harl opened the door of the plane and Bill clambered in.

At the door Harl stood with upraised hand.

"Good-bye," he said. "Some day we will return."

The crowd burst into a roar of farewell. Harl climbed into the plane and closed the door.

The motors bellowed, droning out the shouting of the future-men and the great machine charged down the sand. With a rush it took the air. Three times Bill circled the ruined city in a last mute good-bye to the men who watched silently and sorrowfully below.

Then Harl threw the lever. Again the utter darkness, the feeling of hanging in nothingness.

The motors, barely turning, muttered at the change. A minute passed, two minutes.

"Who says we can't travel back in time!" Harl shouted triumphantly. He pointed to the needle. It was slowly creeping back across the face of the dial.

"Maybe the old man was wrong after--"

Bill never finished the sentence.

"Roll her out," he screamed at Harl, "roll her out. One of our engines is going dead!"

Harl snatched at the lever, jerked frantically at it. The faulty motor choked and coughed, sputtered, then broke into a steady drone.

The two men in the cabin regarded one another with blanched faces. They knew they had escaped a possible crash--and death--by bare seconds.

Again they hung in the air. Again they saw the brick-red sun, the desert, and the sea. Below them loomed the ruins of Denver.

"We couldn't have gone far back in time," said Harl. "It looks the same as ever."

They circled the ruins.

"We had better land out in the desert to fix up the engine," suggested Harl. "Remember we have traveled back in time and Golan-Kirt still rules over the land. We don't want to have to kill him a second time. We might not be able to do it."

The plane was flying low and he nosed it up. Again the faulty engine sputtered and missed.

"She's going dead this time for certain," yelled Bill. "We'll have to chance it, Harl. We have to land and chance getting away again."

Harl nodded grimly.

Before them lay the broad expanse of the arena. It was either that or crash.

As Bill nosed the plane down the missing motor sputtered for the last' time, went dead.

They flashed over the white walls of the amphitheater and down into the arena. The plane struck the sand, raced across it, slowed to a stop.

Harl opened the door.

"Our only chance is to fix it up in a hurry and get out of here," he shouted at Bill. "We don't want to meet that damn brain again."

He stopped short.

"Bill," he spoke scarcely above a whisper, "am I seeing things?"

Before him, set on the sands of the arena, only a few yards from the plane, was a statue of heroic size, a statue of himself and Bill.

Even from where he stood he could read the inscription, carved in the white stone base of the statue in characters which closely resembled written English.

Slowly, haltingly, he read it aloud, stumbling over an occasional queer character.

"Two men, Harl Swanson, and Bill Kressman, came out of time to kill Golan-Kirt and to free the race."

Below it he saw other characters.

"They may return."

"Bill," he sobbed, "we haven't traveled back in time.

We have traveled further into the future. Look at that stone--eroded, ready to crumble to pieces. That statue has stood there for thousands of years!"

Bill slumped back into his seat, his face ashen, his eyes staring.

"The old man was right," he screamed. "He was right. We'll never see the twentieth century again."

He leaned over toward the time machine.

His face twitched.

"Those instruments," he shrieked, "those damned instruments! They were wrong. They lied, they lied!"

With his bare fists he beat at them, smashing them, unaware that the glass cut deep gashes and his hands were smeared with blood.

Silence weighed down over the plain. There was absolutely no sound.

Bill broke the silence.

"The future-men," he cried, "where are the future-men?"

He answered his own question.

"They are all dead," he screamed, "all dead. They are starved--starved because they couldn't manufacture synthetic food. We are alone! Alone at the end of the world!"

Harl stood in the door of the plane.

Over the rim of the amphitheater the huge red sun hung in a sky devoid of clouds. A slight wind stirred the sand at the base of the crumbling statue.

The Planetoid of Peril By Paul Ernst.



Undaunted by crazy tales of an indestructible presence on Asteroid Z-40, Harley 2Q14N20 sets out alone to face and master it.

HARLEY 2Q14N20 stopped for a moment outside the great dome of the Celestial Developments Company. Moodily he stared at their asteroid development chart. It showed, as was to be expected, the pick of the latest asteroid subdivision projects: the Celestial Developments Company,

established far back in 2045, would handle none but the very best. Small chance of his finding anything here!

However, as he gazed at the chart, hope came suddenly to his face, and his heart beat high under his sapphire blue tunic. There was an asteroid left for sale there--one blank space among the myriad, pink-lettered Sold symbols. Could it be that here was the chance he had been hunting so desperately?

He bent closer, to read the description of the sphere, and the hope faded gradually from his countenance. According to its orbit and location, and the spectroscopic table of its mineral resources, it was a choice planetoid indeed. Of course such a rich little sphere, listed for sale by the luxurious Celestial Developments Company, would cost far more than he could ever rake together to pay for an asteroid.

Shaking his head, he adjusted his gravity regulator to give him about a pound and a half of weight, and started to float on. Then, his lips twisting at his own absurd hopefulness, he stopped again; and after another moment of indecision turned into the archway that led to the concern's great main office. After all, it wouldn't hurt to inquire the price, even though he knew in advance it would be beyond his humble means.

A YOUNGSTER in the pale green of the one-bar neophyte in business promptly glided toward him.

"Something for you to-day, sir?" he asked politely.

"Yes," said Harley. "I'm looking around for a planetoid; want to get a place of my own out a way from Earth. Something, you understand, that may turn out to be a profitable investment as well as furnishing an exclusive home-site. I see on your chart that you have a sphere left for sale, in the Red Belt, so I came in to ask about it."

"Ah, you mean asteroid Z-40," said the youngster, gazing with envious respect at the ten-bar insignia, with the crossed Sco drills, that proclaimed

Harley to be a mining engineer of the highest rank. "Yes, that is still for sale. A splendid sphere, sir; and listed at a remarkably low figure. Half a million dollars."

"Half a million dollars!" exclaimed Harley. It was an incredibly small sum: scarcely the yearly salary of an unskilled laborer. "Are you sure that's right?"

"Yes, that's the correct figure. Down payment of a third, and the remaining two thirds to be paid out of the exploitation profits--"

HERE the conversation was interrupted by an elderly, grey-haired man with the six-bar dollar-mark insignia of a business executive on his purple tunic. He had been standing nearby, and at the mention of asteroid Z-40 had looked up alertly. He glided to the two with a frown on his forehead, and spoke a few curt words to the neophyte, who slunk away.

"Sorry, sir," he said to Harley. "Z-40 isn't for sale."

"But your young man just told me that it was," replied Hartley, loath to give up what had begun to look like an almost unbelievable bargain.

"He was mistaken. It's not on the market. It isn't habitable, you see."

"What's wrong--hasn't it an atmosphere?"

"Oh, yes. One that is exceptionally rich in oxygen, as is true of all the spheres we handle. With a late model oxygen concentrator, one would have no trouble at all existing there."

"Is its speed of revolution too great?"

"Not at all. The days are nearly three hours long: annoying till you get used to it, but nothing like the inferior asteroids of the Mars Company where days and nights are less than ten minutes in duration."

"Well, is it barren, then? No minerals of value? No vegetation?"

"The spectroscope shows plenty of metals, including heavy radium deposits. The vegetation is as luxuriant as that of semi-tropic Earth."

"Then why in the name of Betelguese," said Harley, exasperated, "won't you sell the place to me? It's exactly what I've been looking for, and what I'd despaired of finding at my price."

"I'm forbidden to tell why it isn't for sale," said the executive, starting to float off. "It might hurt our business, reputation if the truth about that bit of our celestial properties became widely known--Oh, disintegrate it all! Why wasn't the thing erased from the chart weeks ago!"

"Wait a minute." Harley caught his arm and detained him. "You've gone too far to back out now. I'm too eager to find some such place as your Z-40 to be thrown off the subject like a child. *Why* isn't it for sale?"

THE MAN tightened his lips as though to refuse to answer, then shrugged.

"I'll tell you," he said at last. "But I beg of you to keep it confidential. If some of our investors on neighboring asteroids ever found out about the peril adjoining them on Z-40, they'd probably insist on having their money back."

He led the way to a more secluded spot under the big dome, and spoke in a low tone, with many a glance over his shoulder to see if anyone were within earshot.

"Z-40 is an exceptionally fine bit of property. It is commodious; about twenty miles in diameter. Its internal heat is such that it has a delightful climate in spite of the extreme rarity of atmosphere common to even the best of asteroids. It has a small lake; in fact it has about everything a man could want. Yet, as I said, it is uninhabitable."

His voice sank still lower.

"You see, sir, there's already a tenant on that sphere, a tenant that was in possession long before the Celestial Developments Company was organized. And it's a tenant that can't be bought off or reasoned with. It's some sort of beast, powerful, ferocious, that makes it certain death for a man to try to land there."

"A beast?" echoed Harley. "What kind of a beast?"

"We don't know. In fact we hardly even know what it looks like. But from what little has been seen of it, it's clear that it is like no other specimen known to universal science. It's something enormous, some freak of animal creation that seems invulnerable to man's smaller weapons. And that is why we can't offer the place for sale. It would be suicide for anyone to try to make a home there."

"*Has* anyone ever tried it?" asked Harley. "Any competent adventurer, I mean?"

"Yes. Twice we sold Z-40 before we realized that there was something terribly wrong with it. Both buyers were hardy, intrepid men. The first was never heard of after thirty-six hours on the asteroid. The second man managed to escape in his Blinco Dart, and came back to Earth to tell of a vast creature that had attacked him during one of the three-hour nights. His hair was white from the sight of it, and he's still in a sanitarium, slowly recovering from the nervous shock."

HARLEY frowned thoughtfully. "If this thing is more than a match for one man, why don't you send an armed band with heavy atomic guns and clear the asteroid by main force?"

"My dear sir, don't you suppose we've tried that? Twice we sent expensive expeditions to Z-40 to blow the animal off the face of the sphere, but neither expedition was able to find the thing, whatever it is. Possibly it has

intelligence enough to hide if faced by overwhelming force. When the second expedition failed, we gave it up. Poor business to go further. Already, Z-40 has cost us more than we could clear from the sale of half a dozen planetoids."

For a long time Harley was silent. The Company was a hard headed, cold blooded concern. Anything that kept them from selling an asteroid must be terrible indeed.

His jaw set in a hard line. "You've been honest with me," he said at length. "I appreciate it. Just the same--I still want to buy Z-40. Maybe I can oust the present tenant. I'm pretty good with a ray-pistol."

"It would be poor policy for us to sell the asteroid. We don't want to become known as a firm that trades in globes on which it is fatal to land."

"Surely my fate is none of your worry?" urged Harley.

"The asteroid," began the executive with an air of finality, "is not for--"

"Man, it's *got* to be!" cried Harley. Then, with a perceptible effort he composed himself. "There's a reason. The reason is a girl. I'm a poor man, and she's heiress to fabulous--Well, frankly, she's the daughter of 3W28W12 himself!" The executive started at mention of that universally known number. "I don't want to be known as a fortune hunter; and my best bet is to find a potentially rich asteroid, cheap, and develop it--incidentally getting an exclusive estate for my bride and myself far out in space, away from the smoke and bustle of urban Earth. Z-40, save for the menace you say now has possession of it, seems to be just what I want. If I can clear it, it means the fulfillment of all my dreams. With that in view, do you think I'd hesitate to risk my neck?"

"NO," said the executive slowly, looking at the younger man's powerful shoulders and square-set chin and resolute eyes. "I don't think you would. Well, so be it. I'd greatly prefer not to sell you Z-40. But if you want to sign

an agreement that we're released of all blame or responsibility in case of your death, you can buy it."

"I'll sign any agreement you please," snapped Harley. "Here is a down payment of a hundred and seventy thousand dollars. My name is Harley; sign 2Q14N20; unmarried--though I hope to change that soon, if I live-- occupation, mining engineer, ten-bar degree; age, thirty-four. Now draw me up a deed for Z-40, and see that I'm given a stellar call number on the switchboard of the Radivision Corporation. I'll drop around there later and get a receiving unit. Good day." And, adjusting his gravity regulator to lighten his weight to less than a pound, he catapulted out the archway.

Behind him a prosaic business executive snatched a moment from a busy day to indulge in a sentimental flight of fancy. He had read once of curious old-time beings called knights, who had undertaken to fight and slay fire-eating things called dragons for the sake of an almost outmoded emotion referred to as love. It occurred to him that this brusque man of action might be compared to just such a being. He was undertaking to slay a dragon and win a castle for the daughter of 3W28W12--

The romantic thought was abruptly broken up by the numeral. It jarred so, somehow, that modern use of numbers instead of names, when thinking of sentimental passages of long ago. "The rose is fair; but in all the world there is no rose as fair as thou, my princess 3W28W12...." No, it wouldn't do.

Cursing himself for a soft-headed fool, he went to deliver a stinging rebuke to somebody for not having blocked Z-40 off the asteroid chart weeks before.

"HARLEY 2Q14N20," recited the control assistant at Landon Field. "Destination, asteroid Z-40. Red Belt, arc 31.3470. Sights corrected, flight period twelve minutes, forty-eight seconds past nine o'clock. All set, sir?"

Harley nodded. He stepped inside the double shell of his new Blinco Dart-- that small but excellent quantity-production craft that had entirely replaced

the cumbersome space ships of a decade ago--and screwed down the man-hole lid. Then, with his hand on the gravity bar, he gazed out the rear panel, ready to throw the lever at the control assistant's signal.

The move was unthinkingly, mechanically made. Too many times had he gone through this process of being aimed by astronomical calculation, and launched into the heavens, to be much stirred by the wonder of it. The journey to Z-40 in the Dart was no more disquieting than, a century and a half ago, before the United States had fused together into one vast city, a journey from Chicago to Florida would have been in one of the inefficient gasoline-driven vehicles of that day.

All his thoughts were on his destination, and on a wonder as to what could be the nature of the thing that dwelt there.

He had just come from the sanitarium where the man who'd bought Z-40 before him was recovering from nervous exhaustion. He'd gone there to try to get first hand information about the creature the executive at the Celestial Developments Company had talked so vaguely of. And the tale the convalescent had told him of the thing on the asteroid was as fantastic as it was sketchy.

A tremendous, weirdly manlike creature looming in the dim night--a thing that seemed a part of the planetoid itself, fashioned from the very dirt and rock from which it had risen--a thing immune to the ray-pistol, that latest and deadliest of man-made small-arms--a thing that moved like a walking mountain and stared with terrible, stony eyes at its prey! That was what the fellow said he had faintly made out in the darkness before his nerves had finally given way.

He had impressed Harley as being a capable kind of a person, too; not at all the sort to distort facts, nor to see imaginary figures in the night.

There was that matter of the stone splinter, however, which certainly argued that the wan, prematurely white-haired fellow was a little unbalanced, and hence not to be believed too implicitly. He'd handed it to Harley, and gravely declared it to be a bit of the monster's flesh.

"Why, it's only a piece of rock!" Harley had exclaimed before he could check himself.

"Did you ever see rock like it before?"

Turning it over in his hands, Harley had been forced to admit that he never had. It was of the texture and roughness of granite, but more heavily shot with quartz, or tridymite than any other granite he'd ever seen. It had a dull opalescent sheen, too. But it was rock, all right.

"It's a piece of the thing's hide," the man had told him. "It flaked off when it tried to pry open the man-hole cover of my Dart. A moment after that I got Radivision arc directions from London Field, aimed my sights, and shot for Earth. It was a miracle I escaped."

"But surely your ray-pistol--" Harley had begun, preserving a discreet silence about the man's delusion concerning the stone splinter.

"I tell you it was useless as a toy! Never before have I seen any form of life that could stand up against a ray-gun. But *this thing did!*"

THIS was another statement Harley had accepted with a good deal of reservation. He had felt sure the weapon the man had used had a leak in the power chamber, or was in need of recharging, or something of the kind. For it had been conclusively proved that all organic matter withered and burned away under the impact of the Randchron ray.

Nevertheless, discounting heavily the convalescent's wild story, only a fool would have clung to a conviction that the menace on Z-40 was a trivial one. There was *something* on that asteroid, something larger and more deadly than Harley had ever heard of before in all his planetary wanderings.

He squared his shoulders. Whatever it was, he was about to face it, man against animal. He was reasonably certain his ray-gun would down anything on two legs or ten. If it didn't--well, there was nothing else that

could; and he'd certainly provide a meal for the creature, assuming it ate human flesh....

A mechanic tapped against the rear view panel to recall his wandering attention. The control assistant held up his hands, fingers outspread, to indicate that there were ten seconds left.

Harley's hand went to his throat, where was hung a locket--a lovely but useless trinket of the kind once much worn by Earth women--and his fingers tightened tenderly on it. It had belonged to Beatrice 3W28W12's great-great-grandmother, and Beatrice had given it to him as a token.

"With luck, my dear," he whispered aloud. "With luck...."

There was a slight vibration. He threw the gravity bar over to the first notch. Earth dropped, plummet-like, away from him. He pushed the bar to the limit leg; and, at a rate of hundreds of miles a second, was repelled from Earth toward Z-40, and the thing that skulked there.

WITH a scarcely perceptible jar, he landed on the small sphere that, he hoped, was to be his future home. Before opening his man-hole lid, he went from panel to panel of the Dart and cautiously reconnoitered. He had elected to land beside the little lake that was set like a three hundred-acre gem on the surface of Z-40, and it was more than possible that the enemy had its den nearby.

However, a careful survey of the curved landscape in all directions failed to reveal a glimpse of anything remotely threatening. He donned his oxygen concentrator--in appearance a simple tube of a thing, projecting about six inches above his forehead, and set in a light metal band that encircled his head. Adjusting his gravity regulator so he wouldn't inadvertently walk clear off into empty space--he calculated his weight would be less than a twentieth of an ounce here--he stepped out of the Dart and gazed around at the little world.

Before him was the tiny lake, of an emerald green hue in the flashing sunlight. Around its shores, and covering the adjacent, softly rolling countryside as far as eye could reach, was a thick growth of carmine-tinted vegetation: squat, enormous-leaved bushes; low, sturdy trees, webbed together by innumerable vines. To left and right, miniature mountains reared ragged crests over the abbreviated horizon, making the spot he was in a peaceful, lovely valley.

He sighed. There was everything here a man could wish for--provided he could win it! Loosening his ray-pistol in its holster, he started to walk slowly around the lake to choose a site for the house he intended to build. On the opposite shore he found a place that looked suitable.

A FEW yards back from the water's edge, curling in a thick crescent like a giant sleeping on its side, was a precipitous outcropping of rock; curious stuff, rather like granite, that gleamed with dull opalescence in the brilliant sunlight. With that as a sort of natural buttress behind the house, and with the beautiful lake as his front dooryard, he'd have a location that any man might envy.

He returned to his Dart, hopped back across the lake in it, and unloaded his Sco drill [see endnote 1] . With this he planned to sink a shaft that would serve in the future as the cellar for his villa, and in the present as an entrenchment against danger.

But now the swift night of Z-40 was almost upon him. The low slant of the descending sun warned him that he had less than ten minutes of light left, until the next three-hour day should break over the eastern rim. He placed the drums and the flexible hose of the Sco drill so that he could begin operations with it as soon as the dawn broke, and started to walk toward the precipitous outcropping of quartziferous stone immediately behind the home-site he had picked. He would climb to the top of this for a short look around, and then return to the Dart--in which double-hulled, metal fortress he thought he would be safe from anything.

HE HAD almost reached the rock outcropping when the peculiarities of its outline struck him anew. He'd already observed that the craggy mound rather resembled a sleeping, formless giant. The closer he got to it the more the resemblance was heightened and the greater grew his perplexity.

It sprang straight up from the carmine underbrush, like a separate heap of stone cast there by some mighty hand. One end of it tapered down in a thick ridge; and this ridge had a deep, horizontal cleft running along it which made it appear as though it were divided into two leg-like members. In the center the mound swelled to resemble a paunchy trunk with sagging shoulders. This was topped by a huge, nearly round ball that looked for all the world like a head. There were even rudimentary features. It was grotesque--one of those freak sculptures of nature, Harley reflected, that made it seem as though the Old Girl had a mind and artistic talent of her own.

He scrambled through the brush till he reached that part of the long mound that looked like a head. There, as the sun began to stream the red lines of its descent over the sky, he prepared to ascend for his view of the surrounding landscape.

He'd got within twenty feet of the irregular ball, and had adjusted his gravity regulator to enable him to leap to its top, when he stopped as abruptly as though he had been suddenly paralyzed. Over the two deep pits that resembled nostrils in the grotesque mask of a face he thought he had observed a quiver. The illusion had occurred in just the proper place for an eyelid. It was startling, to say the least.

"I'm getting imaginative," said Harley. He spoke aloud as a man tends to do when he is alone and uneasy. "I'd better get a tighter grip on my nerves, or--good God!"

COINCIDENT with the sound of his voice in the thin, quiet air, the huge stumps that looked like legs stirred slightly. A tremor ran through the entire mass of rock. And directly in front of Harley, less than twenty feet from where he stood, a sort of half-moon-shaped curtain of rock slid slowly up to reveal an enormous, staring eye.

Frozen with a terror such as he had never felt before in a life filled with adventure, scarce breathing, Harley glared at the monstrous spectacle transpiring before him. A hill was coming to life, A granite cliff was growing animate. It was impossible, but it was happening.

The half-moon curtains of rock that so eerily resembled eyelids, blinked heavily. He could hear a faint rasping like the rustle of sandpaper, as they did so. One of the great leg stumps moved distinctly, independent of the other one. Three columnar masses of rock--arms, or tentacles, with a dozen hinging joints in each--slowly moved away from the parent mass near the base of the head, and extended toward the Earth man.

Still in his trance, with his heart pounding in his throat till he thought it would burst, Harley watched the further awful developments. The eyelids remained opened, disclosing two great, dull eyes like poorly polished agates, which stared expressionlessly at him. There was a convulsion like a minor earthquake, and the mass shortened and heightened its bulk, raising itself to a sitting posture. The three hinged, irregular arms suddenly extended themselves to the full in a thrust that barely missed him. They were tipped, those arms, with immense claws, like interlocking, rough-hewn stone fingers. They crashed emptily together within a few feet of Harley. Then, and not till then, did the paralysis of horror loose its grip on the human.

He tore his ray-pistol from its holster and pointed it at the incredible body. An angry, blue-green cone of light leaped from the muzzle, and played over the mighty torso. Nothing happened. He squeezed the trigger back to the guard. The blue-green beam increased in intensity, and a crackling noise was audible. Under that awful power the monster should have disappeared, dissolved to a greasy mist. But it didn't.

The light beam from the ray-gun died away. The power was exhausted. It was only good for about ten seconds of such an emergency, full-force discharge, after which it must be re-charged again. The ten seconds were up. And the gigantic creature against which it had been directed had apparently felt no injury from a beam that would have annihilated ten thousand men.

The now useless ray-pistol slipped from his limp fingers. Stupefied with horror at the futility of the deadly Randchron ray against this terrible adversary, he stood rooted to the spot. Then the thing reached for him again; and his muscles were galvanized to action--to instinctive, stupid, reasonless action.

Screaming incoherently, mad with horror of the stone claws that had clutched at him, he turned and ran. In great leaps he bounded away from the accursed lake and made for the taller trees and thicker vegetation at a distance from the shore. It was the worst thing he could have done. There was a chance that he could have reached his Dart, had he thought of it, and soared aloft out of reach. But he thought of nothing. All he wanted to do, in that abysmal fear that can still make a mindless animal out of a civilized man, was to run and hide--to get away from the fearful monster that had risen up to glare at him with those stony, pitiless eyes, and to reach for him with two-fingered bands like grinding rock vises.

JUST AS the sun fell below the rim of the asteroid, plunging it into a darkness only faintly relieved by the light of the stars, he crashed into the deeper underbrush. A trailing creeper tripped him in his mad flight. He fell headlong, to lie panting, sobbing for breath, in the thick carpet of blood-colored moss.

Behind him, from the direction of the lake, he heard a sudden clangor as of rock beating against metal. This endured only a short time. Then the solid ground beneath him shook slightly, and an appalling crash of trees and underbrush to the rear told him that the stone colossus was on his trail.

He leaped to his feet and continued his great bounds over the sharply curved surface of the asteroid, banging against tree trunks, bruising himself against stones, falling in the darkness to rise again and flee as before in a mad attempt to distance the crashing sound of pursuit behind him.

Then he felt himself writhing in thin air as his flying course took him over the edge of a cliff. Down, down he fell, to land in a dense bed of foliage far below. Something hit his head with terrific force. Pinwheels of light flashed before his eyes, to fade into velvety nothingness....

SLOWLY, uncertainly he wavered back to consciousness. For a moment he was aware of nothing save that he was lying on some surface that was jagged and uncomfortable, and that it was broad daylight. He opened his eyes, and saw that he was reclining, across a springy bed formed of the top of a tree. Ahead of him loomed a cliff about a hundred feet high.

Remembrance suddenly came to him. The unreasoning rush through the underbrush. The nightmare creature lumbering swiftly after him. The fall over the cliff into the top of this tree.

With a cry, he sat up, expecting to see the stone giant nearby and poised to leap. But it was nowhere in sight; nor, listen as intently as he would, could he hear the sounds of its crashing path through the brush. Somehow, for the moment at least, he had been saved. Perhaps his disappearance over the cliff edge had thrown it off his track.

He became aware of the fact that it was difficult for him to breathe. His lungs were heaving in a vain effort to suck in more oxygen, and his tongue felt thick as though he were being strangled. Then he saw that his oxygen concentrator had been knocked from his head when he fell, and was dangling from a limb several feet away. It was almost out of breathing range. Had it fallen on through the branches to the ground he would have died, in his unconsciousness, in the rarified atmosphere. He reached for it; settled the band around his head again.

After once more listening and peering around to make sure the rock colossus was not about, he descended the tree that had saved his life, and began to walk in the direction he judged the lake to be. He would get into his Dart, cruise aloft out of harm's way, and perhaps think up some effective course of action.

HE WAS thinking clearly, now. And, in the glare of daylight, no longer an unreasoning animal fleeing blindly over a dim-lit foreign sphere, he was unable to understand his panic of the night. Afraid? Of course he had been afraid! What man wouldn't have been at sight of that monstrous thing? But that he, Harley 2Q14N20, should have lost his head completely and gone plunging off into the brush like that, seemed unbelievable. To the depths of his soul he felt ashamed. And to his own soul he made the promise that he would wipe out, in action, that hour of cowardice.

As he wound his way through the squat, carmine forest, he tried to figure out the nature of the thing that had crashed balefully after him in the black hours.

It had seemed made of rock--a giant, primitive stone statue imbued with life. But it was impossible that it should really be fashioned of rock. At least it ought to be impossible. Rock is inorganic, inanimate. It simply couldn't have the spark of life in it. Harley had seen many strange creations, on many strange planets, but never had he seen inorganic mineral matter endowed with animation. Nor had anyone else.

Yet the thing *looked* as though made of stone. Of some peculiar, quartz-suffused granite--proving that the wan, white-haired man he had talked to in the sanitarium had not been mad at all, but only too terribly sane. The creature's very eyes had had a stony look. Its eyelids had rasped like stone curtains rubbing together. Its awful, two-fingered hands, or claws, had ground together like stones rubbing.

Was it akin to the lizards, the cold-blooded life of Earth? Was this rocky exterior merely a horny shell like that of a turtle? No. Horn is horn and rock is rock. The two can't be confused.

The only theory Harley could form was that the great beast was in some strange way a link between the animal and the mineral kingdoms. Its skeletal structure, perhaps, was silicate in substance, extending to provide an outside covering that had hardened into actual stone, while forming an interior support to flesh that was half organic, half inorganic matter. Some such silicate construction was to be found in the sponge, of Earth. Could this be a gigantic relative of that lowly creature? He did not know, and couldn't guess. He wasn't a zoologist. All he knew was that the thing appeared to be formed of living, impregnable stone. He knew, also, that this fabulous creature was bent on destroying him.

At this point in his reflections, the glint of water came to his eyes between the tree trunks ahead of him. He had come back to the lake.

FOR moments he stood behind one of the larger trees on the fringe and searched around the shore for sight of the rock giant. It was nowhere in evidence. Rapidly he advanced from the forest and ran for the Dart. From a distance it appeared to be all right; but as he drew near a cry rose involuntarily to his lips.

In a dozen places the double hull of the little space craft was battered in. The man-hole lid was torn from its braces and bent double. The glass panels, unbreakable in themselves, had been shoved clear into the cabin; their empty sash frames gaped at Harley like blinded eyes. Never again would that Blinco Dart speed through the heavens!

He went to the spot where he had left his Sco drill, and a further evidence of the thing's cold blooded ferocity was revealed. The intricate mechanism had been wrenched into twisted pieces. The drums were battered in and the flexible hose lengths torn apart in shreds. The inventor himself couldn't have put it in working order again.

He was hopelessly trapped. He had no means of fighting the colossus. He had no way of escaping into space, nor of returning to Earth and trying to raise a loan that would allow him to come back here with men and atomic guns. He hadn't even a way of intrenching himself in the ground against the next attack.

FOR AN instant his hair prickled in a flash of the blind panic that had seized him a few hours before. With a tremendous effort of will he fought it down. This--the destruction of his precious Dart and drill--was the result of one siege of insensate fear. If he succumbed to another one he might well dash straight into the arms of death. He sank to the ground and rested his chin on his fist, concentrating all his intellect on the hopeless problem that faced him.

The surface of Z-40 was many square miles in extent. But, if he tried to hide himself, he knew it was only a question of time before he would be hunted down. The asteroid was too tiny to give him indefinite concealment. Flight, then, was futile.

But if he didn't try to conceal himself in the sparse forest lands, it meant that he must stay to face the monster at once--which was insanity. What could he do, bare-handed, against that thirty-foot, three-tentacled, silicate mass of incredible life!

It was useless to run, and it was madness to stay and confront the thing. What, then, could he do? The sun had slid down the sky and the red of another swift dusk was heralding the short night before he shook his head somberly and gave the fatal riddle up.

He rose to his feet, intending to make his way back to the concealment--such as it was--of the forest. It might be that he could find safety in some lofty treetop till day dawned again. Then he stopped, and listened. What was that?

From far away to the left he could hear faint sounds of some gargantuan stirring. And, coincident with the flickering out of the last scrap of sunlight, a distant crashing came to his ears as an enormous body smashed like an armored ship through trees and thorn bushes and trailing vines. The rock thing had found his trail and was after him again.

A SECOND time Harley fled through the dim-lighted night, stumbling over boulders and tripping on creepers. But this time his flight was not that of panic. Frightened enough, he was; but his mind was working clearly as he leaped through the forest away from the source of the crashing.

The first thing he noted was that though--as far as his ears could inform him--he was managing to keep his lead, he wasn't outdistancing his horrible pursuer by a yard. Dark though the night was, and far away as he contrived to keep himself, the colossus seemed to cling to his trail as easily as though following a well-blazed path.

He climbed a tree, faced at right angles to the course he had pursued, and swung for the next tree. It was a long jump. But desperation lent abnormal power to his muscles, and the gravity regulator adjusted to extremely low pitch, was a great help. He made it safely. Another swinging leap into the dark, to land sprawling in a second tree; a third; a fourth. Finally he crouched in a tangle of boughs, and listened. He was a quarter of a mile from the point where he had turned from his first direction. Perhaps this deviation would throw the rock terror off.

It didn't. He heard the steady smashing noise stop. For an instant there was a silence in the darkness of the asteroid that was painful. Then the crashing was resumed, this time drawing straight toward where he was hidden. Somehow the thing had learned of his change of direction.

He continued his flight into the night, his eyes staring glassily into the darkness, his expression the ghastly one of a condemned man. And as he fled the crashing behind him told how he was followed--easily infallibly, in

spite of all his twisting and turning and efforts at concealment. What hellish intelligence the monster must possess!

HE RAN for eternities. He ran till his chest was on fire, and the sobbing agony of his breathing could be heard for yards. He ran till spots of fire floated before his eyes and the blood, throbbing in his brain, cut out the noise of the devilish pursuit behind him. At long last his legs buckled under him, and he fell, to rise no more.

He was done. He knew it. His was the position of the hunted animal that lies panting, every muscle paralyzed with absolute exhaustion, and glares in an agony of helplessness at the hunter whose approach spells death.

The crashing grew louder. The tremor of the ground grew more pronounced as the vast pursuer pounded along with its tons and tons of weight. Harley gazed into the blackness back along the way he had come, his eyes sunk deep in the hollows fatigue had carved in his face, and waited for the end. The dark night darkened still more with the approach of another swift, inexorable dawn.

There was a terrific rending of tree trunks and webbed creepers. Dimly in the darkness he could see something that towered on a level with the tallest trees, something that moved as rapidly and steadily as though driven by machinery. Fear so great that it nauseated him, swept over him in waves; but he could not move.

The first grey smear of dawn appeared in the sky. In the ghostly greyness he got a clearer and clearer sight of the monster. He groaned and cowered there while it approached him--more slowly now, eyeing him with staring, stony orbs in which there was no expression of any kind, of rage or hate, of curiosity or triumph.

Great stumps of legs, with no joints in them, on which the colossus stalked like a moving stone tower--a body resembling an enormous boulder carved by an amateurish hand to portray the trunk of a human being--a craggy

sphere of rock for a head, set directly atop the deeply riven shoulders--a face like the horrible mask of an embryonic gargoyle--a mouth that was simply a lipless chasm that opened and closed with the sound of rocks grinding together in a slow-moving glacier--the whole veiled thinly by trailing lengths of snapped vines, great shattered tree boughs, bushes, all uprooted in its stumping march through the forest! Harley closed his eyes to shut out the sight. But in spite of himself they flashed open again and stared on, as though hypnotized by the spectacle they witnessed.

THE GREY of dawn lightened to the first rose tint of the rising sun. As though stung to action by the breaking of day, the thing hastened its ground-shaking pace. With one last stride, it came to Harley's side and loomed far above, the unwinking eyes glaring down at him.

The three arms, hinged at equidistant points at the base of the horrible head, slowly lowered toward his prostrate form. There was a grating noise as the creature hinged in the middle and bent low, bringing its enormous, staring eyes within two yards of his face.

One of its hands closed over his leg, tentatively, experimentally, as though to ascertain of what substance he was made. He cried aloud as the rock vise, like a gigantic lobster claw, squeezed tight. The thing drew back abruptly. Then the chasm of its mouth opened a little, for all the world as though giving vent to soundless, demoniac laughter. All three of the vise-like hands clamped over him--lightly enough, considering their vast size, and intimating that the colossus did not mean to kill him for a moment or two--but so cruelly that his senses swam with the pain of it.

He felt the grip relax. The vast stone pincers were lifted from him; slithered to the ground beside him.

The first blinding rays of the sun were beating straight on the colossal figure, which glittered fantastically, like a huge splintered opal, in their brilliance.

It glared down at Harley. The abyss of a mouth opened as though again giving vent to silent, infernal laughter. Then, with the noise of a landslide, the giant form settled slowly to the ground. The rock half-moons of curtains dropped over the expressionless, dull eyes. The whole great figure quivered, and grew still. It lay without movement, stretched along the ground like a craggy, opalescent hill.

DAZED, stunned by such fantastic behavior, Harley struggled wearily to his feet. He had been a dead man as surely as though shot with a ray-gun. One twitch of those terrible rock pincers would have broken him in two pieces. It had seemed as though that deadly twitch were surely forthcoming. And then the thing had released him--and had lain down to go to sleep! Or was it asleep?

He took a few slow steps away from it, expecting to see the three great tentacles flash out to capture him as a cat claws at a mouse that thinks it is escaping. The arms didn't move. Astounding as it was, Harley was free to run away if he chose. Why was that?

A hint of a clue to the creature's action began to unfold in his mind. When he had first laid eyes on it, in daylight, it was asleep. It had not pursued him during the preceding day, which argued that again it was asleep. And now, with the first touch of dawn, it was once more quiet, immobile.

The answer seemed to be that it was entirely nocturnal; that for some obscure, unguessable reason sunlight induced in it a state of suspended animation. It seemed an insane theory, but no other surmise was remotely reasonable.

But if it were invariably sunk in a coma during daylight, why had it delayed killing him just a moment ago? Its every act indicated that it possessed intelligence of a high order. It was more than probable that it realized its limitation--why hadn't it acted in accordance with that realization?

On thinking it over, he believed he had the answer to that, too. He remembered the way the gaping mouth had seemed to express devilish mirth. The thing was playing with him. That was all. It had saved him for another night of hopeless flight and infallible trailing through the forests of Z-40.

HE GAZED at the monster in a frenzy of impotent rage and fear. If only he could kill it somehow in its sleep! But he couldn't. In no way could he harm it. Secure in its silicate covering, it was impervious to his wildest attempts at destruction. And it knew it, too; hadn't it laughed just before sinking down to slumber through the asteroidal day?

With his Sco drill he might have pierced that silicon dioxide armor till he reached the creature's gritty flesh. Then he could have used his ray-pistol, possibly disintegrating all its vitals and leaving only an empty rock shell sprawling hugely there in the trampled underbrush.

But he had neither drill nor pistol. The one had been wrecked by the monster; the other he had dropped in his madness of fright, after completely exhausting its power chamber.

Half crazed by the hopelessness of his plight, he paced up and down beside the great length of animated stone. Trapped on an asteroid--utterly unarmed--alone with the most pitiless, invulnerable creation Nature had placed in a varied universe! Could Hell itself have devised a more terrible fate?

Shuddering, he turned away. He had some two and a half hours of grace, before the sun should set again and darkness release the colossus from its torpor. There was only one thing he could do: place the diameter of the sphere between the thing and himself, and try to exist through another night of terror.

His hands went to his belt to adjust the gravity regulator strapped about his waist. By reducing his weight to an ounce or two, he could make the long

journey possible for his fatigue-numbed muscles--

His hands clenched into fists, and his breath whistled between his set teeth as a wild hope came to him. The touch of the regulator had brought inspiration. A way to defeat the gigantic creature stretched on the ground beside him! A way to banish it forever from the surface of this lovely little world where all was perfect but the monstrous thing with which it was cursed!

TREMBLING with the reaction wrought in him by the faint glow of hope, he began to race toward the lake and his wrecked Blinco Dart. It wasn't hard to find the way; the rock giant had left a trail as broad as a road; trees broken off like celery stalks, bushes smashed flat, tracks that looked like shallow wells sunk into the firm ground. Fifty yards to a step, he leaped along this path, praying that one object, just one bit of machinery in the Dart had escaped the general wreckage.

Arrived at the little shell at last, he was forced to pause a moment and compose himself before he could step into the battered interior. Everything hinged on this one final chance!

Drawing a long breath, he entered the cabin and made his way to the stern repellor. A groan escaped his lips. It was ruined. Evidently the thing had reached in the man-hole opening with one of its three mighty tentacles, and, with sure instinct, had fastened its stone claws on the repellor housing. At any rate, it was ground to bits. But--there was the bow repellor.

He went to that, and the flame of hope came back to his eyes. It was untouched! He threw back the housing to make sure. Yes, the inter-sliding series of plates, that reversed or neutralized gravitational attraction at a touch, were in alignment.

He bent to the task of disconnecting it from the heavy bed-plate to which it was bolted, his fingers flying frenziedly. Then back to the torpid colossus

he hurried, clutching the precious repellor tight in his arms lest he should drop it, walking carefully lest he should fall with it.

There he was faced by a new difficulty that at first seemed insurmountable. How could he fasten the repellor to that great, impenetrable, opalescent bulk?

A second time he bounded back toward the Dart, to return with the heavy bow and stern bed-plates from its hull.

ONCE more the orange ball of the sun was sinking low. The terrible brevity of those three-hour days! He had less than ten minutes, Earth time, in which to work.

One of the thing's arms, or tentacles, was pointing out away from the parent mass. It was twice the diameter of his body, and was ponderously heavy; but by rigging a fulcrum and lever device, with a stone as the fulcrum and a tough log as the lever, he managed to raise it high enough to thrust one of the bed-plates under it. The other massive metal sheet he laid across the top.

The lower rim of the sun touched the horizon. A tremor ran through the colossus. In frantic haste, racing against the flying seconds, Harley clamped the two plates tight against the columnar tentacle with four long hull-bolts from the Dart. He set the repellor in position on the top bed-plate, and began to fasten it down.

He felt another tremor run through the stone column on which he was squatting. With a rasping sound, one of the half-moon rock-curtains the thing had for eyelids blinked open and shut. He shot the last bolt into place and tightened it.

The stone claws, just behind which he had fastened the repellor, ground savagely shut. The great tentacle began to lift, and carried him with it--toward the chasm of a mouth. That chasm opened wide....

Harley straightened up and jumped for the ground. As he jumped, he kicked the repeller control bar hard over.

There was a shrieking of wind as though all the hurricanes in the universe were battling each other. He felt himself turned over and over, buffeted, torn at, in a mad aerial whirlpool. The whirlpool calmed as the abruptly created vacuum, caused by the monster's rapid drive upward, passed after it into space. Far overhead there was one fleeting glimpse of a pinpoint of dull opalescence reflecting the rays of the dying sun. Then the pinpoint disappeared in fathomless space. With his gravity regulator adjusted to the point where it almost neutralized his weight, he fell slowly back toward the ground....

ALMOST immediately after he had landed in the darkness that blanketed the surface of the planetoid, a big space yacht settled down near him. A searchlight bored a hole in the blackness, to bathe him in cold light. Down the beam came a band of men from Earth, pushing atomic cannon and gazing apprehensively about them. In the lead was an elderly man with the six-bar dollar-mark insignia of a business executive on his purple tunic.

He hastened to Harley's side. Harley only dimly heard what he said. Something to the effect that the man had been worried after selling the fatal asteroid. Had got in touch with the Radivision Corporation and learned that this call number was dead. Had come with men and big guns to rescue him, if it wasn't too late, and take him back to Earth. Had cruised for half an hour before locating him. "I've been calling myself a murderer ever since I let you have Z-40, Mr. 2Q14N20," he concluded. "I was sure we'd get here only to find you'd been killed. But I see you've managed to escape from the creature so far--though by the look of you, it must have been a narrow shave."

At this Harley shook off some of the gathering dizziness that hazed his mind. He threw back his shoulders. "Managed to *escape*? I did better than that. I got rid of the thing forever! Yes, I'll return to Earth with you, but only

because I need a new Blinco Dart. I'm coming back to Z-40 at once. Perfect little paradise, now that I've got rid of that--animated--rock pile--"

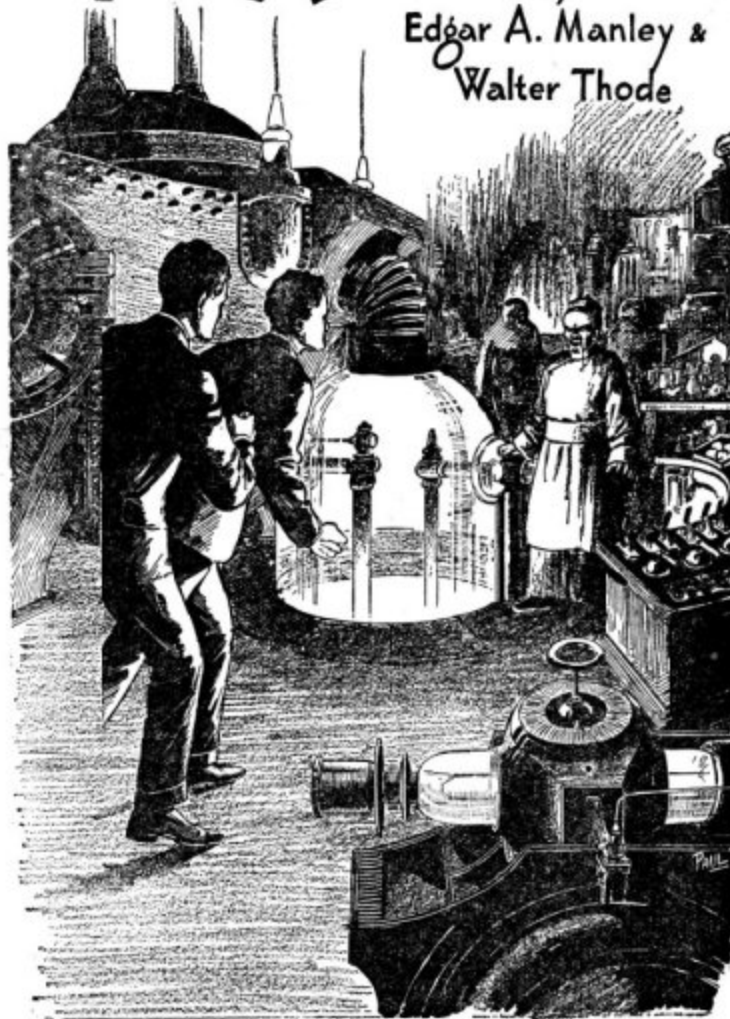
The belated rescuers caught him as he collapsed.

[Endnote} This implement, invented by Blansco 9X247A in 2052, is not so much a "drill" as a compressor. It is somewhat superficially defined in the Universal Dictionary, 2061 edition, as "a portable mechanism which, by alternating gaseous blasts of extreme heat and cold, breaks down the atoms of inorganic matter, causing them to collapse together in dense compression." Thus a cubic yard of earth can be reduced in size, in a few moments, to a pebble no larger than a pea; which pebble would weigh, on Earth, close to a ton.

The Time Annihilator by Edgar A. Manley and Walter Thode.

The Time Annihilator

by
Edgar A. Manley &
Walter Thode



(Illustrated by C. M. C.)

There we stood, adrift in time, facing Chang Hsu, his visage distorted with hatred.

LARRY STENSON yawned as he slumped into an overstuffed chair and picked up a newspaper from the table of his library. His appearance startled me. His face was ashen and black smudges, that told of sleepless nights, were under his pale blue eyes.

Bert Clay turned from the library window and crossed the room toward Stenson. "Are you going to have our little game of bridge tonight, Larry?" he asked, lighting a cigarette.

"Not tonight, Bert, old man," Stenson replied, crumpling the newspaper impatiently and flinging the sheets into the fireplace: "Fact is, I'm feeling, mighty rotten."

Clay glanced at me and his red-thatched head moved almost imperceptibly. His very thoughts seemed written on his freckled countenance. He was worried over Stenson, fearing a nervous breakdown; almost pitifully eager to lure the young scientist into a few hours' relaxation at cards.

"Just one little game, Larry," I pleaded.

The atmosphere of the library seemed surcharged with dread, a spectral presence that could not be confined by time nor space. I often thought of that presentiment, in the days that followed, when time was annihilated, when the domed-headed men of Pei stalked on their mission of destruction.

That night we three were on the threshold of the most devastating adventure that mortal ever faced. Stenson, indeed, had already passed through the curtain of the future, crossing as casually into the future as one might walk from one room to another. We were to learn of his time journey a little later, told in faltering words.

I suppose, recalling that night, that two more prosaic men than Bert Clay and I were not to be found in New York City. Clay was a lawyer, cynically scornful of all fantastic conceptions. He was as practical a fellow as ever battled words in the criminal courts of the city.

As for myself, I had been on newspapers in New York for ten years. This experience, I can truthfully assert, made me walk close to the ground,

dubious of all things that could not be defined by rule of thumb or hard logic.

Larry Stenson, our golf and bridge companion for five years, was of the same age as Clay and me, in the early thirties. He was regarded as one of the outstanding young men of the science department of Columbia University. There was nothing pedantic about Stenson; ordinarily his light sense of humor cheered the more gloomy Clay and myself.

But tonight Stenson sat brooding in his chair, puffing nervously on his cigarette. After an interminable silence he leaped to his feet and walked toward Clay, placing his hand on the lawyer's shoulder. His wide generous mouth twitched apologetically. "I hope I haven't seemed grouchy tonight, fellows," he muttered.

"Forget it, Larry," I remarked. "Guess you've been trying to revolutionize science."

Stenson smiled, rather bleakly.

"What would you say if I told you I had?" he queried.

"Three cheers for our side!" chuckled Clay. "What have you solved now?"

"The problem of time and space!"

"Lane, we've got a rising young Einstein in our midst," said Clay, turning to me. "See that he gets three columns on the front page."

"And how! Let us in on the big secret, Larry!"

We were all on our feet now, laughing rather foolishly, I fancy. Clay was slapping Stenson on the back, as if to drive away the gloom that possessed the man.

Stenson's face, etched against the light,

shocked me. He seemed to have aged a score of years since we had seen him the night before.

"Don't slap his back like that, you chump!" I cried to Clay, angrily. Then to Stenson: "For the love of Mike, what ails you, man?"

"The machine--the machine I invented," he remarked. "Maybe you'll say I'm crazy, Lane, but I projected myself hundreds of years into the future this morning!"

Clay stared at me incredulously over Stenson's shoulder and I know my face must have revealed baffled amazement. I was convinced Stenson was raving. "Larry, old man, sit down, please," I begged. "You must have been under some tremendous strain. Tell us--"

"I have told you, you pair of blithering fools! I can see by your silly face you think I've lost my mind, Lane. I've been working on this--for years. Secretly!"

He sagged into his chair, burying his face in his hands. Dry sobs shook his strong body and I winced and turned toward the windows. The lights of New York below gleamed like fireflies--mile after mile. I bit my lower lip. There was something lashing in hearing a man sob.

"I WENT--hundreds of years!" he babbled brokenly. "Sights of horror everywhere! The world--gone!"

Clay hurried toward me, leaving the crushed man alone.

"He ought to be sent to a hospital," he muttered. "Poor ol' Larry. I never thought--"

"Shut up, he'll hear you!"

"What the dickens will we do?"

"He's been overworked. I have noticed this coming on for weeks. I told him he needed sleep. The poor devil's been cutting down on sleep until his nerves are shot. Don't irritate him!"

Stenson walked toward us, his eyes flashing angrily.

"Talking about me, eh? Listen, I know you were. Cut it out. Think I'm batty, eh? I'll prove it. How would you both like a trip?"

"A trip?" I asked. "Where to--Europe? I'm too broke!"

"No, not to Europe. The greatest trip any man ever took. It got me--lack of sleep and worry for weeks past. I've solved it. I've annihilated time and it don't mean anything! It's like an accordion that can be folded or dragged out. There's a unity to time that links the past, present and future. All our conceptions of time will go by the board!"

There was something fascinating about the flow of words that leaped from his lips and I marveled at the rapid transformation in the man. He was an enthusiast, so immersed in his strange fetish that all else was forgotten. He soared at a bound to the heights.

"Listen, Lane, and you too, Bert! Did you ever stop to think that if one lived on a planet whirling about the giant sun Betelgeuse, and could stare through a telescope at events upon this little earth of ours, he would see the French Revolution being enacted? Light waves sweep the universe. When we stare into the sky at night we really see light that has been speeding for countless years across the ether toward us!"

"We're listening, Larry," I remarked. "Go on."

"I have followed out this theory, but in another sphere of thought. Existence is like a mirror that reflects everything. Perhaps I can explain my idea more clearly by recalling the old adage that 'Coming events cast their shadows before.' The future is already in existence. Time is a river that flows endlessly back and forth, sweeping the universe in its tide!"

Stenson led us across the richly carpeted library toward his laboratory. He switched on a light and pointed with stubby forefinger at a group of electric generators in the corner. Coils of wires, repellent like slumbering reptiles, lay about the generators. I had never been in his laboratory before, despite

my friendship with him. There were depths of secrecy about the man, I perceived, that no one had ever really plumbed.

Another door turned and I whistled in astonishment. In this room was the strangest looking box I had ever gazed upon. Mounted on wheels, the walls were of glass, so were the floor and ceiling. A faint light pierced this box of mystery and I shivered involuntarily. Even the phlegmatic Clay was impressed, I noted, as I glanced into his heavy face. The ashen whiteness had departed from Stenson's countenance and a healthy flush returned almost miraculously.

"An odd room, eh, fellows?" Stenson asked as he led us into the box. "Couldn't you easily imagine anything happening here?"

"A swell place for a murder, I'll say!" snorted Clay.

"I'll say it would be an ideal place for a murder," responded Larry Stenson. "There would be no corpus delicti to worry about. Once in this chamber, with the time annihilation machine grinding through the centuries, no detective on earth could solve the problem!"

"You seemed on edge just a few moments ago, Larry," I said. "Now you seem cheery as blazes. How come?"

"Nerves gave out on me from lack of rest, Lane. You've felt that way yourself, haven't you? I guess that silly sobbing I've done cleared the atmosphere for me!"

"What a little hermitage you've got here!" exclaimed Clay peering into the seemingly endless expanse of mirrors. As my eyes grew accustomed to the peculiar light I followed Clay's staring eyes.

THERE was something weirdly unreal about the chamber. I seemed to look into illimitable distances. Indistinct forms of creatures and cities merged

crazily into each other in the glass. I rubbed my eyes, feeling I was bewitched.

"I guess I'm feeling the spell of the place, Larry. Say, what the devil--"

"What you see are merely visual survivals that have clung to the mirrors! Sort of the same principle as retention of vision to the retina of the eye when a light goes out."

"Now, you want to go to sleep and rest up for a week straight, Larry," counseled Clay kindly.

"Can't seem to knock off any rest. I just toss about in bed."

"I'll go out to the drug store and get some dope that'll knock you for a goal," I remarked. "I'll be back in five minutes."

I hurried from the apartment and a minute later was speeding downward in the elevator, immersed in thought. I had known Larry Stenson too long, and had too great an admiration for his intelligence, to doubt that he had made an astounding discovery. Possibly he had stumbled on a widened television that could project the beholder about the world. I was convinced, however, that he was entirely wrong about projection into the future. Nearly a week without sleep--one could hardly call his few off minutes of rest such--had played queer pranks with Stenson. I was sure of it.

I bought a sleeping potion at the drug store on the corner and pushed my way through the throngs on Madison avenue. It felt good to be alive that warm, summer night in the year 1945. I thought of the marvels through which I had lived. Only two months before I had crossed the Atlantic on an air liner in 18 hours. The human voice spanned the world now instantaneously. It was a world at peace, a joyous, prosperous globe.

Again I was back in the apartment. "Where's the patient, Bert?" I demanded laughingly. "Where's that sick scientist of ours who just needs a few real hours sleep?"

"Gone! Great Scott--he's gone!"

"Quit spoofing me, Bert. Try that on your silly juries. Where is he?"

I stared at Bert Clay apprehensively. His jaw sagged and he tried vainly to light a cigarette. His hand trembled so violently the match went out. He uttered an oath and flung the cigarette on the floor. I seized his arm violently.

"Where's Larry gone to?"

Clay stared at me foolishly, his gray eyes wavering. "Damned if I can figure it out!" he said brokenly. "I left him in that accursed glass box for a few moments. He slammed the door. I got a glass of water and then returned. There was a buzzing sound from inside and I know he must have turned the switch. I fought like a madman to open the door, but I couldn't budge it! I heard voices inside! A bedlam of voices. I was crazy with fear, old man, and I want you to know I'm not a coward!"

"Voices?"

"Yes, speaking in strange languages. Laughing, hyena voices. They sounded inhuman. Then I thought I heard a voice rising higher than the rest. Sounded strangely like a Chink's voice!"

"Well, where did they come from? There was no one else in the apartment after I left."

"No, they were in that accursed cabinet. The buzzing sound kept up. For a while I thought of smashing the batteries in the corner of the other room--the outer part of the laboratory."

"Damned good thing you didn't or you'd have probably marooned him somewhere about the year 2,500!"

I marveled that I could have spoken so about the unwritten future--or was it really unwritten? Now I know that the future was a book, a tremendous volume, written indelibly from the Morning of Creation.

"He was in there--I could hear his voice and I tried to break down the door with a chair. I heard Larry shout out."

"What did he say?"

"He cried, 'Bert, for God's sake don't!' His voice seemed a million miles away!"

"And then?"

"The buzzing of the batteries stopped. The door opened as easy as pie under my hand. I stared into the box--then I entered. 'Larry!' I yelled. But there was no answer."

"Holy Smoke! Where was he?"

"Gone! I told you when you came in he was gone!"

CHAPTER II - Plunged Into Time!

I suppose my face must have appeared extremely stupid. Certainly Clay's sagging lips would have aroused gales of laughter under ordinary circumstances. But neither of us felt in a mood to laugh. Horror clutched our hearts. The curtain of time had parted, swallowing Larry Stenson in the vague mist of eternity.

"Let's both look at that damned contrivance, Bert," I cried. "This is unbelievable. How could he have vanished like that?"

"I don't know, old man--but he did."

Clay nodded bleakly and rubbed his chin in agitation. "He was such a prince of a fellow," he muttered. "Could he have gone through the walls?"

We were at the open door of the time chamber now, staring into the half dark recess like frightened children. The laboratory lights outside illuminated a sector of this strange room of illusions, cutting a path of flame into the stygian darkness.

"The room holds the future," I said in an awed whisper.

Clay, growling angrily, shoved me aside and stumbled into the time chamber. I walked into the box at his heels, panting in agitation. I was in a blue funk of fear, which my face undoubtedly revealed. Hesitatingly I made my way to the walls and placed my hands on the glass, seeking vainly for some hidden recess into which Stenson could have vanished.

Blurred faces peered mockingly at me--or so I fancied. They were long faces, with narrowed eyes and distorted bodies--but human in their general appearance. And yet there was something hellishly inhuman about them that baffled me. The glass gave way beneath my hands as if I were pressing into soft rubber. The sound of far-off voices whispered in my ears.

"Bert--this glass. It doesn't seem to have any end!"

"No, I noticed that, Lane. Damned if it doesn't seem bewitched."

I walked a step closer until my body pressed against the mirrors. Clay shouted warningly. "Don't do that, Lane. You'll go right through."

"What kind of glass is this made of?" I demanded.

"You got me, Lane. This is the oddest place I've ever been in since I was born."

"There is only one thing left for us to do. We must start after poor Stenson. I hope it isn't too late to save him."

"I'm afraid he's dead now."

We glanced about the room of glass, with its hint of distances beyond human concept. The chamber could not have been more than five feet square; and yet the illusion of space, as illimitable as the universe of a billion suns, encompassed us in everlasting arms. I seemed suspended in space, living through the births and lives and deaths of all human beings. There was a cosmic depth to the time machine that seemed to touch every conceivable dimension. I wondered if I were enthralled in a nightmare from which I would presently awake, trembling with weariness.

"Here are a bunch of dials," remarked Clay, rousing me from my reverie. "I'm getting the creeps in this place, Lane."

I studied the dials in the tiny container as I stared over his broad shoulders. Minute markings, numerals that stood for almost endless years, were engraved on the dial. The indicator pointed to the year 1945. I studied the dial and perceived that a scratch had been made at 2250, as if intentionally by some sharp instrument. I pointed out the scratch to Clay.

The unknown spread before us, enticing in its very terror; the future beckoned us with the bony fingers of Death. I slammed the door as Clay pressed on the indicator. We were off into time and space.

A faint humming sound, strangely like that of a swarm of honey bees, filled the time chamber and we felt ourselves hurled into space with inconceivable violence. A succession of scenes, fleeting as those of dreams, and myriad voices projected themselves into our consciousness. I laid my hand on Clay's arm, seeking the reassurance of his very presence.

The mirror walls of the time vehicle seemed to melt away as did the glass floor. Only the indicator, with its numerals spelling away the cycle of years, possessed reality for us. We moved at tremendous speed into the future; and yet the sense of time seemed extremely vague. Time seemed to vanish into nothingness, leaving only the mad sensation of rushing, rushing breathlessly into we knew not what.

We stared into eternity with bewilderment as we moved through many lands and eras. We mingled for fragments of time in the midst of multitudes abiding in towering cities; again we were out in the ether of space--at least

so it seemed. The time journey seemingly described a great arc, a mysterious parabolic curve that to my mind has remained the very essence of the linking of past, present and future into a perfect unity.

TIME was condensed into a microcosm in the chamber. I hesitate now to call the strange vehicle by such a name. Surely it could not be described in all its attributes by such a word. As we wandered through streets of the cities yet to come we were part of the passing throngs. And yet while we saw them, they were utterly oblivious of our presence. The walls of the time machine were penetrated by these human beings, changeless in type from those living today but strangely garbed in flowing robes. Their passing bodies touched those of Clay and me, but were less dense than the faintest vapor. All was unreal but Clay and me. Clay stared at the indicator that was carrying us resistlessly into the future.

"Don't let that dial out of your sight," he said. "If you do, you're going to be stranded hundreds of years beyond your time."

"Or thousands."

"That's what happened I believe to Stenson."

I pointed to the scratch on the indicator board at the year 2250. "I wonder if that was made by Stenson? Perhaps it was put there in the hope we would see it and trace him."

"But how did the time machine return? It's funny that it could do it of its own accord."

"Yes, but this is the strangest machine I believe the world has ever seen. Neither you nor I, Clay, know anything about it."

The mounting time dial pointed to the year 2132. We found ourselves in a great boulevard with the indicator floating before our eyes. Tropical trees rose before the white buildings and the holiday crowds--for such they

seemed--passed laughingly about us. They were attired in robes of the gayest hues. I envied them their carefree life. Their cheeks blossomed with glowing health. Great airships floated overhead and music floated on the breeze.

Clay and I found ourselves floating a trifle above the ground after a brief period of walking through the multitudes. Either the indicator had halted, leaving us at rest in a city that must have been the home of many millions, or time had for a period stretched to gigantic dimensions for us. The buildings towered two thousand feet high.

Again I stared at the indicator and found it climbing. We were hurried through time, the scene fading from our eyes. The journey reminded me of a motion picture projected on a screen at such tremendous speed that everything turned into a blue blur.

"How in the dickens can I stop this machine?" asked Clay testily.

The problem was a baffling one. A series of little ivory handles, the uses of which were utterly unknown to us, hung on the indicator box. There was more than a faint possibility that if we touched the wrong handle we faced annihilation. We passed the year 2250--marked by the momentous scratch--with swirling rapidity. I scratched my head in bewilderment.

"She's rising away up in the twenty-hundreds now, Clay," I remarked. "We better put a halt to this trip."

Utter terror clutched my heart as I stared at the rising indicator. The consequences of our time journey were impressed with appalling force on my brain. Clay was ashen-faced. His hands moved with uncertainty along the row of handles.

"I'm going to see what happens," said Clay touching one of the handles.

He pressed down on the knob and the time machine fluttered as if swept by a gale. We were shaken violently against the invisible walls. The indicator came to a sharp halt, pointing to the number 2418. A feeling of incredulity

swept me. "Does that mean we're actually in the year 2418--or are we victims of a hoax?" I demanded.

"We're in 2418 or dreaming nightmares."

WE were in a desert, a vast plain of shifting sand. A group of buildings, crumbling ruins, lay half-buried a few hundred yards before us. Silence shrouded us and I saw Clay clutch his throat in a gesture of despair. Stouthearted Bert Clay was a man of vaunting courage, but the bleak misery of our situation preyed on his mind now. Indeed, while I attempted to cheer him, I could not help but reflect on the problems that confronted us. How were we ever to return to our own time?

The glass door floated before us, and the miracle chamber walls, but the laboratory had vanished into the vacuum of eternity. Save for the illusory walls, we were castaways in a trackless wilderness of sand.

"We're done for, Bert, if we ever lose track of that dial," I warned.

"I'm afraid we're done for anyway."

"Keep a stiff upper lip."

He smiled. Good old Bert Clay. I knew as I watched the smile sweep his rugged face that I could not have found a finer or truer companion for such an adventure. "Take a look, Lane, I'm grinning like a Cheshire cat."

I was now examining a few other dials and levers in the mysterious room. One struck me as being similar to the "stick" of a 1930 airplane.

"What's this?" I asked.

Clay shook his head. "I dunno."

"Well, we can't lose much by finding out," I said philosophically, and suiting action to words, I shoved the stick forward. Immediately the glass

box began to roll forward on its wheels, with us comfortably within.

Clay sprang forward and looked out incredulously. "We're moving!"

"Certainly," I exclaimed beaming. "This is a time-o-mobile. Where do you want to go--"

We approached the low-lying structures, which seemed to hint at ravaged centuries, and old memories flooded my mind. Two memorable and oft-recalled years of my youth had been spent in Tibet with a scientific expedition sent out by the American Museum of Natural History. I represented a newspaper syndicate on that golden venture, reporting the finding of dinosaur skeletons and their stupendous eggs. The structures in the sand resembled nothing so much on earth as the temples of lamas who dominated the forbidding inner country of Asia in 1930.

I wondered as I stared out at the ruined structures, how we had come to find ourselves in the heart of Asia. The buildings covered a surprising ground area, at least ten acres, and were of mud-brick construction. Their pagoda towers were in various stages of collapse. I stopped the machine by pulling the stick back.

"Hey, anybody around?" Clay shouted, opening the door.

Only the hot wind of the desert answered him--a mocking echo. We closed the door and again moved on, shading our eyes with cupped hands against the blinding sunlight. Apparently the region about the lamasary was deserted. I pondered on the ruin that desolated the landscape. Probably hundreds of years had passed since the prayers of lama monks rose to heaven from these ancient walls.

My thoughts wandered as I struggled to patch together the events that had taken place since our talk with Larry Stenson that night. The amazing series of catastrophes and jagged events pierced my brain. I speculated on the possible fate that had befallen Stenson and how it came about that he had lost control of the indicator that annihilated time so marvelously.

Cold fear bore down upon me as I realized that possibly a like fate awaited Clay and me. We might be marooned in the far future, unable ever to return to our own time and generation. Beads of sweat stood out on my forehead.

Time swirled about us like a cyclone, a black cloud tearing violently across the horizon of humanity, sweeping all before its horrible path. Time was all powerful and weak as a baby. Time exterminated all and was in turn swallowed and eaten in the teeth of a dragon. Madly fantastic thoughts clawed through my overwhelmed mind. I pictured Clay and myself suspended in a void of eternity, hanging on capricious winds between heaven and earth like the tomb of Mohammed. We were petty creatures in a dream world of misty unreality.

"Suppose I try and turn the dial back again?" said Clay.

"No, I'm afraid we'll jam the works. We've had marvelous luck so far."

"You call it luck?"

"Well, we haven't been exterminated so far. The machine is the most devilish contrivance ever devised. Let us study it a while before taking any other moves."

"Just as you say. But I'm afraid we're going to starve to death in this desert."

"And we haven't eaten--for thousands of years."

"Yes, but we lived through these years almost instantaneously. At least I can't figure out how long the lapse was."

"Let's quit philosophizing."

CHAPTER III - A Strange Conversation

AS I spoke a shadow swept across the desert and the sunlight was temporarily blotted out as if by an eclipse. We glanced toward the sky and saw a gigantic body, nearly a quarter of a mile square, hurtling through the air with the rapidity of an express train. Accustomed as we were, in 1945, to the sight of Zeppelins and other huge aircraft, we could not restrain exclamations of astonishment. The tremendous bulk darted toward the desert sand, slowing its speed and settling without a jar a few hundred yards away.

"Well I'll be hanged!" exclaimed Clay. "What was that?"

"It looks like a great building. Must be made of mighty light material."

"It's a palace of some sort. Look at the walls how they gleam in the sunlight. They seem to be covered with gems."

A gate of the sky palace opened and three beings emerged. They were much larger than the human species, with monstrous heads and long arms that reached to their knees. We fled in our machine across the desert lashed by terror. The three gigantic beings, however, quite evidently failed to perceive us. We were evidently invisible to them.

"Funny they don't chase us," panted Clay.

"We'd be in a tough way if they did. They must be at least nine feet tall. Can't you see, Bert, we're invisible men to them? We don't really exist to them at all while we're in our machine."

"In other words we're just like spirits?"

"That's it exactly. We really have no existence to people living in the year 2418. Don't you remember how we mixed with crowds in the cities we passed through? They didn't see us either."

"And these men can't see us, unless we get out of our machine. Mighty strange situation."

This thought caused me to mull over a further possibility. I wondered what combination of circumstances we would encounter in the event that a double flow of time, backward as well as into the future, should reveal our presence to these strangely inhuman creatures of the time to come. I halted abruptly and turned to Clay.

"Let's take a closer look at them," I said. "We're safe if they can't see us."

The three beings hovering about the portal of the airship palace seemed posted as a guard. The time annihilation machine moved on as we approached the gate.

The three guards were clad in robes of silk. They did not glance at us as we drew near. All lurking fear on the score of discovery vanished and Clay and I were filled with supreme confidence. We studied the trio and were astonished at their stature. The skin of their faces was like leather and their eyes as narrow and cruel as those of serpents. The great mouths seemed like those of reptiles, but the foreheads were dome-shaped. Despite their resemblance to humanity, we were convinced that they were not of the races that had dominated the globe during our era. A new race possessed the globe.

I recalled Stenson's remark in the library on the destruction of human civilization. Now I realized he had stumbled on knowledge hidden to all the generations that had preceded him. The dominance of the earth by humanity had been held inevitable. Now other creatures had wrested the control from mankind.

Had these creatures wiped the human race off the globe, or did beings kindred to ourselves still exist in serfdom? I thought of the time voyages of Larry Stenson and wondered where he had vanished. Somewhere in the long scale of time he had toppled into a yawning abyss.

Perhaps some current of my unspoken thoughts were carried to the brains of the dome-headed men before us. Despite their great dissimilarity to

humanity I thought of them, as men, through want of a more fitting word. Possibly they were evolved from the parent human stock, changing their appearance through the course of many centuries.

They spoke and I was astonished further to find that their language bore marked resemblance to the tongue of Thibet, with which I had familiarized myself during my two years in that land.

"Here is the land wherein the great Chang Hsu created us," said the tallest man.

"How interesting are these pilgrimages in our floating palaces to Pei."

"And of Chang Hsu, what gratitude we owe him. He raised us up into power in this land of Pei, hidden for many centuries from the outer world by towering mountains."

"Until our race became powerful enough to crush humanity. How few of them survive today, and they are our slaves."

"Blessed be the memory of Chang Hsu."

All nodded reverently at the mention of Chang Hsu. The great heads hinted at profound intelligence, godlike in comparison with that of humanity. Clay drew nearer and whispered in my ear, questioning me as to my apparent interest in the conversation; but I motioned him to be silent. I felt I was on the verge of a startling discovery.

THE torrid desert sun beat down upon our shelter and my tongue grew swollen from thirst. I was weak from hunger. I wondered where we could find water and food. The three gigantic beings of Pei, the hidden land, stood rigidly before us.

"Did not Chang Hsu, who crushed humanity, declare that the land of Pei was to be ever sacred, O Slan Cho?" remarked one of the guards to the

gigantic leader.

The question was put, not as an interrogation but as an affirmation of faith. Slan Cho nodded his repulsive head with the air of a religious leader listening to the litany of a devotee. He waved his tenuous arms in the sultry air. "So Chang Hsu ordered," he replied.

"After the power of Chang Hsu brought about the destruction of most of the human race, did not our forebears spread about the globe taking over many lands, Slan Cho?"

"Yes, Chang Hsu left us the rays of death. As we grew strong in numbers, here in the desolate land of Pei, we plotted the destruction of the worm-men who called themselves human."

The litany, for so it was, proceeded amid a strange religious spell. Slan Cho repeatedly nodded his head, with its reptile features.

"It was the wish of Chang Hsu that humanity be deprived of its rule over the globe," said Slan Cho. "He hated his own species, white, yellow and black. Such as remain alive today are miserable slaves."

"It is a privilege indeed to come with the pilgrims to the tomb of Chang Hsu."

THE sound of many voices came from within the gate of the floating palace and the three men guarding the portal drew back. A multitude of gigantic beings emerged, clad in silken garbs of many colors. Conical hats covered their heads. Clay and I were engulfed as the pilgrims swarmed about us. I shouted warningly and turned to the control stick to flee.

The faces of the pilgrims were impassive. The leather skin appeared horrible in the sharp light. Clay touched me on the arm. The column of pilgrims started across the desert. If anything was needed to convince me

that we were among beings of the future, the utter disregard with which they marched about it was it.

Their great forms mingled with ours and passed through us as if we existed on different planes.

"This is the strangest experience of all," said Clay.

"And the most interesting. I wonder if Stenson ever had a similar experience?"

"Poor Stenson."

The procession, composed of hundreds of the leather-skinned beings moved toward the crumbling ruins. At the rear of the column, carried on a golden throne, was a being even greater in stature than the others. Cries arose from the throats of the marching pilgrims.

"Hail to the khan, viceroy of the ruler of the Eastern World," the pilgrims shouted.

Moving the chamber with the procession I stared at the reptile-face of the being on the throne. The resemblance to a serpent was rather far-fetched, I cogitated, for the domed head was undoubtedly that of a human type. But the wide lips in a jutting jaw hinted at the crawling order of creation. The narrow-lidded eyes were like those of serpents, vicious and inhumanly cunning.

The throne was carried on the shoulders of a dozen panting human beings, clad in dark robes. A sharp cry burst from my lips at the sight. There was something heart-rending in the sight of the enslavement of our own species. The relatively few human beings still existing were crushed into abject slavery. A guard of nearly a score of domed-headed men surrounded the slaves and I watched two humans lashed cruelly as they faltered under their heavy burden.

"I'd like to kill the khan," I shouted.

"Who? The chap on the throne?"

"Yes."

"You seem to have got quite a drift on the events taking place."

"I did. The language is somewhat like that of Thibet."

The robes of the khan were of cloth of gold, encrusted with precious gems. As I neared the throne I stared back at the floating palace. The secret of levitation must have been developed to a remarkable degree by these people, I reflected. Even if the material which composed the air palace was light as aluminum, the projection of such a great bulk through the sky was a startling achievement. But no doubt if a being of the year 1800 could have witnessed the flight of a Zeppelin he would have been struck with greater bewilderment.

"Well Lane, where are we bound for?"

"This group is making a pilgrimage to the tomb of Chang Hsu who apparently developed their species."

I hastily sketched the conversation I had overheard from the guardians of the air palace gate and he whistled in surprise. "Lucky thing you remembered a little of the lingo," he remarked grimly. "At least we'll be able to know a little of where we're at."

"Maybe. And we might run into some wild surprises, too."

THE desert was flushed by the last rays of the sun and the beams touched the walls of the lama monastery. The ruins seemed poignant with a tale of resistless time. There was something tragic in the inevitable destruction that faced all things. The evil spirit of Chang Hsu brooded over the desert, although he had been dead for centuries.

The hundreds of pilgrims, as we neared the ruins, gave way before the throne of the khan, viceroy of the mysterious ruler of the Eastern World. I stared into a great cavern, of immense proportions, the walls of which were of solid rock. The cavern was below the level of the monastery. Entering, we saw another being of human form entombed at the far end. The form was motionless and I realized, with startled heart, that I was staring at the dead body of the Malevolent Chang Hsu, to remain here for eternity.

The thin form of the scourge of humanity was seated on a golden throne about which stood a guard of fifty of the breed he had evoked. An everlasting guard, I realized, protected the underground tomb. The passing centuries had but slightly marred the cruel face, with its wisp of black mustache. The body was attired in yellow robes.

There was something strangely human, indeed, about this desert pilgrimage. I recalled events of my own day. As a child I had been taken to the tomb of Washington at Mount Vernon. My heart had thrilled as I stood at the resting place of the Father of our Country. The domed-headed beings had come to this desert cavern impelled by similar motives. Truly there must have been some sentiment about these strange creatures to have honored the memory of the man who had evolved their species.

The pilgrims, led by the khan, prostrated themselves before the dead body, striking their great foreheads on the stone floor. They groveled in the dust. I stared at the body, fascinated by the high forehead that hinted of superior intelligence. My mind dwelt on the talk I had heard between the guards at the palace portal of a death ray left as a heritage by Chang Hsu to the strange brood with which he had crushed the world.

"That is the devil that ravaged the human race," I said pointing to the body on the golden throne.

The next instant I regretted my words. Bert Clay was hot tempered under certain situations. All caution seemed to desert him now. A shout of rage burst from his lips as he flung open the door and hurled himself toward the embalmed body as if determined to topple it from the throne. Lights blazed about the shrine, blinding in their intensity. The tomb was illuminated by some invisible means.

I shouted a warning to Clay. A sense of tragedy swept me as I noted a misty slime enshroud him.

CHAPTER IV - Trapped in Time!

"CLAY, for heaven's sake, stop!"

"I'm going to smash--"

Cold horror filled my soul as I darted after him, attempting to seize him before he would be seen. He was only a few feet away from me. A gust of chilly air, a breeze fitting for a tomb, swept about us as he darted like a madman toward the golden throne.

"Clay, you blithering idiot, come back."

He turned on me with a blazing face. Shouts arose about us and I glanced into the towering forms of hundreds of pilgrims. They leaped from their prone positions on the floor of the tomb and advanced toward us. A chill of cold fear touched me as I sensed that they saw us now that we had emerged from the protective invisibility of the time machine. The folly of Clay was reaping a swift reprisal.

"We're done for Lane," he cried. "Oh, what a fool I've been."

"This is the end, I guess."

"We'll fight it out," he shouted. "Better be killed that way!"

I knew that we had severed every link that bound us to our own time. My mind swept back to New York, with its robust life. Now I would never see my own time again. We were trapped. Doubtless Stenson had committed a

similar faux pas, forgetful of the fact that only by remaining in the glass-bound time chamber could he hope to return to the present.

"They are humans," excited voices shouted.

Arms circled Clay and me with brutal force. Clay turned toward me, his face bloodless. The arms about my body and throat exerted strangling pressure. I battled ferociously to free myself, but the struggle was hopeless. The khan stood before us, staring into my face. At first he was incredulous and then I could feel a great intelligence working over this strange phenomenon.

"You have solved the problem of time and space," he said at last. "I know you are not of the human slaves that still live on earth. You have come from out of the past. Well, we shall see what to do with you."

The ability of this man to understand immediately how we got here rather startled me. These fellows were intellectual giants!

Heavily guarded by a score of the khan's warriors, led by the redoubtable Slan Cho, we were conducted toward the flying palace. I turned to Slan Cho, overwhelmed with curiosity. "What makes the palace fly?" I inquired.

Strangely enough Slan Cho condescended to answer my question. There was a boastful note in his voice, I noted with an inward smile, as if a man of the vanished twentieth century had been asked by a survivor of the year 1200 how it was possible to fly in an airplane.

"We have discovered the secrets of nature to a degree far beyond that ever attained by the human race," he said. "We have merely nullified the operation of gravity. A force known as apery neutralizes gravitation. The result is that almost instantaneously we can project great masses of material through the air. It is an ocean of travel to us."

Clay was depressed with worry as we approached the gate of the air palace. The structure I noted idly was composed of fretwork of gold and silver, richly encrusted with great jewels with which I was unfamiliar. Clay turned to me. "Sorry I was such a fool, Lane," he said.

"Forget it."

By some peculiar mental quirk I had ceased, at least for the time being, to have any great apprehension. After all, had I lived out my allotted span of life, I would have been dust these many hundreds of years. I was cheating death, in a sense, by being alive at all. And then I recalled that as far as I knew the year 1945 still existed somewhere in eternity.

I became strangely baffled as I pondered over this anomaly. An overpowering melancholy struck my heart as I recalled that Clay and I were so wonderfully alive in the year 2418 against all the harsh logic of nature that kills every being that breathes.

Reaching the portal of the flying palace we entered a courtyard and then passed through a richly curtained door. Heavy incense greeted our nostrils, sickeningly sweet. I felt crushed by the power that had woven itself about Clay and me. A corridor spread before us, unbroken for at least 100 yards, upon the walls of which hung precious tapestries, depicting what appeared to be historical events in the lives of the gigantic race with the domed-heads.

AS I walked down the hall I studied the tapestries with great curiosity. The vivid story of the destruction of the human race was depicted. A graphic tale of overwhelmed cities and crushed nations was emblazoned on the tapestries. At the end of the hallway Slan Cho halted us with upraised hands.

"You will fall on your faces when you enter," ordered Slan Cho. "That is the way all approach the mighty khan, viceroy of the ruler of the Eastern World."

We stood at the threshold of the throne room and I stared through the portal, with eyes wide and startled. The khan sat on a peacock-hued throne, garbed in his gleaming robe of jewels. A crown adorned his huge head. Below him, on the golden floor, were the prostrated forms of his courtiers, their arms

clumsily spread at their sides. They resembled obscene beetles in this posture. The khan's voice rose and five of the courtiers crawled, like water-bugs, toward the door.

The waiting warriors who formed our guard motioned to Clay and me, then flung themselves in humble prostrate postures. I bit my lip tightly, humiliated but curious to see what lay before us. Clay muttered rebelliously, but quailed when I caught his eyes. "You've stirred up enough trouble," I growled.

"I guess I have."

The floor of the throne room was embossed with diamonds and huge emeralds. Here was wealth undreamed of in our time. Even the mansions of the wealthiest of our era were never such lavish splendor. I glanced upward at the khan, an impassive, regal figure on his throne. The huge head was erect, surveying the humbled courtiers. He seemed like an Oriental monarch of unlimited power.

The courtiers, followed by Clay, myself and our guard, moved swiftly toward the throne. Never in my life had I gazed upon such magnificence. Soft light melted through windows of gorgeous colors despite the fact that the sun had long since vanished below the horizon. The richest of tapestries hung on jeweled walls. They depicted, like those in the hall, the crimson history of the breed of Pei.

"I will question you creatures of the past," said the khan as we reached the foot of the throne of eighteen steps.

An ominous hush fell on the assemblage and I felt a premonition of unleashed cruelty. Somehow I could not help but view Clay and myself as two little mice in the claws of a multitude of great cats. A strange fancy.

The khan's eyes gleamed like the jeweled optics of a cobra, venomously implacable. His mouth jutted forward like that of a serpent. He seemed far less human than any of his courtiers as his great arms waved rhythmically in the cold air of the palace. The chill grew intense and I realized that we were high in the air, floating toward an unguessed destination.

"You came into our midst from out of the long dead past," the khan pursued thoughtfully, "through a means we never considered possible for you human beings. Perhaps we underestimated your intelligence. You created a time machine which carried your bodies invisibly through time and space. We realized that when you appeared so unexpectedly in our sacred tomb."

"Yes, but the spell was broken there," I remarked. "And where is the time machine?"

"It has vanished. Strangely enough we were unable to find a trace of it in the tomb."

"It vanished!" I exclaimed. "Surely it--"

"It was taken while you were being made captives," the khan remarked slowly. "A human being was seen to dart across the cavern toward the machine. He vanished into nothingness. I know now that he was swallowed up in the time machine. When my subjects closed in on the space where the time machine had stood they were unable to touch this man. He had ceased to exist as far as they were concerned."

THE interrogation of my activities by the khan I perceived was in the nature of leading questions. There was a profound shrewdness in this method of attack. He merely played his hand with sublime cleverness, informing me of events that had taken place and waiting for me to entrap myself. And, after all, there was little of which I could inform him. He should have known that the machine was non-existent both to sight and touch of everything outside of it. He had spoken of a man vanishing into the time machine. My thoughts swept back to the journey of Larry Stenson and his startling disappearance. There was little doubt in my mind that Stenson was the man who had leaped into the time machine in the tomb of Chang Hsu.

"The man--was he your companion?" the khan asked.

"I cannot tell," I replied. "What did he look like?"

"He was a man of middle age, extremely thin and wearing a purple robe."

"He was not the companion we had sought."

"And you know of the construction of the time machine?"

"I know nothing of its mechanical nature."

As the khan went on to question us about how we got here, I pondered. Stenson could not have been the man who had plunged into the time machine. He was not of middle age and was of sturdy build. Besides I could not picture Stenson in a flowing purple robe. Some interloper had seized the machine. The dim recesses of the cavern had hidden a man of mind scientific enough to realize that a time machine had carried us into the tomb; and courageous enough to have seized the chamber to effect an escape. But the question was-- Did the man who entered it leave our time with it or was he still in the cavern invisible and impalpable?

Who was this third man? I wracked my brains over this problem. How did he come to enter into the calculations? The problem was beyond my power to solve. If Stenson had hidden in the tomb, and seized the time machine, we might hope for escape. But as far as I knew Stenson might have been lost in the year 5000. I wondered for a time how the time machine, after his disappearance, could have swept back to 1945. There was only one plausible solution for this. The year 1945 represented a "deadline" for the machine. Released of its own accord it would follow the physical law that probably governed such matters and returned to its original condition--back in Stenson's laboratory.

Finally the khan ceased to question us and stared at us, his jeweled robe aflame with light reflected from the walls, a means of illumination that surpassed the crude electric system of our own time. The khan spoke at last:

"I can learn nothing from you," he said indifferently. "It is my order that you both be destroyed. Only death can disperse you to your proper condition!"

CHAPTER V - A Timely Interloper

A FACE and shoulders, apparently disembodied, appeared suddenly before me; and an arm motioned beckoningly. The apparition was startling, causing goose-flesh to rise on my body. Again the arm motioned impatiently and I leaped to my feet, shouting to Clay. The realization that the time machine, operated by the strange interloper, was in the throne room of the floating palace, dawned on me like a flash of lightning.

"Clay, come on!" I yelled.

My companion darted toward the spectral head and arms, shouting defiantly as a group of the domed-headed monsters leaped to detain us. There was no doubt in my mind that they had glanced up and seen the head.

I did not take two steps toward the invisible time machine, with its beckoning pilot, before detaining hands seized me. The arm vanished within the time machine and the face of the stranger, a gray-haired man, was clouded with a very evident look of horror. Then the face vanished too.

A horde of the khan's courtiers closed about the spot where the time machine had stood, their heavy bodies surging about the golden floor, but they met absolutely none of the resistance that would have been encountered if a solid had occupied the space.

A shout of disappointment burst from my lips at the realization that Clay and I had missed rescue by a fraction of a second. The events of the late afternoon and evening surged rapidly through my mind. I was certain that through some mishap Clay had shut off the motivating power of the time machine just before his mad dash through the door. And I knew that this very fact had converted the time travel machine into a substantial reality for the man of 2418 who had obtained possession of it.

Whoever the time interloper was, he had attempted to rescue us. He had stuck his head and right arm through the door, striving to attract our attention. The fact that the time machine had been in action at the time resulted in the rest of his body being invisible. And now, I was convinced, the time machine had swept away. Again; we were lost!

"Kill them at once," the khan ordered. "They must not escape."

The philosophic ruler, who had so suavely discussed time travel with me only a few moments before, had become a cruel despot. There was no use in pleading for him to spare us. I knew that nothing could move him. Possibly fear of ruin, through the agency of the strange time machine, impelled him to have us destroyed without delay.

Then I recalled the pitiful human slaves of these monsters of the future. A vision of the struggling men in humble black, panting under the weight of the golden throne that bore the khan to the tomb of Chang Hsu, burned into my brain. It would be better to die--a thousand times preferable--than to be a slave under these tyrannical monsters.

A group of human serfs, guarded by warriors, wheeled a strange looking altar into the throne room. Two of the men were white and the other six were evidently Orientals. But all wore the look of crushed dogs. I thought for a time of appealing to them to join Clay and me in a struggle. If we could kill the khan and start a revolt there might be a faint chance of ultimate victory. It was a mad thought. There could not have been a chance in a million, I realize now, of winning against such overwhelming odds. And the slaves were too terrified of their masters to revolt.

THE altar was circular, its platform standing about six feet from the floor. Near the edge we saw a circle of small tube-like objects, each resting on a groove that ran radially to the center of the altar. What strange death did they have in store for us now? We knew that whatever it might be, it would be in keeping with the cruelty depicted on the faces of these beings. It would be some slow lingering torturous death.

Roughly we were lifted to the altar and placed in the center surrounded by the circle of strange tubes.

All eyes were turned toward the Khan. With an imperial gesture he raised a hand and then dropped it swiftly. At once from the tubes there issued strange sheets of flame-like vapor that reaching out hungrily toward each other formed gradually a wall about five feet high and surrounding us. Strange to say, there was little heat from the wall of flame. Instead I was conscious of a slight drowsiness and a prickly feeling over my body.

I am no scientist, yet I felt at this moment that here was some ultra-modern torture device, that could provide for the spectators a scene of the utmost agony in his victim.

I looked at Clay. On his face too there was depicted a look of mingled amazement, horror and weariness (as though he were trying to fight off some terrifying power over his brain.) Now I saw what was in store for us. Slowly the tubes were moving on the grooves toward us, the circle of flame slowly contracting. A new impulse was entering my brain a desire to throw myself into the flames. I looked at Clay and gripped his arm. "Is it getting you too?" I whispered huskily.

"Yes." his voice was low, horrified. He had hardly control of it.

"Hold on to me," I whispered. We gripped each other's arms, as slowly, oh! so slowly that circle of death contracted toward us. Thru a haze I saw the leering faces of the creatures outside and the cool indifferent gaze of the Khan. Madness struck me then, I guess. I raised my fists toward that merciless figure, shouting, screaming, raging. A buzzing was filling my head, the desire to throw myself into the flame was becoming overwhelming, and by the increasing pressure of Clay's arm on mine, I knew he was giving way too. It was a matter of minutes, perhaps seconds...

Then suddenly just beyond the wall of narrowing flame, I saw the face of that old man again. His torso was projected toward us out of nothingness. He motioned to us, and then slowly approached us.

Consternation broke out among the dome-shaped creatures. At a command from the Khan they rushed toward us. The old man reached us not a moment too soon. We felt his helping arm about us, I saw the familiar walls of the time machine.

Clay at my side was in a state of collapse. His clothing was half burned from his body and his hands and face scorched. I knew that I was equally as marked. The stranger, gray-haired and blue-eyed, laid his hand reassuringly on my arm. He wore a purple tunic, badly ripped.

"It is all right," he said in English. "You are safe now."

The forms of the domed-headed men moved upon us, but the stranger laughed. He pressed down the controls of the time machine and we felt ourselves being swept resistlessly into the current of time. The indicator started to drop rapidly and we curved along the parabolic course, back toward our own era.

Many minutes passed in silence.

"And who the devil are you?" demanded Clay finally.

"A perfectly reasonable question," the other laughed, "coming especially from a generation that included that of my great grandparents. I am Professor Alexis Halden of Europolis, the capital of the United States of Europe. And my era is that of 2045."

"And how did you come to fit into this particular adventure," pursued Clay, rather truculently. "It seemed a mighty funny story that you tell."

"It certainly is," said Halden. "Perhaps I can enlighten you on some phases of it. To begin with I met your friend, Mr. Stenson, when his time machine invaded my laboratory at the University of Europolis. You can imagine my astonishment, gentlemen, when Mr. Stenson appeared before me. Never before had I seen a man attired as he was. He seemed to have stepped out of the air.

"And where is Stenson now?" I demanded.

"He is back in the year 2250--the period of the blackest tragedy of history. But please, gentlemen, let me continue. I want to make my story coherent."

"And you will pardon our interruptions, I hope," said Clay in a quiet tone.

"And let us thank you for saving us," I said. "But please continue."

CHAPTER VI - A Chase Thru Time

PROFESSOR Halden cleared his throat rather primly, like a teacher about to lecture on science. I smiled, forgetting my raw wounds in contemplation of our new acquaintance. But his serious face checked me and my lips grew somber.

"I will make my explanation rather short, my friends," said Halden. "You can readily imagine my utter astonishment when Mr. Stenson appeared. The doors of my laboratory were locked. While I had heard, of course, of time machine theories, the possibility of their being actually used for a voyage through time had never struck me. Mr. Stenson told me he had just stepped out of a time machine, having been attracted by my laboratory as he sped on his marvelous journey."

"Yes, I see."

"We're all ears, professor."

Halden smiled. "To make my story short, Mr. Stenson invited me to accompany him on his journey. This caprice of your friend at first startled me. Really I have always been a timid soul, gentlemen, but the marvelous possibilities of journeying into the future struck me as worth any risk. I accepted the invitation.

"And then the trouble started?" I laughed.

"Indeed, yes. I will not bore you with details, except to say that we reached the year 2418, to which you in turn had journeyed, and I decided to leave the time machine the better to explore conditions existing at that period. Mr. Stenson said he would go to the period of 2250 in order to learn about the tragic destruction of humanity occurring in that year."

"And you left the time machine?" asked Clay incredulously.

"Yes, I very foolishly did. And I suppose by doing so I let loose all sorts of complications. Because I can plainly see that Mr. Stenson must have left the time machine himself at 2250, but inadvertently failed to safeguard the machine against a journey of its own accord back to its starting point."

"He left a scratch on the indicator at 2250," I remarked.

"So I've observed," said the Savant. "Doubtless, he realized that in leaving it, with none in the machine, that the machine might become unmanageable--returning as I've said to its original point."

"You mean the machinery or mechanics of the thing went wild or something?" I inquired.

"Something like that. I really can't say. But I'm convinced you'll find Mr. Stenson at 2250. That is unless some catastrophe has befallen him."

"But how was it that I came to stop this machine at the year 2418?" said Clay nonplused.

"You understand, of course, that the time machine describes a parabolic course in time. It would be an error to assume that it moves--if I might use such terms--in lateral as well as horizontal planes at one and the same time. No, Mr. Stenson explained it to me. He said the machine follows an undeviating line."

"But I can't understand how I came to stop at 2418, just as you and Stenson had done before," said Clay. "I was at the controls and just picked out that

particular date offhand."

"There is such a thing as thought waves," said Halden with a slow smile. "When you stopped at the year 2418, near the very spot of the tomb of Chang Hsu, you merely followed out an old law of telepathy. You stopped-- because somewhere along the line of travel, subconsciously of course, you obeyed that law. The thought of making your destination there was too impelling to be resisted."

"And you waited in the tomb?"

"Yes, I was in hiding there. I nearly was captured twice by the guards, but I eluded them. I waited there for the machine to come for me. Now I know, from the fact that you are here instead of Mr. Stenson, that something has befallen him. See, I have set the indicator for the year 2250. That was where he said he would be. The course of the machine will bring us over the same path he traveled. If he is still alive I am sure we can save him."

"I'm glad you've got some track of him," I said. "We would have been lost in the hunt. Imagine looking over half of eternity for any one."

Again the panorama of passing years swept past. We saw cities of marble, rising like mountain peaks, with gigantic aircraft winging overhead. Again we had brief glimpses of the dome-headed men of Pei whose labors had changed the climate of the globe and reared an industrial civilization surpassing anything we had ever seen in the twentieth century.

"Where did these creatures come from?" asked Clay.

"I do not know," said Halden gravely. "There is a mystery about their origin that is baffling."

WE huddled together in the whirling time-girdling machine, cutting through the year as a ship's prow breasts surging waves. I could not help but think of the years as waves, beating in endless succession on the sands of eternity.

They wore all away before them with pitiless attrition. Time seemed to eat all with dragon jaws.

"We are the creatures, the playtoys of time," said Halden.

"It just juggles us about and casts us aside," remarked Clay.

The year 2250 loomed before us. Never had a single year been so filled with catastrophe for humanity. We were hovering above a world of ruins. Below us, drawing nearer, was New York.

New York, with buildings crumbling, swept into nothingness, was a city in the midst of despair. From the roof of a building that soared a third of a mile into the air, where the time machine had landed, we watched throngs of refugees pour through the streets far below, lashed into frenzy of fear by the tragedy that engulfed them. We descended to the streets.

For a few moments I studied the great metropolis of the future, spellbound by its immensity. Buildings rose above us, 2,500 feet into the air with ground bases that covered thousands of square feet. Aerial roadways wound amid these huge structures and fleets of airships sped through the wind seeking safety from the cloud of doom.

The unbelievable had happened. Doomsday had come to humanity and death laid leprous hands on millions throughout the world.

Flames leaped into the sky, adding to the destruction carried on the wind by invisible death rays. We knew that the brood of domed-headed men, brought into being by Chang Hsu, were starting their career of destruction, the fruition of which we had seen in the year 2418.

I stared at the scene before me in horror, realizing I was gazing upon the supreme tragedy in the history of the world. Before my eyes a city of at least 25,000,000 people was being laid waste. We mingled invisible in the streets amid scurrying throngs. Moving sidewalks were filled with men, women and children, clad in brilliant silk robes, who passed us unseeing. Cries of despair arose on all sides.

"This is dreadful," said Professor Halden. "It is an awful sight."

"We must find Stenson," I cried.

"The airships have all gone," a heavy set man shouted.

He was at my side, barely three feet away, and I turned to ask him where they had gone; but my voice failed to reach him out of the cycle of time that separated us, confined as we were by the machine's walls.

A woman was at his right, her beautiful face torn with fear. Two little children trailed at her skirts, clinging to her as if for protection. They were without doubt a father, mother and their brood.

"Do you think Stenson is still here, professor?" asked Clay.

"I cannot say. But he told me he would be in New York in the middle of May, year 2250."

"It will be impossible to find him, I'm afraid," I remarked as our machine moved through the crowds. The passing multitudes swept at our side, utterly oblivious of our presence. They moved like astral shadows. The strangeness of our position troubled me. If we left the confines of the time machine, abandoning the anomalous invisibility that confined us, we would share their dangers, be of them in their period of tribulation.

That was what Stenson had done. The adventurous heart of the young scientist had prompted him to desert the confines of the machine--only to have it swept away back to 1945. He was stranded on the vague shore of the future.

We walked for perhaps a mile down a wide boulevard. Palm trees rose in majestic splendor and I marveled at their presence. There was no smoke in this New York of the future; indeed the air had a tropical aroma that caused me to believe that a change in the Gulf Stream, brought about possibly by human ingenuity, had given the metropolis a climate such as Florida had enjoyed during the early part of the twentieth century.

I QUESTIONED Professor Halden on this point and he nodded.

"Yes, that is exactly what has taken place," he said. "But it came about through natural causes. Even in my own era, in 2045, the Gulf Stream had changed so that New York was converted into a semi-tropical city. The condition has brought about all these changes of verdure which doubtless seem astonishing to you men from more than a hundred years before my period."

Passing through a wide side street, blooming with gorgeous flowers along a parkway in the center, we came to a great square. This open space was the scene of wild pandemonium. As we crossed the square, which was adorned with marble statuary, we ran into currents of humanity in terrified flight.

"There is a vast park over there," said Halden. "Let us go there."

"Look--quick!"

Clay seized my arm and pointed. A great building was in the process of destruction. The annihilating waves touched the structure and it vanished rapidly. A cloud of dust rose in the air. Terrible cries arose from the stampeded multitude.

"The domed-headed devils are wrecking civilization," I cried. "Is there no way to stop all this horror, professor?"

"I'm afraid we are utterly powerless. We saw the future holds when we were in the year 2418. Here we are less than two hundred years before the epoch we visited in Pei. We are gazing into inevitable consequences."

We reached the park and found ourselves amid magnificent palms and flowers of all the hues of the rainbow. I abandoned hope of ever finding Stenson. Doubt filled my mind that he still survived. We reached a boulevard that bisected the park and saw round machines, that bore a faint resemblance to automobiles, moving about on the ground. Struggling

throng were fighting to get into these vehicles. Two of the machines shot vertically into the air and sped into the sky. They were little airships.

I watched a group of men attack a third machine, hurling two women, a man and three children into the street. The women and children screamed and their male escort battled with his fists. But the group that had seized the machine were brutal in their determination to retain possession. The thin veneer of civilization which surrounded these beings of the future, was swept away in the struggle for existence. The attackers leaped into the air machine and rose into the faint breeze.

But if cowardice played its part in this tragedy that shook the world, there was glorious heroism. Three young men turned over their air machine to the ejected party. A glow of admiration shone in Halden's eyes.

"Look," he said, "they are going afoot. They have surrendered their chance to live."

The pavements and sidewalks moved swiftly beneath our machine, and we realized that the people of 2250 had developed an ease of life incomparably beyond the crude era of 1945. As we crossed the park we watched the white, frightened faces of the refugees. They live in my memory yet as visions of a nightmare. They were our own people, descendants of the early Americans of our own day.

Again the time machine rose to a high building and I glanced at the golden sunlight. The day was like other days since time immemorial in its general aspects. A clear, almost cloudless sky, blue and benevolent, spread above us. But invisible death rained out of the sky upon a people who had long abolished war and poverty. Humanity at the peak of its glory was doomed.

My memory swept to the scenes in the desert of Pei where the three domed men had guarded the floating palace. I recalled their conversation. The words had sunk deep into my memory:

"After the electric air rays invented by Chang Hsu brought about the destruction of most of the human race, did not our forebears spread about the globe taking over many lands?"

So, one of the guardians of the gate had asked Slan Cho. And I recalled Slan Cho's answer:

"Yes, Chang Hsu left us the rays of death. As we grew strong in numbers, here in the desolate land of Pei, we plotted the destruction of the earthmen who called themselves human."

The guardians of the flying palace had spoken of events that took place centuries before their own time. Now we were gazing into these tragic happenings. We had seen the cause long after observing the effect.

CHAPTER VII - The Hunt for Stenson

"TELL me, old man," whispered Clay, turning to me, "am I dreaming some terrible nightmare?"

"No, I'm afraid we're only too wide awake."

"The refugees are heading out toward open country, poor devils. And there is only room in the time machine for one other person. If we find Stenson we'll be crowded. If we could only save a few of those unfortunate people."

"What a happy city to have lived in. Look at the great parks. The Jersey side must be a continuation of New York City, Just look at the towering skyscrapers across the Hudson."

I followed his finger and nodded. Then I peered down the street.

"They will have to go many miles before the city ends. I suppose it covers all of Westchester county by now."

"It will be like looking through a haystack for a needle to find Larry," I said.

"Let us stay here for a few moments," said Professor Halden, "and think of a logical course to follow in finding him. I was too hopeful when I said we could track him easily. I'm very much afraid."

"The death of an individual is sad," remarked Clay, "but it is inevitable. This mass destruction is hideous."

Halden shook his head in agreement. "That is the horror of what we are gazing upon--mass destruction. We must all die when our allotted span of time comes. But do we not feel that we survive in those that come after us?"

"Look, the city is being annihilated rapidly now!" shouted Clay. "Why, it's melting away before our very eyes. The devils are pushing their destruction furiously."

A mass of buildings, that must have covered a half square mile, was caught in the path of death rays, projected for all we knew from half way across the globe. Where solid masonry had stood, towering into the blue sky, became nothing but emptiness. The buildings crumbled into the thinnest of dust.

We stared into the street and saw hundreds of fleeing persons trapped in another invisible ray. The pavement was torn up, Where hordes of human beings had stood was now nothing but desolation. I pressed my hands before my eyes to shut out this sight. I wondered if Stenson had met a similar fate.

"Is there no chance, if we return to the 'present' of forestalling all this horror?" Clay cried pleadingly,

"You mean to our own time?" I rejoined, "I doubt it. We are looking upon the inevitable. We can no more lift our finger to prevent all this than if we never existed."

"Come, let us push our search for Mr, Stenson," cried Halden. "I'm very much afraid we are lax. We have wasted much time up here fruitlessly."

We were down in a boulevard again fighting our way through the crowds. Building after building fell before the invisible rays projected by the

domed-headed men.

"We can warn the world of this when we return," said Clay.

"Yes we might do that when we return to 1945--or Professor Halden when he finds himself back in 2045. But we'd be laughed at as madmen. Just like we regarded Stenson when he collapsed that night. And hundreds of years will pass before all this transpires. It will be forgotten for innumerable decades before the end comes. We'll have been dead and crumbled into ashes before this takes place."

"What an amazing experience we've had, Lane."

"The world is being swept into nothingness. The rays of extermination that Chang Hsu invented are turning everything into dust."

Two buildings, barely a quarter of a mile away, were caught in the unseen cone of destruction. They vanished before our eyes. Clay turned to me:

"Did you hear that man that just passed say that London and Paris have been half destroyed."

"And my home, Europolis," said Halden in agitation. "The beautiful capital of the United States of Europe. It, too, is being swept away."

"Look, there goes another building, Clay," I yelled. "It must be nearly a half mile high. It's the most startling structure I've ever seen. Look quick!"

"And the two buildings adjoining it!"

THE sharp outlines of the three mountainous buildings, through which aerial highways swept, eighty stories in the air, appeared against the Southern sky. We saw a spiral of dust whip the hot air from the tallest building, and fainter columns arose from the other structures. The sky was acquiring a reddish glint from the clouds of dust and darkness, artificial and terrifying, fell upon the city.

The sky was clear of airships now. The twenty-five million denizens of the metropolis were in flight afoot and on swift vessels sweeping up the Hudson river.

We neared the park again and moved aimlessly amid the serried rows of gigantic palms. Here and there great holes appeared in the ground and we realized that these spots had been visited by the fury of the electrical air rays. The park was deserted now, save for hundreds of dead. Many had been trampled to death. The refugees were moving northward.

A marble building, the roof of which was supported by Gothic columns, stood near a lake and we moved toward the structure, What guided our course toward the building has since been a profound mystery to me. Possibly a hunch caused us to advance in that direction.

A bleeding form emerged from amid the pillars, clad in the drab clothing of our epoch. Clay shouted but the man continued down the steps, oblivious of our nearness. I caught a glimpse of his face and recognized Stenson. Clay brought the mechanism of the time machine to a sharp halt and projected his head through the glass door. "Stenson!" he shouted.

Larry Stenson turned sharply. His clothing was torn and his face covered with blood and dirt. A cry of thankfulness sprang from his lips as he ran toward us. He sprang through the doorway of the time chamber and collapsed in our arms.

"THANK God you found me," he said, sobbing. "I felt like a lost soul--adrift in the future."

"And we came across Professor Halden at the tomb of Chang Hsu--where you left him when you decided to return to 2250."

"Yes, I see you've picked the professor up," said Stenson as he grasped the savant's hand. "I suppose he recounted his astonishment when I dropped in on him at his laboratory?"

"He certainly did," I smiled. "I wonder if anyone ever got such a surprise in all the history of the world?"

"It was an amazing thing--as if a stranger had fallen into my laboratory from Jupiter," said Halden, "But it could not compare with what took place during the time journey, I thought I would never be found as I waited in the desert. If I had been captured by these inhuman creatures I am sure my fate would have been terrible. But looking at this sad spectacle, I am filled with even greater horror than at anything that could happen to me alone."

"If we could only track down Chang Hsu," said Stenson.

"It might be possible," rejoined Professor Halden. "While I was in the tomb of that Oriental fiend, hiding from the guards, I came across an inscription. Fortunately I have some slight knowledge of Oriental languages. The inscription said something about Chang Hsu--I was unable to read just what--and mentioned a date which would correspond roughly to our year 2193."

"We will go back to that year!" said Stenson, determined.

The bombardment halted, at least for the time being. We drew deep sighs of relief. "We can move about the globe without changing the present time element," said Stenson. "All ready?"

"Yes."

Stenson placed his finger on the space dial handle, which regulated movement about the earth without changing the year, and we whirled swiftly through other cities in the processes of annihilation. They were in transition into nothingness.

For a few moments we found ourselves in London near the Houses of Parliament. The Thames river flowed as I had seen it centuries before. But towering structures now rose throughout the British capital. They were vanishing under the force of the death rays.

Again I found myself in a strange Paris. The Place de la Opera, for the gold domed structure still survived, was being ravaged. Throngs swept through the boulevards, lined with skyscrapers so unlike the Paris of my own time.

We stared a few hours later at a Chinese city and saw myriads of yellow faces, blank with terror, milling through winding streets. Buildings were swept from the face of the globe by the unseen hands of the annihilation ray explosions. One blast that we observed wiped out at least 5,000 human beings.

The time machine, however, was overburdened and I saw an expression of fear cross Larry Stenson's face. He turned toward Professor Halden.

"We cannot continue long with four in the time chamber," he said. "We will take you back to your own time."

Halden nodded and the dial moved again in Clay's tanned fingers, backward in the direction of our own speck of infinity. He swung the indicator to the year 2045 and we passed rapidly through decades and generations in which the human race seemed to have soared in its most glorious heights. Passing from land to land we saw immense cities inhabited by happy peoples. Wars had long since been abolished and it seemed that hatred had died from the globe.

I envied the peoples of the era that preceded the catastrophe of 2250. Never could humanity have lived more gloriously and joyously. Occasionally Stenson halted the momentum of the indicator and we lived for a few thrilling moments among these future peoples. We spent brief visits in New York and the great city of Europolis, the capital of a united Europe where barriers of race and language had been abolished.

"I wish I could spend my life among these people," I said. "What carefree happiness they enjoy."

Life seemed to be lived goldenly by these people. We paused now and then in great wooded groves to listen to splendid orchestras. Education was universal. There seemed to be neither extremes of wealth or of poverty.

Even the common people lived in palatial surroundings. People traveled from land to land and felt themselves, indeed, citizens of the globe.

"This is Utopia, Larry," remarked Clay surveying one of the great parks of Europolis. "They've got heaven on earth here."

"Here is my own city as it will be long after my own time," said Professor Halden in a thrilled voice.

The indicator sped backward, cutting down the years as a scythe lays low a harvest of grain. "We are nearing my time," said Halden. "Soon I must bid you men, contemporaries of my own ancestors, good bye."

"But we shall meet again," said Clay.

Halden shook his gray head rather sadly. "No, something tells me, my dear friends, that we will part forever. You will return to your own era--and I can but wish you every happiness."

The time machine stopped. Time had flowed backward through its mysterious agency very much to my mind as if a river streamed uphill. We were in the Europolis of 2045, just a little more than a century after our own time. Halden, returned to his own epoch, seemed pleased. I could not help but envy him. The life of the people of Europolis in 2045 was infinitely superior to that of 1945, although considerably less advanced than that of the period that was to climax in the destruction of civilization in 2045. A hundred years separated his particular era from that saturnalia of doom.

The time machine had halted beside a grove. Flowers blossomed about us and we heard the singing of a multitude of birds. Halden seized our hands and moved toward the door.

"Adieu, my good friends," he cried as he opened the door and walked through.

CHAPTER VIII - The Wizard of Pei

THE time machine throbbed into life again, with the indicator swinging into the future.

"There is only one thing left for us to do before we return to our own time," said Stenson. "The fact that Professor Halden was able to decipher the inscription in the tomb of Chang Hsu, at least to the extent of finding an approximate date for the time in which that foe of mankind existed, may prove invaluable."

"He said the year 2193, didn't he?" I asked.

"Yes. That was the date. We are going to shoot ahead to 2193 and try and locate Chang Hsu. Perhaps, after all, we may be able to frustrate him. But I am very doubtful."

The climb through time was breathless as we hovered near the indicator dial. The passing of decades dropped like leaves about us. Again we underwent the experience of hurtling through a jumble of lands and periods, catching brief glimpses of varied phases of life. "Too bad we could not take Halden along," said Clay.

"The machine would have been too overburdened," remarked Stenson. "Three men crowd this little chamber. With a fourth we would be against the ever impending threat of disaster. It was best that we left him off in his own year."

The beating wings of time seemed alive on the journey to the Pei of 2193. Here we were to face the last of our adventures. Oceans, continents swirled beneath us in an ever recurring tide. And then--we stood in the laboratory of Chang Hsu. We were again in the land of Pei, that desert fastness from which the domed-headed monsters sprang to destroy humanity.

Looking backward--or forward--to Chang Hsu, I am convinced the man was a megalomaniac. Certainly no more misanthropic being ever blotted the globe than Chang Hsu. He was mad, or else so filled with the godlike possibilities that lay in his knowledge of the protoplasm of life that he was determined to wipe out humanity to make room for his own creatures to possess the globe.

As I stood in the laboratory of Chang Hsu, I recalled the vision of the then-to-be dead body in the yellow robe seated on the golden throne in the tomb under the crumbling lama temple. I pictured the dead Chang Hsu, whose yellow hands had spanned the centuries to hurl destruction on all the countries of the globe. But he was alive now. The future, when his creatures possessed the globe, was yet to come.

As I write these lines, uncertain phases of the story linger strongly in my mind. None of us were ever able to determine whether Chang Hsu had actually created these beings in his laboratory. There was a possibility that he had merely used some strange glandular process to make a race of giants out of human beings--endowing them with superhuman qualities of body and mentality.

The time machine, with its invisible crew, were in the laboratory within a few feet of Chang Hsu. I studied the man through the glass of Stenson's time vehicle. The living face of Chang Hsu was as impassive as the dead countenance I had gazed upon in the year 2418. I watched him bending over a battery of electrical wires connected with what appeared to be a gigantic furnace. Another Oriental stood at his side.

"Here is where--that race started," whispered Clay.

"Let us watch him for a little while," said Stenson.

Chang Hsu's thin black mustache curled stiffly down to his yellow clad shoulders and a black cap rested on his head. It was impossible to gauge the man's age. The Occidental mind was baffled in fathoming the passing years that had swept about him.

Stenson and Clay joined me in regarding him. The laboratory might have been in a great university, so completely was it equipped, rather than in the abandoned spaces of the Desert of Pei, cut off from the outer world by mountains that touched the clouds.

Here was an ideal nesting place to breed the strange race evoked by Chang Hsu. Whether they were created actually by Chang Hsu, living matter from out of the deadness of inanimate material, or merely an evolution of the human species worked into monsters by his devilishness, Pei was a land where they could live in security for hundreds of years if need be until the time came for them to stage their *coup d' etat*.

Doubtless Chang Hsu would leave ample provision for their subsistence. His scientific knowledge would provide food, possibly out of the organisms floating in the air, until the day of world reckoning came.

A scuffling sound broke the silence of the laboratory and the Asiatic servant of Chang Hsu hurried to the door, opening it noiselessly. Three huge domed-headed men entered, naked save for dirty loin cloths. They seemed terribly repulsive, with their huge heads and leather skins. This was the first time I had ever beheld any of the creatures stripped.

"I DON'T think he has improved much on nature," said Clay. "At least not in appearance. Aren't they ugly devils?"

"But look at these foreheads," interjected Stenson. "What brains they must hold. And the great bodies. They are stronger than any human being that ever lived."

"They haven't progressed to the dressed-up stage yet," said Clay. "Remember how they were wearing silky duds and jewelry when we saw them in the floating palace?"

"Sh! They're going to do something."

The three domed-headed men prostrated themselves at Chang Hsu's feet with extravagant gestures of obeisance. Chang Hsu glanced at them with scornful eyes that narrowed savagely. Then he turned to the furnace. What connection this furnace had with the evolutionary process we were watching has unfortunately remained a mystery to us. I saw Chang Hsu pour fluid into vials and these in turn were placed in a sort of matrix. Then Chang Hsu moved to the other side of the furnace.

We attempted to follow him, but we were too slow. Something was happening vague yet terrible; something impossibly gigantic and horrible. We knew that protoplasm was being created in the laboratory.

"He's solved the problem of life," I cried.

"He's mastered the secret of protoplasm--that's what he's done!" marveled Stenson. "What lessons we could learn from him."

"Suppose we wreck the whole works?" interjected Clay. "Maybe we can interfere with the course of time. We'll die ourselves, but we'll have saved humanity."

A crusading valor surged over us at his words. If we succeeded what was to have transpired in the years to come would be frustrated. We clasped hands in silent alliance. The glass cut us off from actual physical contact with those in the laboratory. We had stepped through it before. This time, we vowed, our course must be beyond chance of needless catastrophe.

"Wait, maybe those domed birds will leave and we'll have those two Chinks alone," said Clay. "We'll seize those metal bars in the corner and crush their brains out. Is it a go?"

"And how."

As if in answer to our prayers--and through rare good luck to boot--the robot creatures departed through the laboratory door. Chang Hsu and his assistant were alone in the big laboratory. They were utterly unaware of our presence.

"All set, fellows?" asked Clay.

"We're ready. Grab those bars."

"Let's go."

Clay, followed by Stenson and me, rushed to the invisible door and threw it open. The wizard of Pei, evidently startled by this invasion of his domain, advanced toward Clay, who had passed over the doorway. He shouted for aid and his assistant joined him.

Perhaps all things are written from the start. It was inscribed undoubtedly on the tablets of eternity that Chang Hsu should evoke--I hesitate at the word create--the domed-headed men and lay the world in ashes. It was inevitable that this breed, filled with the vigor of new creatures, should succeed a humanity grown flabby through years of luxury as the powerful men from out of the North crushed Rome.

'For the first Morning of Creation wrote,

What the Last Dawn of Reckoning shall read.'

I had followed Clay, and was now out of the time machine. It had vanished from our sight. Only good old Larry, wise beyond us, cool where we were rash had remained in it. We heard his voice. "I'm with you boys."

There we stood again adrift in time facing Chang Hsu, his visage distorted with hatred. There was unimaginable cruelty in his face, with its forehead of such noble potentialities. Never have I gazed upon such a magnificent forehead as Chang Hsu's. I knew then I was glancing into the countenance of one of the supreme intellects of all time.

Chang Hsu, with a contemptuous laugh, drew back and paused at a table. A group of small objects, barely the size of oranges, were on the table. Clay tried to rush Chang Hsu.

"You are welcome to my laboratory," said Chang Hsu. "Men from out of the past, you have long outlived your time."

"I'll kill you," shouted Clay.

"Come back, you fool," I yelled, I suddenly realized the futility of our act.

"Clay!" cried the invisible Stenson. "Either go on or come back!"

"We're going on," shouted Clay. "At him," I cried madly. I howled with hatred as I reached Clay's side and we darted toward Chang Hsu. If I could strangle this odious being, I felt I should have died happy. I never completed the rush.

CHANG Hsu picked up one of the small round objects from the table and hurled it toward us. A hazy cloud spread about the laboratory, wiping out Chang Hsu from my vision. I struggled in a world of inky blackness that followed on the path of the mist.

A blinding flash--a roar like that of a dozen Niagaras--crushed me. I fell into insensibility.

Clay and Stenson bent over me, shaking my head and slapping by cheeks to arouse me. I stared up at them wonderingly and perceived that their faces were blackened and scarred. "Where are we?" I demanded.

"Still in the time chamber. We're back in 1945--thank God."

Stenson trembled as he spoke and I glanced up at him.

"What happened?"

"The last thing I remember, Lane, was Chang Hsu hurling that little round object. You fellows stumbled backward toward me and I could just pull you into the machine and shoot back to our starting point."

"We were lucky."

"Yes. I'm sure Chang Hsu meant to destroy us. Only because you came within my reach could I rescue you. Otherwise you would have been killed. A strange fate, for men of our period to die in far-off 2193."

"And the time machine?"

"It's wrecked. It was smashed when it shot back to the present."

I struggled to my feet, faint with weakness. It suddenly dawned upon me that none of us had eaten in a long time. I was weak from hunger. For a time I watched Stenson glancing dispiritedly about the time chamber, the glass of which was broken in a thousand places. The dial box was wrecked. I shuddered to think what would have been our fate if we had been lost in the future without means of returning to our own time.

"Lucky thing we let Professor Halden off before we went to Chang's laboratory," said Clay. "Just think, if he had returned with us he would have been trapped a hundred years before his time on earth."

"Let's get out," I said. "This light is fading."

We opened the door and stepped into Stenson's outer laboratory. The library lay beyond and I darted toward the book-lined room, overjoyed at its familiar appearance.

"Sit down fellows," said Stenson. "I'm going to cook a little food for us. Coffee and eggs. How does that sound?"

"Great."

He telephoned to the operator in the lobby of the building and asked the date. It was the eighteenth of June. We had started on our journey on the sixteenth. Two days had passed into the future, while we had travelled

hundreds of years. Stenson cooked the meal on an electric stove. We chatted with him as we cut a rather stale loaf of bread and set the table.

"Are you going to make another machine, Larry?" I asked.

"No. I'm through."

"But perhaps we might return and kill Chang Hsu. And then I'd like to chat with Halden again."

"No, fellows. I'm afraid we can never interfere with the future. I am going to leave records for future generations to hunt out the land of Pei. Perhaps they can crush Chang Hsu. Doubtless Halden will do the same. But neither his time nor ours extends into the period of Chang Hsu. Hundreds of years will elapse--and we will be laughed at as fools."

Brain of Venus by John Russell Fear.



*Something grey, veined and throbbing,
lay in the undergrowth*

CHAPTER I - Mutiny In Space

CAPTAIN BRANT, pilot of Liner 762 of the Earth-Mars Transit Service, stood quietly at attention before the desk of his superior. In silence he watched Commandant Bradley add the final official seals to a bulky package, scribble the details on a check-sheet, and finally hand them both across.

"Brant," the commandant said quietly, looking up, "you are undertaking an unusual delivery on this trip."

"Yes, sir," Brant nodded.

"In this package, sealed in preserving solution, is the brain of Lu Sang. At the order of the Imperial Surgical Council it was removed from that notorious Chinese criminal's body when he was under the anaesthetic preceding his death for his countless crimes. The object in removing it while he still lived was so that his brain would still be alive when transferred to the preserving solution. You will take it to Mars and there deliver it to Kron, the head surgeon, who will send a special messenger to the space grounds to meet you. It is his wish to study the brain of a criminal from Earth so that he may learn to eliminate similar traits in Martian brains. You understand?"

"Perfectly, sir," Brant answered crisply. He took the package gingerly, stuffing the check-sheet in his pocket.

"Very well, then, that is all. Have a good trip."

Brandt departed with agile strides, but once out in the long exterior corridor he permitted a frown to come to his face, it was not the assignment that worried him; that was mere routine--but the thought of the difficulties he was likely to encounter on this particular voyage to Mars.

For months now, ever since the new Earth-Mars Corporation had been installed, there had been a slowly growing trouble among the men--the grimy, embittered wretches who toiled in the depths of the space monsters, tending the rocket-tube equipment, grinding out their beings in torrid heat and yellow-lit gloom with scarcely any remuneration for their services.

The old system had been better, controlled by the original discoverer of space conquest. But upon his death and the accession of the corporation into control, all sentiment and mass unity had been flung overboard. Everywhere wages dropped, from those of the lowliest rocket-tube charge-hand to the cleverest space navigator. And now mutiny hovered. Black hate was in the cause that had formerly been one of good natured, ambitious progress.

By no means was Brant blind to the danger signals. He secretly sympathized with the men but an uneasy premonition that danger was ahead had persisted in his mind ever since his landing from Mars two days before.

ONCE aboard the ship Brant went direct to his own cabin and there, with a sigh of relief, deposited the living brain of Lu Sang within the safe. He felt better with the infernal thing out of his hands. Hardly had he put the check-sheet in the file before the door quietly opened and Sub-pilot Anderson entered, concern on his lean, swarthy face.

"The men are grumbling again, sir," he announced. "I thought I had better tell you. I've heard rumors--about mutiny, about turning the passengers and masters adrift at the halfway line in a safety ship, taking over control of this vessel themselves. All sorts of things."

Brant stood with tightened lips for a moment, then he shrugged.

"At the best, just rumors, Anderson," he said grimly. "We'll meet trouble when it comes. Get to your post--give the starting order. Time's up."

"Yes, sir."

Andersen departed swiftly to the control cabin. After a moment's thought Brant followed suit.

He gave his orders for the departure mechanically, watched everything mechanically through the massive windows at the black rotunda of the void

as the liner, gathering momentum, cleaved through the last vestiges of Earth's atmosphere into the infinity beyond. At once the outlook changed; the silvery translucence of the stratosphere heights had gone.

Space was studded with brilliantly glittering points of light. To Brant it all had no meaning; he was completely familiar with the stars. Mutiny! That was what dinned across his brain and frayed his nerves.

And while he wondered, that which he feared was maturing below in the bowels of the ship. Blackie Grednow, perhaps the oldest rocket charge-hand on the spaceways, stood beside his own particular fueling unit, massive hand on the metalwork. His little bloodshot eyes peered at his eleven almost naked comrades with the smoldering fire of excitement.

"Everything's all set," he announced eagerly. "We've got to strike on this trip; we've waited long enough. You know the plans--we take over the ship just as we near the halfway line, drive her back to Earth, then hold her there and refuse to land until new conditions are agreed to. That understood?"

The men nodded silently.

"We're facing Brant, Blackie," commented one of them. "Had you reckoned with that?"

"Brant?" The dirt-and sweat-streaked ex-criminal spat eloquently. "He'll crumple up like steel before a ray-tube when we get on to him. But remember! There's to be no bloodshed--there are passengers aboard, valuable passengers. We can't afford to defeat our own ends. You know your places when I give the signal. Now--back to work."

Silently the men returned to their tasks, but in the mind of one of them at least were personal plans. Newton reflected that it was one thing to achieve amenable conditions aboard a space ship by force--but it was distinctly another to make use of the wealth the ship contained. There must be gold and valuables aboard--there always were on an Earth-Mars voyage. Captain Brant's safe usually held cargo of tremendous value. It was of this that Newton thought, and plotted for individual action when the time came to strike.

CAPTAIN BRANT began to feel more at ease as the days passed on and everything worked with perfect clocklike order. His vigilance began to relax. It was the one move for which Blackie Grednow had been waiting.

Suddenly, without the least warning, the repulsor rocket-tubes came into being. The ship began to slow down rapidly in its tremendous headlong rush toward the red planet. Far away in the infinite blackness of the void the planet hung, a roseate globe no larger than a tennis ball.

Immediately the alarm bell rang. Passengers raced to and fro, heading for the safety space ships. Brant, tight-lipped, swung round from his controls, Anderson by his side--then both of them stopped in their movement as they beheld Blackie himself standing just inside the doorway, a leveled ray-tube in his grimy fist.

"Better not," he advised grimly. "Nothing will happen if you do as I say. Just remember the passengers."

"Well, what do you want?" Brant snapped, glancing helplessly at his own ray-tube in its rack.

"Complete control of the ship. You are to obey my orders. Everybody is covered; I'm warning you. You're going down below where we've been. You know the work down there. I'm giving orders from now on--"

Blackie broke off with a sudden start at the sound of the scream from the corridor outside. He took a step back, glanced in amazement, then looked back into the cabin.

"Brant, forget my demands for the moment," he said curtly. "You know I'm only aiming at getting justice. Some dirty skunk among that rabble of mine has betrayed me. Come on!"

Instantly Brant and Anderson seized their weapons and followed the cursing Blackie from the control chamber. They came upon a scene that

caused Blackie mercilessly to level his weapon for action. The rocket crew, seizing upon their mistaken idea of liberty, was completely out of hand, forcing the shouting, furious passengers back into the main stateroom. Those who were protesting were not asked twice; ray-tubes mercilessly mowed them down.

"Stop, damn you!" Blackie thundered. "Stop, you blasted space rats, or by--"

"Justice!" roared a voice, that of Arnold Benson, perhaps one of the most fractious members of the rocket crew. "Justice! You were going to give us that, Blackie! Betray us more likely! We're taking what we can get and no questions--"

"Not while I'm in charge!" Blackie bellowed back, striding forward. Then he stopped, uttered the faintest of sounds, and fell prone to the floor, killed on the spot by the deadly force of Benson's ray-tube.

For perhaps three seconds there was horrified silence. Passengers and men alike looked on in blank stupefaction--then Brant leaped into action and charged forward. Anderson came behind him like a whirlwind.

In the space of a minute the main stateroom was a tumbled mass of fighting, battling figures. Ray-tubes flashed dangerously, men and women fell. When at last it was over the figures of Benson, Newton, and another man named Mason rose up from the carnage, blood-streaked and victorious figures, gazing down on the dead bodies of Captain Brant and Anderson, and the others who had been mowed down in their efforts at escape.

"So that's how it is," Benson muttered thickly. "All right--so be it. You men"--he glared savagely at a half dozen first-class passengers-- "can get your coats off and find out what it's like controlling the rocket-tubes. You others, will stay here for the time being, and don't attempt any moves if you want to live to get back to Earth. Come on, you two!" He made a motion to his two surviving comrades and they strode off to the control cabin.

ONCE within they looked at each other dubiously.

"Clever enough," commented Newton presently. "But how do you figure on living it down? Nine rocket hands, the captain and sub-pilot, and some two dozen passengers--all killed. We dare not return to Earth with all those dead."

"We're not going to," Benson growled. "We're going on to Mars and there we'll become heroes. There was a mutiny--Blackie Grednow started it. We got things under control after a hard fight. The passengers won't talk, they're too scared. Leave It to me."

"Say, do you realize that we're nearly five thousand miles off our course?" demanded Mason, turning from the route-checkers. "While that fight lasted we drifted--"

"Then don't waste time talking. Give orders to those idiots down below to fire the off-tubes. We're drifting--and quickly." Benson glared through the observation window. Far away to the left hung the argent ball of Venus, blazing silently through space. Through an immense arc lay Mars, miles out of the charted deadline.

"Sure you know how to chart the course?" Newton asked.

"Of course I do."

"All right then--I'll go and get the passengers and crew to work. You and Mason can look after things here. Join you later."

Newton departed, but not toward the passengers locked in the stateroom. Instead he stole softly down the deserted promenade deck until he arrived at the dead Brant's cabin. Softly he opened the door and went inside. Within a moment he had slid aside the partition that concealed the regulation safe; with a grim smile on his face he leveled his ray-tube.

"First come, first served," he commented thoughtfully, as he watched the heavy door drip to molten metal beneath the ray's impact. Then at last he

was satisfied. Taking care to avoid the hot metal edges he reached inside and drew forth the contents.

The brain of Lu Sang he laid on the table after a casual glance at it. To him it was worthless. There were other things of greater Import. A cargo of precious stones from New York's most lucrative coffers; a medicinal shrub of immense value for planting on Mars; money to the value of fifty thousand dollars in notes.

Newton chuckled and rubbed his hands as he took stock. Then the broad smile on his face faded as a shadow fell across the treasure.

He looked up sharply. Benson was immediately behind him, grim, rugged, cruel.

"So, you blasted rat, this is how you fix the passengers, eh?" Benson asked slowly, grinning viciously. "I come here to look for Brant's charting directions, and I find you've cleaned out the safe! All right--you're finished!"

"Wait!" Newton implored hoarsely, as Benson whirled him toward the emergency space chamber. "Wait! I'll do anything you want! Anything--"

"You'll do nothing!" Benson retorted, and with a tremendous shove sent the luckless Newton sprawling into the space chamber. A second afterward the heavy sealing door closed, accomplishing two things. The closing of the door dropped the screaming Newton into the infinite void of space, reduced him instantly to a tiny, frozen satellite of the space ship itself. Used only for emergency explorations in a space suit, or for repairs, the space chamber was a death trap to anyone unprotected.

For a moment Benson stood gazing at the hoard on the table, then he swung round as Mason came rushing in. The man took no notice of the treasure; his expression was one of utter terror.

"Benson, unless we can chart the course we're sunk!" he shouted desperately. "Those damned fools down below don't understand rocketry.

We're being pulled aside--we're within the gravitational field of Venus. Haven't you found Brant's charting sheets anywhere?"

"No." Benson set his jaw. "I can't chart a course, Mason; I thought I could. I'm only a rocket man, not a navigator. Hell, if only Brant had not been killed!"

"Newton! What about him? He knows more than most."

"He won't be able to help us," Benson answered slowly, and cast an unnoticed glance out of the window at the frozen grey spot that denoted the late rocket man.

"Well, anyhow, something's got to be done. We must fire all tubes away from Venus--"

DESPERATION caused Mason to leave his sentence unfinished. He floundered from the cabin, pursued by the alarmed Benson. Together they entered the control cabin and tried fiercely to calculate intricacies that it had taken trained men many years to master. It simply couldn't be done.

Benson stared with a blanched face at the growing face of Venus, world of mystery, far ahead. Venus, the world unknown. A strange icy terror crept the length of his spine. Venus--so lovely, so radiant, yet hiding beneath her dense, watery atmosphere with its high light reflective capacity, the first forms of squirming, terrible life. Those who had dared to descend on Venus' surface had never returned.

And with the seconds Venus was growing. Mars was far away now, retreating with every second. The space ship, uncontrolled, unmanageable, raced with ever growing speed through infinity, chained by the planet's gravitation.

In the stateroom the passengers milled to and fro, battling to obtain a view through the windows at the inevitable death speeding through space toward

them.

Faster--faster, through the growing minutes, while two rocket men tried vainly to figure the right way.

Faster. . . .

Until at last the space liner hit the outermost edges of the Venusian atmosphere, screamed with unholy speed through it, and crashed at last with terrific, buckling force into an immense mountain.

CHAPTER II - The Brain of Lu Sang

THE mysterious disappearance of Liner 762 was the one topic of conversation on both Mars and Earth for many a long day afterward. The mystery vied in popularity with that of the old time sea vessel, *Mary Celeste*. No thought of mutiny seemed to enter anybody's head; there had been no suspicion of it upon departure. Communications of sympathy were sent through the void from every tenanted planet, even from the strange denizens of distant Pluto, who sent, in their own queer fashion, their deepest condolences.

Scout machines tirelessly searched the spaceways for some sign of the missing liner, but no traces did they find. Venus was thought of as the possible solution--but only thought of. There had yet to be a man with nerve enough to risk again the mysteries of that awful world. So the mystery of 762 remained a mystery.

Perhaps the most interested of all in the disappearance was the lean, saturnine Roy Jefferson, chief scientist and radio head of the New York space depot. Mysteries in space were his hobby, tempting danger his only delight in life. For a long time after the general hue and cry had died down

the mystery of 762 continued to absorb his mind, though even he could make no move toward solving it. Nevertheless, he was alive for the faintest possible clue, and in a good position to receive any, for through him came all interstellar messages.

And while he pondered through the passing months, something strange was occurring on Venus, within half a mile of the wreckage of 762. At first sight the view was but that already familiar to the hapless explorers who had come from Earth--and never returned.

Gigantic trees, overburdened with dense, over-ripe foliage of a bilious green hue towered upward from the steamy and impassable undergrowth that rioted on the spongy ground. Everywhere there was steam--the dank and insufferable heat of a very young and deadly world, twenty-six million miles nearer the sun than Earth, filled with gases mainly poisonous in their sheer, undiluted potency. Occasionally clouds drifted in the brilliantly blue sky, but in the main the sun blazed eternally on this, the day side, of Venus. Long since had Earthlings disproved clouds as the cause of Venus' brilliance in the sky; water-vapor in enormous quantities was the explanation.

And, near the ruins of 762, there was undoubtedly a change. Something grey and indeterminable lay in the undergrowth, something veined and throbbing, nauseous in appearance--the brain of Lu Sang. Flung from the table where it had been placed by Newton, in the space ship's crash it had rolled through a rent in the wall and dropped, practically unharmed, into the midst of the loam and nutrition rife in the Venusian forest land. Life stalked every corner of that weird vastness--life in its first mysterious stages, chemical change.

The very ground was saturated with the elements of protoplasm--carbon, hydrogen, phosphorus, calcium--all along the scale of chemicals. And into the midst of this, into the midst of an atmosphere plentifully supplied with carbon dioxide, had fallen a brain that still lived, a brain independent of a body that would otherwise have killed it--a brain absorbing unto itself all the young and healthy life that teemed about it, gathering strength, living, arising from the gulfs of mental suspension into which an earthly anaesthetic had originally plunged it.

Venus, the hell planet, receptive to life, in its early evolutionary stages. Its heavy atmosphere, permeated with a rich gaseous content, and the raw chemicals abundant in the protoplasmic soil all helped the alien brain to grow, expand and live. Cell tissue growth accelerated; and Nature, highly adaptive on embryonic Venus, quickly created a protective healing shell for the brain that would guard it against harmful bacteria and unfavorable climatic conditions. Mental life had come to Venus, mental life destined to go on, unhindered.

FOR two years after the disappearance of 762 events came and went uneventfully upon all the populated planets--Earth, Mars, Saturn and Pluto. Then on the memorable night of January 10th, 1999, there came the first hint of something amiss--a desperate cry from the denizens of Pluto, flashed to Earth by ultra-radio, and Jefferson, in charge, was the first to receive it.

"Mental changes affecting Pluto's inhabitants. Please investigate. Very urgent."

That was all, like a cry in a storm, and all efforts to recommunicate with Pluto failed completely. Jefferson dutifully submitted the message to Headquarters. Scout machines went out to investigate, and found nothing. Jefferson, however, the mystery of 762 still hovering in his keen brain, pondered the cry deeply, and as the days went on it became evident that the Plutonians had not sent their warning without cause. Something was amiss--a strange and incredible thing, affecting now the inhabitants of both Mars and Earth, and in a lesser degree on account of their slow receptive powers, the Saturnians.

Men underwent inexplicable transformations. They varied between supreme genius and profound idiocy, able to understand the entire cosmos in one moment, and yet baffled by a simple addition sum the next. Man lost touch with himself; he began to feel the influence of an immense and overpowering mentality exerting its effect upon him. From somewhere in space a gigantic brain force was in action.

At the very first sign of the mental disturbances Jefferson went direct to the commandant of the spaceways.

"There seems to be danger about, sir. A menace is threatening us and we've got to find out where it is coming from. Where there is danger, that is where I can be found. What are my orders, sir?"

Commandant Bradley pondered.

"I hardly know, Jefferson. The whole thing is so sudden; we don't know where to look. I have a report here from Grafol of Mars. His etheric detectors place the disturbance as coming from or near Venus. The periods of mental perturbation are varied. They continue for so long, stop suddenly, then go on again. The reason for the momentary stoppages remains a mystery at the moment. But we do know that the mental oppression is getting worse. All of us have felt it. But the idea of Venus being behind it is absurd! Venus is a young world, a world from which no man has ever come back alive."

"Early pioneers without modern equipment, sir," Jefferson replied promptly. Then, more seriously, "From my own observations it seems that this mentality is no ordinary one. It is gifted with finesse and polish, able to exact its requirements no matter what is incurred. A brain of high training, on Venus! But!--*how?*"

"Wait!" the commandant interrupted suddenly, his expression changing. "A brain of high training--Good God, I wonder if it is possible!"

"What, sir?"

"Do you remember the mysterious disappearance of Liner 762?"

Jefferson smiled whimsically.

"I've never ceased to think of it, sir."

"Aboard that liner was a criminal brain, alive; it belonged to Lu Sang, the Chinese criminal. I wonder if 762 landed on Venus and the brain rooted

itself there? Is it entirely beyond possibility?"

Jefferson stared at his superior blankly. "I think your guess is dead correct, sir. Venus must be visited right away. I'd like that opportunity, sir; it is the kind of thing I've been longing for for years."

The commandant nodded wearily. "I have no time to haggle; the danger is very real and imminent. You have my permission to leave the moment you are able. I'll assign Andrews to take over. But for the love of heaven, man, watch your step! Venus is no child's playground."

The lean radio chief nodded composedly.

"If it were I wouldn't be going!"

WITH the sunset Jefferson departed from Earth in a small express space flier, accompanied only by two of his closest comrades who, like himself, were never happy unless endangering their lives in some way or other. Stanhope and Bragg were their names, the one small and heavy, the other tall and sinewy, and both of them loyal to the cause in which they had spent their lives.

With terrific speed the space machine shot from Earth into space. Out here in the void, the three adventurers felt the mental forces in all their intensity. Beating waves of mental compulsion that brought the sweat to their faces in the effort of concentrating against them.

"Whatever it is it's sure got a hell of a kick," breathed Stanhope, turning a strained face. "How do you figure on beating it, Jeff?"

"I don't," Jefferson answered grimly. "I just want to locate it on this trip. How to beat it will come later. You've got to show me the thing--even if it is a brain--that can defeat the science of nineteen ninety-nine. Now hang on--we're going places!" So saying he increased the acceleration. Never for an instant did the unknown power of Venus relax. With the shortening distance

its intensity grew, until when at last the hurtling flier was within a few thousand miles of the white planet, it was almost more than the men could do to concentrate on their tasks. The mentality waves were forcing them to turn back, to leave Venus to its own devices and, little by little, they began to submit. The ship gradually came to a near standstill over the glittering atmosphere of the planet.

Jefferson turned a rigid, ashen face to his comrades.

"We've--we've got to obey," he muttered mechanically. "Turn back."

He moved to the controls, then suddenly--staggeringly so--the mental compulsion ceased.

Something large and dark, moving with considerable speed, blotted out the vision of Venus' glaring surface. The space ship swung around violently, snatched by a sudden strong gravitational field. Instantly the three were hurled off their feet, crashed helplessly into the wall, and lapsed into insensibility.

Jefferson returned to his senses aware that the space ship was in the midst of the blackest shadow, relieved only inside the cabin by the faint light of the stars. Puzzled, aching, he revived his two comrades and they moved in bewilderment to the window. Instantly their eyes became fixed to a small and desolate landscape, shining grey and metallic in the starlight. As the moments passed they did not, as they expected, move across the terrain; it kept steady pace with them.

Jefferson screwed his head around the angle of the deeply sunk window and peered above. Then and then only did he behold the edge of a blinding crescent--the edge of Venus itself.

"A Venusian moon--amazingly tiny!" he gasped. "A small planetoid of some kind of metal. But still a moon. Too small almost for observation from Earth."

"And we're caught in its tiny attractive field," commented Stanhope. "Well, it's interesting anyhow. What's next?"

"Have you noticed," Jefferson said slowly, "that the mental compulsion had now ceased?"

"Odd," was Bragg's comment.

"Odd nothing; it can mean only one thing. The metal of this satellite is of such an order as to block mental waves. It probably blocks all sorts of other electrical waves as well. Mental waves are electrical basically, must be. It's obvious now why mental compulsion on Earth stops periodically and then resumes. It must coincide with the time when this moon comes between the Venusian brain and Earth. All the other planets report the same occurrence," Jefferson informed him.

"And Venus itself?" Stanhope questioned. "What do we do? Explore?"

Jefferson shook his head.

"Too dangerous. We'd never stand it. We can take it for granted that Lu Sang's brain somehow took root in the chemicals of Venus, which has given it overpowering and increasing mental force. No, the best course is to anchor a section of this satellite's surface and take it back to Earth as a protection against mental attack. Thus shielded we can work out a plan to defeat this trouble--if it's humanly possible."

JEFFERSON paused and looked around as the radio contact to earth suddenly buzzed urgently. In an instant he had the receivers to his ears. The voice of Commandant Bradley came to him over the infinite distance.

"That you, Jefferson? What have you found?" Then before Jefferson could reply the urgent voice continued, "Something terrible is happening! We've received news from the Saturnians that space itself is changing. Distant nebulae and galaxies are disappearing, being swallowed up in void. The trouble is also affecting our own solar system. Pluto has gone; Neptune reveals signs of also vanishing. We've had to use a couple of power ray machines to keep Earth steady because of the shifting of the balance. We've

got one trained on the sun and the other on Alpha Centauri. That'll keep us safe for the time being. But that isn't all. Some sort of protoplasm has appeared on Earth, and it radiates mentality. It's overcoming the world--"

The voice trailed down into silence and ceased. Frantically Jefferson buzzed the contactor, without success. Bitter-faced, he flung down the receivers and made a brief explanation to his wondering companions.

"Things are getting tough!" whistled Stanhope. "Vanishing planets, protoplasm! What the devil next? What's it all for, I wonder?"

"This is no time to ask questions," Jefferson snorted. "We've got to act--fast. Give me a band with the blast-tubes; we're taking some of this moon back to Earth. Quickly!"

Without another word the three set to work, each performing his part of the task with absolute assurance. Disintegrator blast-tubes, operated from the base of the ship, set to work and cut a full square mile of the apparently solid satellite below. For a time that iron grey surface was ripped and torn with shafts of energy, then, as they ceased their activity the magnetizers came into action.

Immediately, the mile-square sheet, jagged-edged, was torn from its native bed and floated into space. In response the space ship adjusted her position to the new balance and a blinding segment of Venus appeared beyond the satellite's edge.

"Full speed ahead," Jefferson snapped.

The rocket-tubes roared and under their influence the ship began to pull away from the tiny satellite's weak gravitation, drew slowly out into the void away from Venus, the section of severed moon trailing at an unvarying distance in the rear, weightless, chained only by the space ship's own small gravity and powerful magnetizers.

Little by little the immense bulk of Venus began to appear as the distance increased and the satellite's width correspondingly lessened. And as it did so the mental compulsions returned.

Again the trio wrestled desperately with the mental waves, but this time they felt more than compulsion. There was a message, a distinct message, an impression of thought waves, as though a voice were speaking. Silent and rigid they listened.

"Be warned, before you go too far. You are grappling with the brain of Lu Sang, a brain that formerly lay in a pitifully inadequate earthly body. The time has come when I have learned all that matter has to tell; that being so I seek the region of pure thought, the thought that exists where matter is not. Originally in the dim beginning there was naught but space; the accident of certain crystallizing radiations produced matter--a cancer in the midst of an otherwise uniform sea of thought-impressions. With my knowledge it is an easy matter to produce a radiation capable of causing atomic collapse through the medium of heat, the destruction of matter and its resolution into apparently empty space.

"Not until space is empty and all life destroyed can I obtain the real concept of thought. My mental radiations now are disturbing matter life, reducing it to the final stage when it will be a simple matter to destroy the living bodies without impairing the minds. These perturbations are caused entirely by the efforts of the human mentalities to escape from their Earthbound bodies. In the end they will all escape--that is my aim. So, puny humans, do not attempt to stand in my way. You may struggle as you wish, invent all you desire, but your end is inevitable."

WITH that the communication ceased, but the mental perturbations continued. The three men said nothing, and in a manner purely mechanical drove the flier steadily back toward Earth.

When ultimately they gained the landing grounds mechanical devices came into operation to take control of the colossal sheet of metal they had brought with them. Gently and carefully it was lowered to the ground, then, opening the door, Jefferson found himself facing Commandant Bradley.

"Thank God you're back, Jefferson," were his first words. "You got my radio report, of course? I was overcome at the end by a mental attack. Things have gone much worse while you've been away. The protoplasm is everywhere, slowly covering Earth. The same stuff has also appeared on Mars and smothered that planet completely. The same thing will happen to Earth. Worst of all are the disappearing planets. Thank God we have four force-ray projectors. Two of them help to keep Earth steady during the shiftings of the balance. What did you find? Anything?"

Briefly Jefferson related everything.

"So the only bright spot is our bringing the metal back with us," he concluded. "It protects us against the Brain's thought waves. We can build a shelter of it and work inside with peace. It's our only chance. There must be something that can destroy this infernal Brain--we've got to find something. If we don't all matter will be eliminated and all mind released to its primordial level before matter came. How many men can you let me have, sir?"

"You can have the entire space unit. We're running no space ships now."

Jefferson nodded.

"Send them to me, sir, and at the earliest moment we'll figure ways and means. Now, let's get busy."

CHAPTER III - The Brain Speaks

IN the days that followed men labored to build a small shed from the material of the Venusian moon. It was hard work--cruelly hard--but the need for urgency accomplished wonders.

And while the men struggled to erect the building on the space grounds, death was stalking in every corner of Earth. From every city came news of the steady death of populations, of people of weak mental resistance overcome by the onslaughts of the Venusian brain. The now vast seas of protoplasmic matter that also smeared Earth's surface were impossible things to fight.

"The stuff isn't brain matter, sir," Jefferson explained to his worried superior. "It's really unintelligent chemical, but somehow, probably through the medium of electricity, the distant Brain has managed to excite the atoms of lowly chemicals existing in the very ground into a formation of protoplasm. The stuff has a cellular reflective power which enables it to reflect the mental outpourings of the Brain with tremendous amplification, just as a mirror reflects the sunlight. The Brain is using it, I imagine, purely to increase the potency of his thought-range. Since the same thing happened on Mars it seems a logical conclusion. By this means the Brain has doubled his power, can reach everywhere."

"And now?" Bradley asked drearily. "How do we fight it?"

"We still have time," Jefferson answered grimly. "The shelter is finished. Inside the hut we are perfectly safe. And the only way to defeat the Brain is by electricity. One electric wave can always upset another if you go about it properly. Brain-radiations, or thought-waves, are electrical in nature. These incoming mental waves are in the vicinity of one hundred and ninety thousand frequency, working on the new Crookes-Matthew Table. Frequencies of that order are far and away in advance of anything yet produced on Earth, and the only way we can get it is by the electric and almost inexhaustible discharge of smashing atoms. You see, if we can once achieve a similar number of frequencies and direct them at Venus, it seems obvious that like will repulse like.

"In other words, the power of the Brain will be so heterodyned, or turned aside, as to cease to have effect. Then, while the effect is maintained and the Brain is helpless we will venture near enough to Venus' surface to smash it out of existence with large-sized ray-tubes. That cannot be done without the Brain being temporarily incapacitated. Normally it can turn aside any ray-

tube in existence. It is virtually indestructible, unless under the anaesthesia of frequencies of a like power to its own."

"Go to it," the commandant encouraged. "I hope it works. And remember, the protoplasm stuff has reached West Virginia and is rapidly moving eastward. It'll be here any time."

Jefferson nodded. "If we're quick we can beat it. I'm going right now to make the final details."

The equipping and hook-up of the directional instruments with the main power lines proved a longer job than Jefferson had anticipated. Throughout two days and nights men milled and flocked about the job, battling with both the elements of time and mental trouble. With every passing hour the force of the Brain was becoming stronger. Jefferson fumed and cursed, listened to desperate radio reports that told of the protoplasm's advance into Pennsylvania.

At six p.m. on the following evening, when the cabling and machine connections were at last completed, Mars vanished from the cosmic map. Instantly the two bracing power-rays, automatically controlled, changed their power, adjusting themselves to equal pressure and negating what would otherwise have been world-shattering earthquakes. Stanhope, who had been present at the observatory when the Martian disaster had happened, issued an immediate report.

THERE was nothing particularly unusual about the matter, it seemed. The Brain was obviously capable of utilizing radiations able to cause atomic excitation. Hence the atoms of Mars had been agitated through continuously rising temperature. Mars, it appeared, had passed through all the stages of atomic destruction. It had glowed red, then white, then violet as the 6000❖ C. temperature was reached. Higher and higher, until tremendous X-rays had poured forth into space; to be replaced by gamma rays as the temperature soared to millions of degrees. The nuclei of Mars' atoms had begun to tremble, and finally at 2,000,000❖ had collapsed altogether.

Mars had passed out in a grand splash of cosmic rays and ceased to be. Why the furious heat of the collapsing planet had not blistered Earth to cinders was a mystery. The only explanation, apparently, was that the Brain had its own ways of working, was saving Earth for its own particular experiments.

Jefferson's jaw squared when he heard the news. With hardly a word he entered the protective building not an hour afterward, accompanied by Stanhope, Bragg, and the commandant himself. No sooner was the door shut than activity began--the main power house of the United Powerlines being constantly in television contact.

Jefferson moved steadily and resolutely in the midst of the apparatus, gazed at the distance-gauge. From his calculations, he knew that the main immense transmitter, four miles away, was pointed so that its outflowing radiations would impinge directly on Venus. The remainder of his instruments told him exactly the load being carried, the number of frequencies, and countless other electrical details, while way back in the laboratories of the Powerline Company the atom-smashing apparatus was at work. Atom-smashing was not a new art to the scientists, but the amount of energy called for on this occasion most certainly was. One hundred and ninety-five thousand frequencies! That was what it was now.

It needed at least twelve atom-smashing machines, directed upon three one-ton blocks of copper to produce the desired load. Desperate scientists worked in the midst of terrific heat and light, protected by heavy suits and goggled helmets, watching an awe-inspiring display of disruption and annihilation, the result of which was transmitted direct to the protective shelter at the space grounds, and then to the transmitter itself.

For two hours, and more, Jefferson labored with the switches and resistances until he finally achieved a steady output of one hundred and ninety-five thousand frequencies.

"That's the first part, sir," he announced quietly to the commandant. "If I'm correct, the Brain can't operate with that force being hurled at it. Naturally the force will be blocked as that tiny satellite passes between, but that's hardly worth reckoning in. The power will remain on until Stanhope, Bragg

and I have been to Venus and blown the Brain to atoms with the ray-tubes we've had fixed aboard our ship. We've got to go right away. You'd better stay here, sir. There'll be no hitch; the power is automatically controlled. Come on, you two."

The three moved to the door and opened it--but instead of an absence of mental compulsion, such as they had expected, there swept in on them a tremendous communication, so intense that they staggered before it.

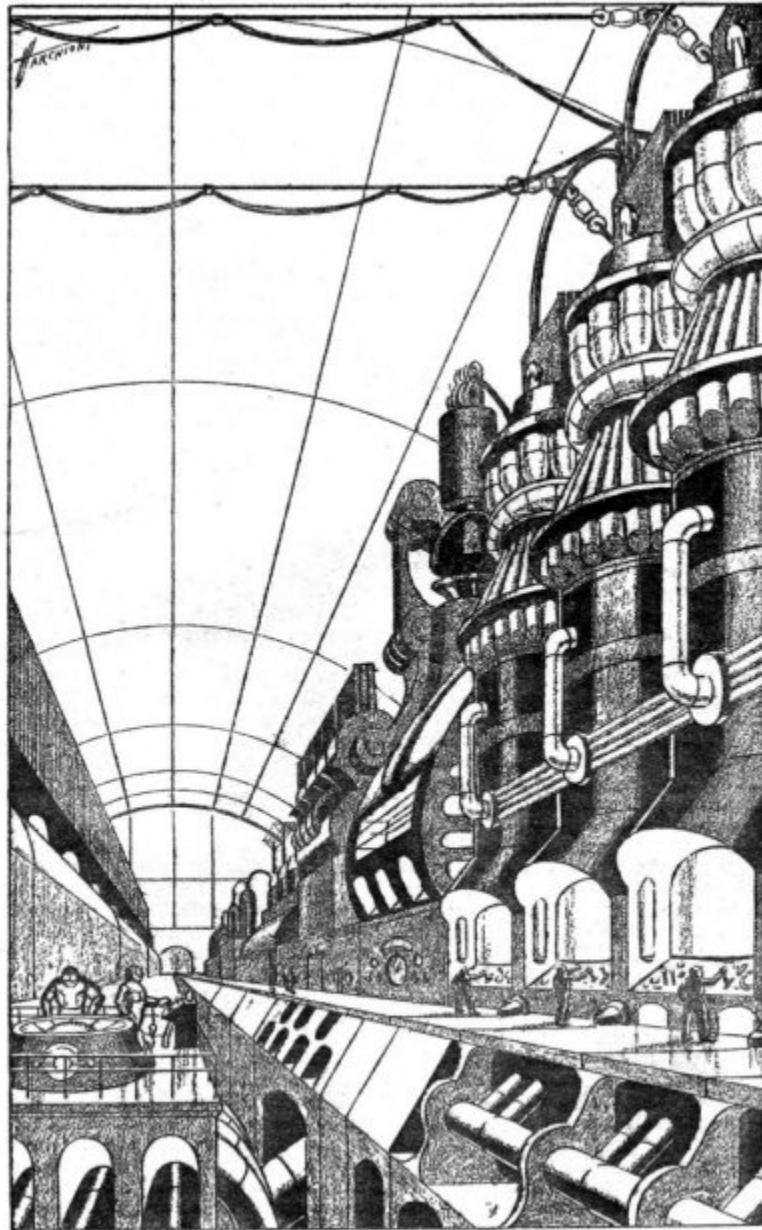
"So, you imagine by the use of electricity that you can defeat me? You pitiful fools! When will you realize that the electricity you have hurled into space is far from a detriment? Rather it is an advantage! I discovered that when the satellite passed me and reflected my own radiations. I absorb it into myself, increase my mental range to double because you have doubled the frequencies. You notice how strong my power is? Realize that there is no power that can stop my plans. I shall now destroy you in the same way I destroyed Mars, by a radiation that will annihilate matter. There remains, of the entire spatial universe, reckoning, that is, to Alpha Centauri, only Earth and Mercury to destroy, together with a few odd planetoids and moons. Tomorrow at eight in the morning, by Earth time, Earth shall pass. Remember that. And at that time those who have not succumbed to mental power will die in the ordinary way."

The three men heard no more. They stepped back into the protective shelter, dazed, alarmed. Almost mechanically Jefferson gave the stopping order to the power houses, then he turned a bleak face to the others.

"It's impregnable!" he muttered. "Instead of electricity stopping it, it's just used it! Yet there must be a way. And we've only got twelve hours!"

He stopped and sat down to think, head buried in his hands.

CHAPTER IV - The Last Chance



Desperate scientists worked in the midst of terrific heat and light, protected by heavy suits and helmets

At length Jefferson looked up, his eyes bright.

"There's only one chance," he said grimly. "It might just work. At eight tomorrow the new disruptive radiation will be hurled at Earth. But what is to happen if we deflect the radiation and turn it back on Venus?"

"Presumably it would wreck Venus," Stanhope returned obviously. "Or the Brain might absorb it. First find your deflector."

That's simple. This satellite metal, of which this shelter is built, evidently reflects all known vibrations and does not absorb any of them--not even thought-waves. The Brain has proved that. That being so it is a certainty that the Venusian satellite itself will be able to deflect the disruptive radiations hurled from Venus back onto Venus herself."

"But why won't the Brain itself absorb the reflected radiations?"

"For two reasons. In the first place, this new radiation will be inconceivably more powerful--too tremendously potent for the Brain to nullify or absorb. It will annihilate him almost instantly. Secondly, in the past the Brain drew his energy from outer space. Now he's using his own, built-up thought power. It's a fundamental law of Nature that no organism can survive in its own waste. Just as the carbon dioxide we exhale proves fatal to other organisms--the same carbon dioxide absorbed by the exhaler would have a lethal affect on him. Similarly, the Brain will be unable to cope with his own emanations which will be, in a sense, his waste."

"Agreed," nodded Bragg. "The slight difficulty in the way is holding the said satellite still enough to accomplish the deflection. You can bet your life the Brain has got it all worked out to send the disruptive vibrations intermittently as the satellite whirls past."

"Naturally, but I'm thinking of our power rays which are holding Earth steady. We have two other power rays, standing by in case of emergency. Doesn't it seem possible that we can utilize them? Direct one at our moon, which is infinitely heavier than the Venusian satellite, and the other at the Venusian satellite itself, the power being just sufficient to hold that small body steady and stationary at the exact moment the Brain fires forth the disruptive power. That will cause the power to recoil and destroy all Venus at exactly eight o'clock. So far as the calculation goes, I shall go into space and give radio directions to Earth. My instruments will check it."

Bragg smiled cynically.

"And the Brain? How do you expect to stand that mentality?"

"Simple. We have Venus satellite metal left over. We can soon fashion helmets both for myself and the men who will be working the power rays on Earth here. We have the apparatus to fashion as many helmets as we want. With those we will be safe."

At midnight Jefferson left a world that was slowly disappearing under the steady advance of reflective protoplasm. He left satisfied, rough-hewn helmet on his head, content that Stanhope would see through the final details, content too that Bragg would expertly handle all the radio messages that came to him. He felt confident that the Brain would not intercept the radio messages, mainly because of the helmets.

Two hours after Jefferson's departure Bragg began to receive the necessary instructions--the rate of the satellite, its position--every detail, checked by Jefferson's own instruments, was given, to be immediately relayed by Bragg to the waiting Stanhope. He in turn gave the helmeted engineers the instructions and they set to work on the details of the two spare force projectors.

Helmeted as they were the men received no mental distractions, but they were forced to struggle constantly with ever-expanding protoplasm. New York was already a smothered city. The only advantage about the stuff was that it did not kill or digest human beings, merely rendered them unconscious.

So, watched by the helmeted commandant, the last conscious men of Earth made their last stand, waiting for the dawn, listening to the radio instructions that came through the silent night, uttered originally by a lone man situated almost stationary one thousand miles from the surface of the Venusian moon.

Jefferson himself spent the last hours with his eyes glued to the chronometer, timed exactly to Earth time. Then he gave the firing signal to

Earth, allowing for the time interval of nearly eight minutes, and a corresponding eight minutes for the projected force to strike the Venusian moon. Back on Earth response was exact to the second. Lunar and Venusian force rays were projected to the pre-calculated second, allowing for the differences in distance. Helmeted men in the major power house fed the immense projector engines, engines now working to support four instead of two machines.

Jefferson waited tensely, eyes glued to the Venusian satellite. He watched breathlessly as it appeared on its usual fast journey round the parent world--but now there was something different. Its onrush was slowing down. Slower. The hands of the chronometer pointed exactly to eight, and exactly at the identical second the satellite halted, dead in a line between Earth and Venus.

Jefferson never knew what happened after that. Too long he had lingered, too close to the danger zone, drawn by the uncanny fascination of it all.

He had one glimpse of a world crumbling and smashing into blinding flame, of a stationary satellite etched out against the glare. Vast and tremendous electrical repercussions beat through infinity, seized the infinitesimally small space ship and hurled it into the uttermost reaches of space.

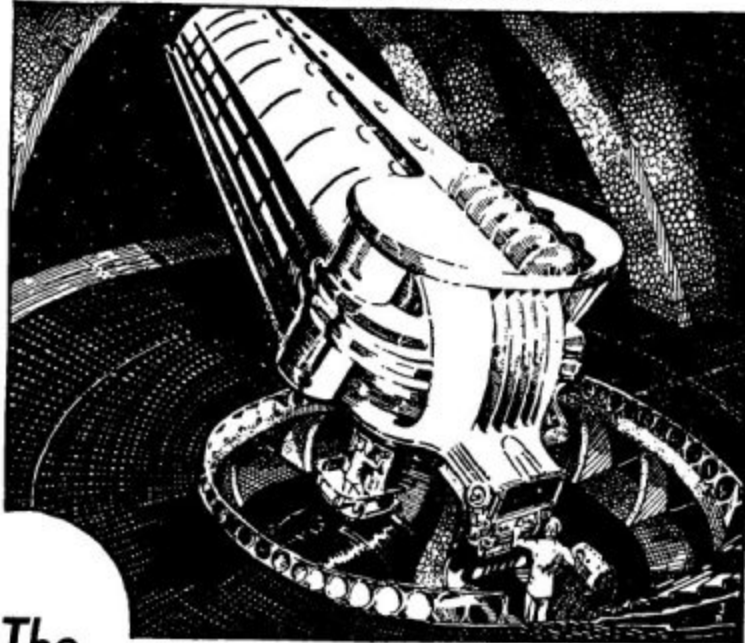
Jefferson never knew what happened. Death claimed him instantly. His ship slowly returned, wrecked, to the position of the shattered Venus and gravitated finally as a tiny moon around the largest remaining piece.

Back on Earth, the danger averted, men waited through the days and weeks for the return of Jefferson--waited long past the time when the protoplasm, deprived of the energy from Venus that had given it life, had died and rotted, long past the time when man had recovered himself and set himself to the task of rebuilding the shattered solar system. The task of recreating a balance equaling that of the old.

But Jefferson never returned. He had tempted danger once too often.

The Molten Bullet by Anthony Rud.

He Was the World's Greatest Astronomer—Yet When
He Warned Earth of the Impending Impact of a
Giant Meteor, They Laughed at Him!



The

Each time he repeated his observations he obtained the same results.

MOLTEN BULLET

By ANTHONY RUD

Author of "The Cain Brand," "The Griffin," etc.

THIS is the last of my long series of studies of the folk of the Lost Planet, fellow Skrygeours. Or, fellow Martians, as we have agreed to call ourselves, the name being so much more pleasing to the electric ear.

I feel a warmth and a sympathy for those Earthmen, so far ahead of us in many ways, yet totally unable to help themselves in that last dreadful calamity.

Since we have adopted their spoken and written word, in place of our thousands of clashing dialects different along each two canals, and so many of their incredible mechanisms, it is only natural that we should have devoted time to their individuals.

In passing let me say that my deepest regret has been the inability of myself and other Martian scientists, in spite of our monster selectoscope which allowed me to pick up their ether waves, their speech, and even to follow the movements of any single Earthian with understanding, to get together with their great scientific men in any sort of talk.

We could hear and see and understand almost everything; but we could not fathom the manner in which those ether waves they called radio, were flung from place to place, and even out to us here in the center of the Universe.

They, on the other hand, were apparently several time cycles behind discovering anything similar to the Loamm selectoscope, which would have enabled them really to study us!

As I have reiterated, both physically and mentally they resembled us so closely--allowing for the differences in climate and our other natural advantages, of course--that it is almost certain we sprang from the same stock.

Either the Creator developed life on both planets in almost identical fashion, or at some past time and greater epoch of civilization we must have conquered the difficulties of interplanetary travel, and sent a space ship to colonize Earth.

I favor that theory. Though of course it might have been a landing party from Earth which started us!

I HAD great hopes for Albert Einstein Ammerton. He was more like a Martian than any of the other scores of Earthmen I had studied. If any man on Earth ever could have invented our selectoscope, or its equivalent, Ammerton would have been the man.

According to their time reckoning, which I have explained earlier, Ammerton was born in their year 1937, A.D. Though we might have regarded him notably backward, and odd in some respects, from his very earliest years he was far ahead of his fellow Earthians. He was a mathematical genius. At the age of eleven he had graduated from Massachusetts Institute of Technology and already was in a fair way to becoming recognized as the greatest Earthian authority on mathematical variants. When he was fifteen, and acting as third assistant at the great Sandraes Observatory, he worked out a correction to the parallax of Neptune--an error which had gone undiscovered for more than a century.

Development of this kind, usual with us on Mars, was something more than phenomenal on Earth. Ammerton was called a prodigy. Like our great astronomer and calculator, Ebi Loamm, who had conquered the binomial theorem at the age of forty months, Ammerton was a trifle narrow in after life. He did not become insane, however, (You will recall that Loamm, after inventing the selectoscope, went violently mad at the age of two hundred, in the very prime of his young Martian manhood.)

Ammerton's greatest interest lay in the far stretches of the Universe. He was human enough, in his odd moments though, to court and marry a beautiful young woman, one Elspeth Sandraes, daughter of the multi-millionaire Earthman who had given this observatory its great 300-inch mirror telescope.

So no one was greatly surprised when in 1963, at the death of the observatory chief, Albert E. Ammerton was promoted over the head of the then assistant chief, one Hans Becker, and given supreme authority in the Sandraes Observatory.

Note that name, Hans Becker. He was much like many Martians you and I know--selfish devils, consumed by inner furies, men who believe that all that they desire should be handed to them, irrespective of their real desserts.

With the selectoscope I followed Becker and Ammerton, and flatter myself I understood them from bones to brains. It is too bad they were not radio engineers, for if so it is certain we would know now the one great Earthian secret which escaped us.

(Even now, after one of our Martian centuries--equal to 178 Earth years--I often puzzle over what those early radio broadcasters were trying to tell us, when they kept repeating over and over again that statement about the music going round and around. It did, and so did their words, of course, but as far as giving us the hint we sought, it seemed irrelevant!)

Hans Becker was about forty years of age, haughty and arrogant of manner. He was a competent astronomer, of course, painstaking and methodical, until a pair of things happened to upset him greatly.

FIRST, the beautiful heiress, Elspeth Sandraes, married Becker's young rival, Ammerton. Second, Ammerton received the coveted post as head of the observatory. As the chief assistant, Becker believed that he should have received the appointment. And it is probable that he did love the girl. A good many men of assorted ages did.

How Becker did rage! I was fascinated by him, and followed him on the long walks he took over the countryside. He walked fast in spurts, sometimes raising his right leg stiffly in a sort of wooden-soldier march, sometimes stopping short to lift his fists to the uncompromising stars, and shout curses which ought to have turned green the face of the moon.

Becker's own white face would grow red, then purple, while his thinning thatch of yellow hair bristled with the electricity generated by his venom.

All that first year Ammerton, happy with his new wife and the great camera-telescope, was unaware of the hatred and jealousy seething in Becker's heart. In fact Ammerton was extremely blind, never finding out about this personal grudge until at last it was almost too late to do anything about it.

In all their relations at the observatory, Becker was courteous, suave and obedient to his new chief, bending often from the waist in that stiff, rather jerky bow which was characteristic of him. But his inner thoughts must have been black and slimy enough. He vowed aloud in a shout to the distant stars--and to my selectoscope--that he would devote the remainder of his life to vengeance.

It was Amrherton's career as Earth's foremost astronomer, which Hans Becker ruined--and ruined so insidiously, after a long period of seeming harmony with his chief, that the plotter achieved his object in full before Ammerton as much as suspected that he was the victim of a conspiracy.

Becker came of a German family of clockmakers, and himself had served an early apprenticeship in that trade. So he was deft with delicate machinery, intricate little affairs of springs, pawls and ratchets. He studied the finer adjustment mechanisms of the awesome camera-telescope, and then busied himself for weeks in a secret workshop in the cellar of his home.

Then during one afternoon, when honest astronomers sleep, Becker brought his devilish little gadget to the observatory and fitted it to the great telescope. It concerned tiny fractions of a degree in setting, and was so small itself and placed so well out of the way that no one could suspect its presence, save possibly the subordinate in charge of cleaning, oiling and care of the expensive instrument. And that subordinate was Hans Becker himself!

A tiny electric switch in the adjoining office had to be thrown, in order to affect the telescope. When the switch was not in contact, the instrument was perfect as usual. But Becker, by merely moving that switch arm back and forth, could make one observation faulty, while another taken the next minute, would be accurate!

The error there on Earth was perhaps three one-hundred-thousandths of an inch. Two and one-half billion miles away on Neptune, for instance--a planet much nearer than any star--that tiny discrepancy had magnified itself so greatly that an astronomer could break his heart endeavoring to understand it.

OR, he could believe that stars and planets suddenly and irresponsibly had left their prescribed orbits, like so many off-center-weighted golf balls in flight, and were slicing and hooking themselves into the heavenly rough.

Becker was far too wise in his plotting to allow anything like this, uncontrolled and incredible, to happen. What did seem to occur was calmly regulated and consistent, even though startling. You see, astronomy was so exact a science that when even a tiny error showed its head, it created a sensation throughout the world. It is quite as if in a high school geometry class a young sophomore went to the blackboard and demonstrated to the astounded teacher that in a certain right-angle triangle he had discovered, the sum of the squares of the two other sides did *not* equal the square of the hypotenuse!

Becker waited until his chief launched a series of observations. These had to do with the earth's present orbit, and inferentially with the eccentricity of that orbit from one million years B.C. until the present day. Ammerton little realized that he was going to find anything more wrong than might be accounted for by the difference in modern and old-time instruments. Croll, Leverrier and Stone, working out these calculations first, had been handicapped by telescopes outdated by more than a century.

But Ammerton's results certainly did begin to come out differently! At first he was inclined to doubt, to think that possibly the great instrument itself must be in error. But tireless checks over all the great coordinates of the heavens, finally convinced him that he was on the right track, and that those old figures, believed in the way lamas believe in Buddha, were in gross error!

Becker stayed right with his chief all night long every night for months, helping take the photos, tabulating results, and making intricate calculations.

When not in the observatory, Ammerton was walking around wide-eyed and preoccupied. His wife scarcely knew him. He muttered long strings of

figures to himself. The thing he had come upon was stupendous, unbelievable!

Yet everything checked. Each time he repeated his observations he obtained the same amazing results. Of course it had been difficult indeed for those poor fellows with their primitive apparatus, back in the nineteenth century. But even so, it was hard to conceive that they had been this far wrong.

At last Ammerton's final doubts were satisfied, though. He sat down to write the epoch-making article for the *Journal of Astronomy*, which would give these new results to a wondering world.

Heretical statements such as this were the meat of the new exposition, which would make savants gasp:

It must not be supposed that the eccentricity, in obedience to the laws, relating to planetary eccentricities, oscillates between the absolute maximum and the absolute minimum, the perihelion shifting continuously forward. On the contrary, the successive maxima and minima-are very unequal, and are attained after very unequal intervals.

Becker looked startled and shocked when he read. He stammered around, and then suggested fearfully that it might be wiser to break the news somewhat more gently. Would not Herr Ammerton consider sending out a few hints first, and postpone the actual publication of his revolutionary article until some future time?

THIS got the scientist's back up--as it was intended to do.

"By the cosine of Caraneus, *no!*" cried Ammerton, banging his clenched fist on the table in passionate emphasis. "I'll never quibble or qualify! When I'm right, I'm right--and everyone must know and understand!"

"Of course you know best, chief," murmured the hypocritical Becker, bowing stiffly from the hips. "And what a poke in the eye is coming to you, you handsome sap!" he gritted under his breath, concealing jubilation under the usual mask of grave suavity.

It was during those days, following the mailing of his treacherously deluded article, that my fullest Martian sympathy went out to poor Ammerton. Not only had he been betrayed in his lifework, but all the natural and unnatural misfortunes men are heir to, started ganging up on him. He fell ill with influenza. His wife died in childbirth, and the baby with her. And then when at long last Ammerton managed to stagger to his feet, facing every disaster like a strong man should, resolved to bury his sorrows in work, he found even that chance for forgetfulness slipping away from him!

The friendly editor of the *Journal of Astronomy* had sent him a message, hinting that after having read the cosmic surprise in the long article, he wondered if Ammerton were not poking out his neck a bit too rashly. He suggested a careful recheck of results.

Ammerton, out of himself with grief and physical illness at the time, answered this with curt savagery, quite unlike his usual manner. So in due course the article appeared. The magazine editor realized it would boom circulation, even though it did ruin Ammerton. And then, of course, there was the slight possibility that the man was right. He had a worldwide reputation for care and thoroughness in his work.

The sensation was all that anyone expected. Then for a few weeks--silence. Finally, when other observers had gone over the ground, there came the frigid, stern word that Ammerton must be quite mad. This came from Professor Emmanuel Liebling, of Prague.

An Associated Press interview with another noted astronomer, Dr. Wilfred Graham of Lick Observatory, appeared in many of the chief newspapers. Dr. Graham said flatly that his learned contemporary was mistaken.

Less dignified savants all over the earth jeered loudly. Why, any eighteen-year-old freshman in college astronomy could take a twenty-foot 'scope and show how ridiculous these findings were!

The Judas plot of Hans Becker had worked to perfection.

Now he added the master touch. Spurred out of his grief, indignant beyond words, Ammerton plunged into a complete recheck of his work. And his second batch of results was identical with the first, to a dozen decimal place!

He called in Becker to see. But now, appalling though it was, results were totally different! (Becker, of course, had thrown off the switch.)

Sweating even in that chill mountain observatory, shaking with a palsy of sudden horror, Ammerton suddenly broke. He yelled insanely, flung his fists aloft, and ran from the observatory gibbering in momentary madness.

If Hans Becker right then and there had dismantled his secret apparatus-of-error, he would never have been discovered. Like many another criminal, however, he could not keep from overdoing it. He saw that his chief's great brain was practically unhinged now. One more shock, one more senseless happening which reason could not explain, and the mental ruin of the young scientist would be complete. That, and nothing less, was Becker's goal.

BACK now into the observatory rushed the wild-appearing Ammerton. One can realize just how far from his usual mental moorings he had drifted, by what he did then. He actually cleaned the lenses of a ponderous eyepiece, unused since the first days of testing the giant camera-telescope, and *looked through this eyepiece into the heavens!*

Becker waited. The opportunity for his final coup would arrive, he thought, but this was not it.

Ammerton was sweeping the night sky, his own mind chaotic. He chanced to cross the orbit of Polyphemus. This gigantic asteroid-comet, which for many centuries had come near--dangerously near--the Solar System, once each eighty-three years, now was out of sight from any save the very largest modern telescopes on Earth. It may have been causing the jitters just then, to the ice-blooded inhabitants of far-away Uranus, if any.

Ammerton's keen observer's brain, still not addled as were his emotions, caught and fastened to a strange thing. There was something peculiar and disturbing about the asteroid-comet, showing out there against the blue-black of interstellar space as a faint streak of orange fire.

Polyphemus had a kink in his tail!

In plain words, his tail should have been slightly curved, if he were pursuing his ordinary course. Instead, there was a wide bend in it! That meant trouble.

Ammerton instantly realized the possibilities. They were so monstrous that the thought acted like an ice-pack on his fevered head. The distortion of the tail meant that somehow and sometime the asteroid-comet had abruptly changed course!

As a possible result, he might hit and explode one of the planet members. Or another catastrophe, thought Ammerton with horror, might lose Earth its sun--letting all inhabitants of that planet freeze to death in a few hours. Or it might even head Earth straight into the sun, to be swallowed up in boiling, molten oblivion!

There were other terrible possibilities as we on Mars know; but those were enough for Ammerton at that time. He started new observations, making photos of Polyphemus every half hour, and calculations from them.

During the following day, unable to sleep, the scientist studied all available data on Polyphemus. He made painstaking calculations, and at ten that evening carefully swung the giant telescope to a certain position of right ascension. Careening along through space at its terrific pace, the comet-asteroid should have reached this exact point at 10 P. M. sharp, Greenwich

Observatory time. Again Ammerton looked through the eyepiece of the telescope before getting ready to take the photograph.

An awed exclamation burst from his throat. Polyphemus was not there!

(I hasten to make plain that this was *not* Becker's fault. That scoundrel was lying low and waiting for a good opportunity, which he did not suspect had arrived. Ammerton had told him nothing of the blood-chilling discovery.)

With the big telescope sweeping back to the comet-asteroid's position of the previous night preliminary to some sleuthing of the star spaces, Ammerton was shocked to discover Polyphemus almost exactly where it had been the night before!

Realize what that meant! The tail had grown appreciably shorter. Polyphemus had changed direction sharply, and now was headed directly toward Earth, at an approximate speed of 3300 miles a minute!

OF course, whatever it was that had shoed it from its normal orbit, might have slowed it somewhat, or vastly increased this usual speed. Time alone could tell. But Ammerton was never to know, nor anyone else on Earth, why Polyphemus had changed its course so amazingly. No one could suspect that it was because the asteroid-comet was a mass of highly magnetic iron, attracted to Earth's iron core!

However, unless something intervened, or the speed of Earth was sufficient to outstrip Polyphemus, this unholy game of celestial tag was bound to end in blazing catastrophe!

The mass of Polyphemus, which was indeed a super-comet, was approximately seven times greater than that of Earth's moon--or about one-twelfth the mass of Earth itself! When and if these two bodies collided, it would create such intense heat that both would be utterly consumed, and the resultant gases blown away into furthest space!

Naturally there could be no survivors on Earth, unless some of them came forward with a space ship at the last minute, and succeeded in navigating away to some other planet. If that happened, of course, the refugees would have been most welcome among us on Mars.

Chances, however, of any group of Earthmen inventing and actually building such a ship in the short space of a few weeks--the time which would intervene before a collision--were naturally very small.

However, on the fourth morning, after three nights of intensive study, Albert Einstein Ammerton announced to the reporters of a large daily newspaper that Polyphemus had gone wild, left its recognized orbit, and now was running amok to collide with Earth!

The scientist, though knowing now well enough what would be said of him in astronomical circles, thought it his sacred duty to warn the world. He himself had ceased to matter.

The reporters spread themselves, and their city editor cooperated. Ammerton's story was rendered with all due solemnity--if you were not capable of reading between the lines. It was a derisive masterpiece. While seeming to kowtow as usual to the sage of Sandraes, it really said in substance, This Guy Is A Nut, And Here Is Proof!

Other astronomers, boiling over with indignation at Ammerton's previous mistake, did not even wait until their smaller telescopes could pick up Polyphemus. They howled. They jeered. They demanded that alienists be called to consider Ammerton's case, and that immediately Sandraes himself and the trustees of the observatory, get together and discharge the crazy man.

Through it all for nearly a week, a pale-faced man with set jaw, glued his eye to the telescope and watched the onrushing doom. He had every calculation made. He knew the day, hour and second when Polyphemus would reach the outer limits of Earth's atmosphere--and then the fractional second later which would be the time of actual impact. Gripped by gravity, the speed of Polyphemus would increase terrifically, along at the last. It would probably reach the awesome velocity of 5000 miles a second!

Earth had twenty-nine more days to live, according to Ammerton.

All of a sudden the derisive clacking of onyx upon porphyry, the braying of human asses, and the skirl of jeering bagpipes come to an end. A few of the learned doctors tired of their fun, and turned to peer through their own little lensed barrels. Might just as well see what might have caused poor Ammerton's delusion.

Then came a brief, appalling message out of Europe:

Dr. Luigi Genetti of the Cisalpine Observatory says Ammerton may be right! Polyphemus headed straight for Earth!

In Sydney they saw it. In Moscow. At Cape Town. At Buenos Aires. At Edmonton. In the course of five or six more days they all could make out Polyphemus. Give them another week, and they would be able to discern a small, glowing sun all by itself in a blank portion of the heavens, using only their naked eyes!

BY the time that week was out increasing crowds were gathering to stay up all night and stare at Polyphemus. There was an undercurrent of mild excitement. Fear? Not a bit! Too many bearded wiseacres clad in nightgowns had climbed to the tops of neighboring hills, and there waited for the end of the world. The great Earth public was enjoying a new kind of show, but it was not in the least disturbed. Not yet, that is--

The days and nights passed. Of course long ago the comet-asteroid had completely tucked in his fiery shirt-tail; or rather, because of the sun's position directly beyond Earth, it was streaming directly behind him, and

therefore could not be seen from Earth. Dr. Graham of Lick Observatory now calculated that his speed had increased to 13,700 miles a minute!

It was when he read this frightened report that Hans Becker realized the truth. A few hasty observations of his own convinced him that destruction of the earth, with everything upon it, loomed. And Becker, like many another treacherous scoundrel and egomaniac, feared hurt and death to himself with an intensity of wild, shuddering horror. It could not be! It *could* not! It--

He had to catch a grip on himself, for just then a surging horde of reporters came rushing to him, demanding his views on the all-important thing. Did Earth have any chance to escape?

Controlling his shivering, Becker pooh-poohed the idea of world destruction. Certainly Polyphemus was coming. But after all, what was the usual fate of a meteor (he knew, of course, this was no meteor!) which rushed into the rim of Earth's atmosphere?

In practically all cases, the friction set up caused it to be consumed utterly! In this case it just might be that a fragment would succeed in reaching Earth's surface; enough, let us say, to cause a perceptible jar. Or perhaps it would go unnoted, like that big meteor which fell in Arizona a few thousand years ago.

But Hans Becker, try as he did, could not believe his own words of assurance. For untold centuries the comet-asteroid Polyphemus had been a flaming bulk of molten metal and gases, careening through space. Why should it be consumed in the few seconds--or split part of a second--it would take to traverse the atmosphere of the earth?

Answer: it wouldn't!

In his palsied fright, Becker forgot all about the throw-switch on his desk, and its effect upon the big telescope. What a little matter this thing, and Ammerton's disgrace, seemed now! Ransacking his desk, gathering items he meant to take with him to a deep cellar or vault somewhere, Becker

accidentally upset one of his desk telephones, and did not bother to put it back on its cradle.

The speaker-transmitter bumped against the throw-switch, and closed the circuit. Becker went in haste, not knowing and not caring.

Ammerton came into the observatory a half hour later, and went to the telescope. No longer was it possible to get anything save boiling, seething chaos by training the big instrument upon Polyphemus; but the astronomer had some by-product observations and calculations he wished to make. When, however, he attempted to train the telescope, he found it cock-eyed!

From that to a discovery of Becker's apparatus and the subordinate's treachery, was a short matter. Ammerton traced the wires to the switch on the desk, and found out exactly how the thing had been worked to make him go haywire on those first calculations published before the scorn and derision of the entire scientific world.

SO--he had been wrong after all-- and it had been his trusted helper who had betrayed him! From that moment Ammerton, deprived of everything, he had loved and valued in the world of men and women, forgot the impending cataclysm, except insofar as it limited his time now to a few days: Before, that space of life was ended, he meant to find Becker, who had gone from the observatory, and even from the secluded hamlet at the foot of the mountain. Becker had taken the train for New York City. Ammerton did the same. He was out to wreak vengeance upon the scheming rat.

Then those last four days of fiery terror. That is, from dawn to dusk the sky was practically as usual, save for a gathering heat haze. Polyphemus came always in the direction of the night side of the earth, as far as North America was concerned.

At night, however--if you could call it night--a full third of the sky was filled by the glowing, rushing monster! It gave far more light than ten suns.

And perhaps the most horrible part of it all was that, employing plain smoked glasses, any inhabitant of the world could watch Polyphemus actually roiling and boiling and growing in size!

With a loaded pistol in his pocket, Ammerton was on the trail of his quarry. Haste was important now; and in these days of mounting horror, few people paid attention to others. Each man was searching his own soul for hope, and most were finding only the rusted tin cans, worn-out auto tires, and empty bottles of past excesses. Ammerton managed, as time grew terribly short, to learn that Becker for some reason had left New York City, (it was his fear of the falling skyscrapers) and had gone out to a place called Port Washington on the shore of Long Island.

But even finding one man in that large a place, was a hard task. Ammerton started a systematic search, since it appeared that Becker was unknown to the crowds running panic-stricken about the streets. No one could give any information, or cared to try. Most thinking men had provisioned deep cellars, hoping against hope that disintegration of the comet-asteroid would occur, and that somehow Earth would survive--with perhaps only a few days of excessive heat.

Becker certainly had sought one of these holes. Ammerton grimly made the rounds, hoping he could be in time.

Mounting terror reached its icy, constricting fingers to clutch the heart's and brains of all careless mankind. Business stopped. Ships put into port and were immediately deserted. Trains, city subways, airplanes--everything quit. Power was turned off. Gas plants ceased operations, and storage tanks of gasoline, oil and other inflammables, were emptied.

Frenzied throngs rushed about the streets of cities, like ants caught upon a hot plate. The arrogant New York multi-millionaire, Augustus Blick, who manufactured motor cars, was caught, crushed and trampled to death by the maddened mob besieging the largest cathedral in New York, attempting to get inside to repent their sins.

In all the world only a few real saints and Ammerton went about uncaring. And Ammerton really did care, not for catastrophe, but for completing one

private affair before it came. Even Polyphemus paled before the star of his destiny. If he found Becker now, what did it matter that the end of the world arrived ten minutes later?

THAT final night the entire heaven was sealed from horizon to horizon by the glaring, molten bulk of the monster of doom. Heat outdoors became too intense for humans. The ground began to smoke. Pitchy trees in the forests suddenly burst into flames. Buildings of frame construction began to scorch and blister. Everywhere men took their families into cellars and holes in the ground, into mines.

Then by word of mouth the dreadful last-minute news was passed: Two more hours, and Polyphemus hits the outer rim of the Earth's atmosphere! Then we will know!

Ammerton, making a final dash across the street of liquefied asphalt paving, realized that when he had searched this block of buildings, in which a bank was situated, he was through. Even with every protection, he could not venture outdoors in the remaining moments--if any did remain--without shriveling up and burning to a cinder.

"Just let me see him! Just let me see him once!" he repeated over and over in half imprecation, half prayer.

One hour, fifty-nine minutes and fifty-one seconds of the period of grace had sped, when Ammerton at last succeeded in bribing his way into the crowded subterranean bank vault. The place was jammed with sweating humanity, lighted only by a few candles, and filled with the fearful din of frenzied sinners on their knees.

Becker was there. He was on his knees, arms wildly waving.

But that moment he saw Ammerton pushing through the crowd, advancing, his face a mask of grim vengeance, to level an automatic pistol.

"Don't!" shrieked the Judas.

"You betrayed me, and made me the scorn of the world!" said Ammerton, calm and implacable now. "So, the world's vengeance--"

His words were lost in the sudden, screaming awfulness high above. The heat of the earth's surface, as its atmosphere was consumed like a flimsy curtain, suddenly mounted to millions of degrees! The bank building, like all other excrescences on Earth's surface, suddenly became molten over their heads. The surface too--even before the actual impact--

But just as he himself dissolved into a wisp of smoke and nothingness, Ammerton squeezed the trigger of his pistol. Flame spurted, meeting greater flame in mid-air.

The bullet never reached its mark, for the mark had gone. The vault, along with the planet Earth, melted, became gas, exploded--all in a trice. The cupro-nickel slug from the gun melted in flight and disappeared.

But Ammerton, dissolving into fires hotter even than the imagined hell of his forefathers, believed in dying that he had avenged the wrong.