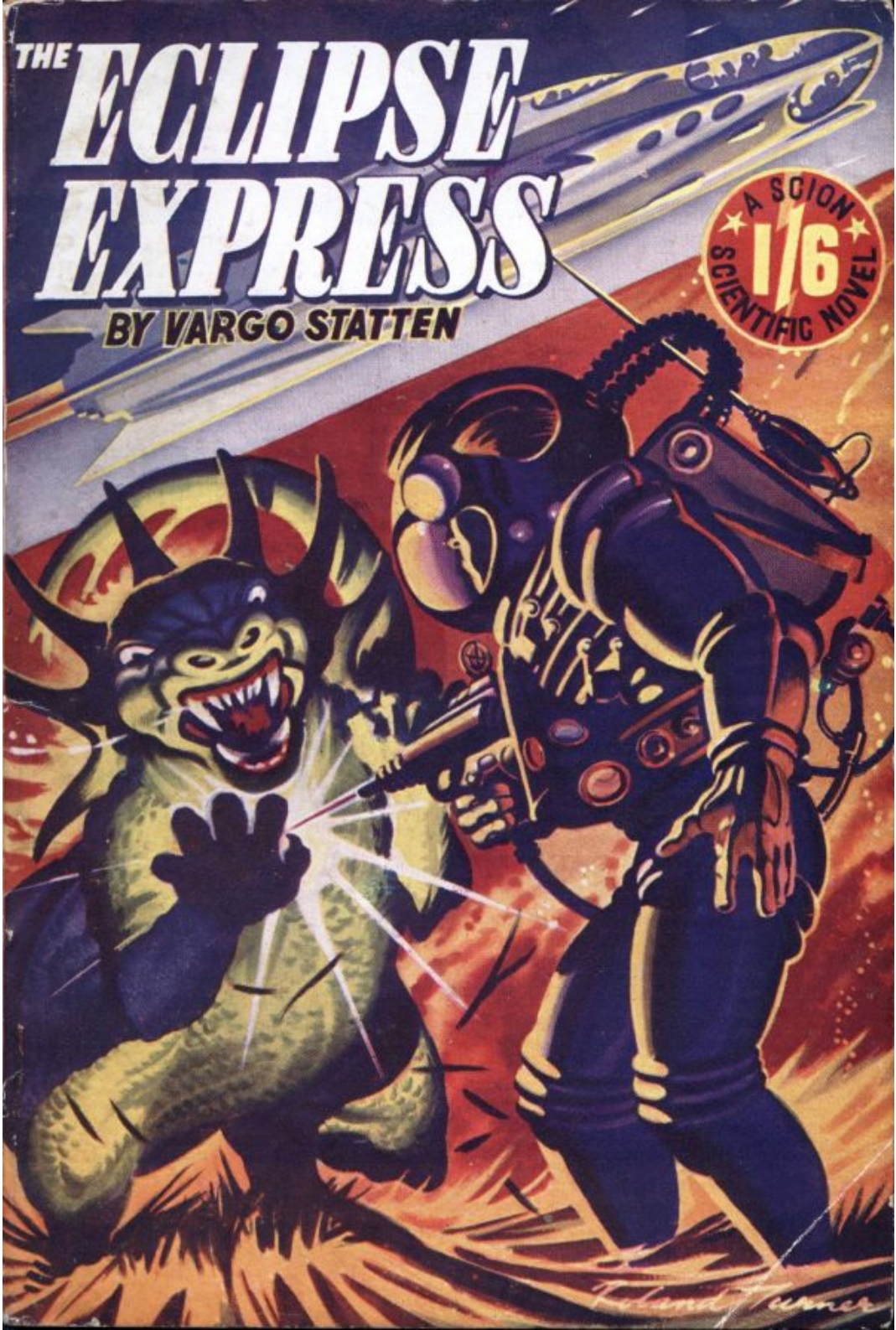
THE ECLIPSE EXPRESS
BY VARGO STATTEN
A SCION
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SCIENTIFIC NOVEL

Title: The Eclipse Express
Date of first publication: 1952
Author: John Russell Fearn (as Vargo Statten) (1908-1960)
Date first posted: Oct. 27, 2022
Date last updated: Oct. 27, 2022
Faded Page eBook #20221051

This eBook was produced by: Alex White & the online Distributed Proofreaders Canada team at https://www.pgdpcanada.net

The Eclipse Express

By
John Russell Fearn
Writing under the pseudonym Vargo Statten.

First published by *Scion Limited*, 1952.

CHAPTER ONE

Herbert Broadbent—"Bart" to his colleagues of the Astronomical Photographic Division—frowned at the cryptic official radio message which had just been sent in to him. It said briefly:

> Prepare for departure to Ceylon on February 26 to photograph total solar eclipse.
> Dr. Murchinson expedition. Solar Photographs Division.

"There are times," he commented, "when I get heartily tired of tearing about the world just on the spec. of photographing something which never lasts more than five minutes at the most!"

"Did you say something?"

Bart glanced up. For the moment he had forgotten that he was not alone in the big astronomical photographic laboratory. At the opposite end of the brightly lighted space Ray Mason, the film processing expert, was at work classifying the latest reels he had developed from the world's observatories. Purely routine work, and specialised, as indeed was every trade and profession in this year of 1998.

"We depart for Ceylon a month hence," Bart said, as Ray came over to him. "That total solar eclipse comes off then, with the best place for viewing totality being Ceylon."

"Well, what's wrong with that?" Ray asked in surprise. "Some folks are never satisfied! I'd be mighty glad of the chance to escape to Ceylon, with all expenses paid, just to photograph an eclipse. All I do is stick here and process the darned film as it comes in."

Bart did not answer for a moment or two. He was a tall, lean man of thirty-five and quite one of the best in his profession.

"I'm not grumbling at the job," he said finally. "That is one of the simplest things to accomplish. What infuriates me, in this scientific age, is that we are content with a few miserable minutes—achieved after considerable expense and travelling—in which to view and photograph one of the most spectacular scenes Nature can put across—a total eclipse. It's benighted, positively benighted!"

Ray grinned a little, ambling back to his job of classifying. "Trouble with you, Bart, is that you're all too active," he said. "The idea of travelling and so forth bores you to tears, but since there's no other way I'm afraid it will have to be done. If I were anything of a photographer—which I'm not—I'd gladly take your place."

"I'm not so sure there isn't another way," Bart answered, musing. "I've had a notion how to deal properly with a total solar eclipse for some time, and maybe this is the occasion to bring it into the light of day."

"Notion? What notion?"

"Let me show you something," Bart responded, and going across to his own private locker he brought forth what appeared to be a blueprint and flattened it out on the long photographic table. Puzzled but interested Ray surveyed the design under the bright light.

"Off-hand I'd say an airplane," he decided at length. "But even that I'm not sure of. There's a look of a spaceship about the thing. Small wings and yet an obviously air-tight body. Just what the hell is it?" he demanded finally.

"If it ever comes to anything," Bart responded, "it will be the Eclipse Express. Just a matter of getting the right people to take notice."

"I don't get it," Ray answered frankly.

"I hardly expect you to. You know that I'm extremely interested in astrophysics, interplanetary travel, and aircraft generally? Well, I've worked out this design in between times and I'm hoping some of the leading scientific engineers will think it's worth bothering with."

"For your sake, Bart, I hope they do—but that still doesn't explain what it is."

"It's a cross between a spaceship and a stratoplane and intended to follow an eclipse from the moment it starts to the moment it finishes. Think what that would mean! Not just a few precious moments—and even those sometimes at the mercy of the weather—but a constant view of a total eclipse for several hours if need be!"

Ray's blue eyes opened a little wider. "That really does sound like something to me! You mean travel in the shadow of the eclipse?"

"Correct."

"But how do you guarantee to remain in that shadow? It will take a remarkably skilled pilot to prevent a possible variation from side to side of the shadow."

"That's been taken care of," Bart smiled. "I've spent most of my life studying eclipses and solar phenomenon, and there are a few tricks which I can pull out of the bag which should make the scientists open their eyes mighty wide." He broke off and glanced towards the calendar. "It might even be possible to get some action in time for this eclipse. I'd forgotten it was so close upon us otherwise I'd have tried sooner. I wonder if Dr. Murchinson would take kindly to the idea? He's one of the biggest eclipse experts in the business."

Bart did not waste any more time debating the matter. His mind obviously made up, he rolled the blueprint into a neat cylinder and with it in his hand departed for other regions in the big astronomical headquarters, wherein everything relating to celestial science was handled.

In the north wing of the edifice was Dr. Murchinson's office. Bart hesitated outside the door, then making up his mind he knocked gently and waited.

"Come in," bade a genial voice. Bart entered, closing the door quietly behind him.

Dr. Murchinson, grey-haired, middle-aged, a scientist and astronomer of world-wide fame, was seated at his desk, and there was a touch of surprise in his expression as he beheld Bart advancing towards him, blueprint in hand.

"Hello, Mr. Broadbent!" Murchinson was pleasant enough in his greeting. "Have a seat. Come to discuss the details of the Ceylon job, I take it?"

"As a matter fact, sir, I haven't." Bart sat down, his lean face serious. "Or rather I have, in a roundabout sort of way."

"Oh? I'm afraid you're not making sense, Mr. Broadbent."

"No, I suppose I'm not." With a somewhat apologetic smile Bart made a space on the desk and unrolled his plan. Murchinson made no attempt to stop him. He sat watching interestedly, his grey eyebrows raised.

"What you are going to say to this, sir, I don't know," Bart said, "but knowing you to be interested in anything which advances astronomical science I thought you were the best person to see it first."

"But I am not an astrophysical engineer," Murchinson pointed out dryly, "and I'm afraid I would have to be to understand this."

"Not necessarily, sir. I can do all the explaining which is required. This machine is a cross between an airplane and a spaceship, and is capable of flying just outside the atmospheric limit. That, you will admit, would be a tremendous advantage in studying an eclipse. No air tremors, no smoke haze—just the clear void."

"An advantage, yes, Mr. Broadbent—but will it work? I hope you have not forgotten that space travel has more or less been proven impracticable—notably by that great scientist Dr. Gordon James, who flew out into space a couple of years ago and never returned."

"Yes, sir, I remember the James tragedy," Bart admitted, "just as I remember the lectures and writings of his daughter Rita who swears he is still alive and living in one of the buried cities of the Moon."

Murchinson smiled gravely. "I am afraid Miss James is trading on her father's famous name and putting forth the most ridiculous stories in consequence. As for buried cities within the Moon—well, I fancy science has already given its answer to that! But we are straying from the point, Mr. Broadbent. You say this invention of yours will fly in space?"

"It should do, I think, as safely as a submarine moves under water. It is not primarily designed for space travel, but to fly safely in the airless heights just beyond the atmospheric limit. Basically, as you will have observed, it is a rocket ship, fitted with all the requirements of an eclipse expedition, with one exception: it has a television transmitter on board. By that means a televised 'session' of the total solar eclipse could be transmitted back to Earth for scientists like yourself to view it in comfort. There is no need to travel to a distant spot to view the eclipse itself. It could all be done from this very building, and if you wish to view it for twelve hours instead of the customary few minutes there is nothing to stop you doing so."

"Proceed," Murchinson prompted, as Bart hesitated. "This is most intriguing."

So Bart continued: "An eclipse shadow moves across the earth at fifteen hundred miles an hour. That is the umbra, or true shadow. With modern fuels there would be nothing to stop this machine of mine moving at that speed, but once within the umbra it won't be necessary."

"Indeed? Why not? I don't have to tell you, I hope, that exact synchronisation will be necessary, otherwise you might get out of the epicentre of the shadow and spoil the whole thing."

"That, sir, is the vital point," Bart said. "I am going to reveal something now which I think is new to science. The umbra cone shadow generates a type of force."

"It does what?" Murchinson asked incredulously.

Bart smiled a little. "I thought you'd be surprised, sir, but it is so, believe me. Have you ever noticed, when an eclipse shadow passes over the earth, how restive animals become; how birds fly to their nests; how even human beings are affected in some strange way?"

"Yes, of course, but——" Murchinson gave a shrug.

"Merely a natural reaction to a phenomenon of Nature. All of us have much of the primitive savage in us even to-day, remember."

"That isn't completely the answer," Bart replied. "I know because I've made it my business to study the matter. At the last two total solar eclipses we've been to I photographed the shadow on special photographic plates, and if you are still interested I can show you exactly what I got."

"Most certainly I'm interested!" Murchinson exclaimed. "If you can prove all you've been saying you may open a new field entirely for eclipse observations."

Although Bart did not say anything his expression showed how much pleasure he felt at Murchinson's interest. Excusing himself—and knowing that in the interval Murchinson would

probably study the design of his machine carefully—Bart returned to his own quarters and collected a series of flexible photographic plates. Ray Mason gave him an enquiring glance and was rewarded with a "thumbs up" signal.

"I think the old man is going to bite," Bart said, and hurried out again.

As Bart had expected, when he returned to Murchinson's office he found him poring over the design. At Bart's entrance he straightened up and harrumphed noisily.

"Here we are, sir," Bart said. "Take a look at these."

Murchinson did so, his expression puzzled as he found himself looking at three photographic plates, each one apparently containing only wavy bright lines. When he came to look more closely he could distinctly see the outlines of himself and several members of the scientific party who had been together on the last eclipse expedition. Dimly, too, were signs of their equipment in the background.

"Just what does this represent, Mr. Broadbent?" he asked at length.

"The film used in the camera on those three occasions was a special one, of my own manufacture," Bart explained. "It is fully sensitive to electrical radiation, and partially so to light waves. You and the rest of the party were deep in the shadow of the umbra when the three photographs were taken, and so, of course, was I. Those wavy lines are not flaws in the negative: they are the imprint of the electrical energy existing in the shadow itself, which, but for the special negative I used, would have come out as normal darkness."

"I see. Definitely proving a type of electrical energy within the umbra shadow. Then what did you do?"

"I explored further. Having found that there definitely was an energy my next job was to find out what kind of energy. Those photographs were taken during our Himalayan expedition four years ago for the total eclipse. After that came the South African eclipse expedition, a couple of years afterwards, which meant I had had two years in which to work out a few theories. It seemed to me that this energy could only be solar energy of some kind since the moon of itself, the interposing body, has no energy. To cut a long story short, Dr. Murchinson, I discovered that the Moon is the chief cause of that energy being directed towards earth."

"Oh? In what way?"

"On our South African expedition I took with me a series of different detectors, all designed to give solar energy readings. Two of them showed that a new radiation entirely existed in the heart of the umbra shadow. I then used a magnetic storage device, similar to those with which we trap energy radiations for analysis, and finally I succeeded in obtaining a few samples of this energy. One thing I did discover. It affects human beings and other living creatures in a strange way, producing definite mental disturbances and, in extreme cases, a condition close to hysteria. Hence the strange reaction of some human beings when the shadow of an eclipse hurtles across the earth. It seems to me that in the Moon there are certain elements which, when solar radiation passes through them during an eclipse, cause definite alterations to the radiation, just as tourmaline can plane-polarise a ray of light."

"Very interesting," Murchinson commented, and it sounded as though he meant it. "Anything else?"

"Definitely so, sir. This radiation travels in a perfectly straight line, as does light, and the edges of this radiation—if I may refer to them that way—have a reaction on certain metals, impelling them along with it, as easily as a strong wind will move a loose object. Obviously then, anything caught in what I'll call the 'cone' of this energy, if made of one of the reactive

metals, is borne along in the energy irresistibly, only emerging from it if an opposing power is applied, such as aero-engines."

"Now I begin to see," Murchinson commented. "This machine of yours is made from one of these special metals and, once within the eclipse umbra will be carried along with it, only drawing free when the ordinary engines are switched on?"

"That's it," Bart agreed, "and to my mind one of the simplest ways of viewing an eclipse which could be devised."

Murchinson became silent, his eyes on the design, and whilst it lasted Bart wondered if he had talked in vain. Evidently not, for at last Murchinson gave an admiring little shake of his head.

"No doubt of one thing, Mr. Broadbent, it's a masterpiece," he said, "and I shall most certainly commend it to the attention of the scientific section of the Government immediately. As you have said, hundreds of scientists can view the eclipse at one time, in perfect comfort, when it is relayed by television. I take it you would be willing to be the television operator aboard the machine?"

"I most certainly would, sir. A pilot would be required as well, of course, and I think Ray Mason in my own department would fulfil that capacity excellently. One week's training would be sufficient to put him in the way of what is required, particularly as I would be on board as well."

"Quite so. Very well, Mr. Broadbent, if you will allow me to take this blueprint I will see that it gets to the proper quarter, and I hardly need to add that with my name behind it we may expect a result—a positive one, I trust—fairly quickly."

"I'm sure of it, sir," Bart smiled, and with that took his departure. He arrived back in his own department nearly at a run and within a few minutes had given Ray Mason all the details.

"Mmmm, sounds good enough," Ray admitted, "but it would still help me a lot if I knew what the machine is supposed to do, and how it does it. All I'm told is that I might become its pilot, so surely a few details wouldn't hurt?"

Bart gave them, without, however, explaining the basic nature of the metal of which the ship was composed—not because he did not trust Ray, but knowing his easy-going nature he also realised how easy it would be for him to perhaps let something slip, whereby Bart might lose his grip on a possible fortune.

"And I can learn what to do in a week?" Ray asked.

"No reason why not. You said you wanted a change and had no objection to going to Ceylon. Well, here's your chance!"

"I'm still a film process technician, though. You haven't forgotten that?"

"Certainly not. Your normal job carries on: in fact it must. There aren't enough eclipses to warrant your becoming a permanent pilot."

"And when do you expect Dr. Murchinson will get a report?"

"No idea, but it certainly won't have to be long. The Ceylon eclipse is only a month away."

CHAPTER TWO

It was two days later when Bart heard from Dr. Murchinson with a request to visit his office immediately. He did so, full of expectations, and to his relief found the scientist smiling expansively.

"Congratulations, my boy." He shook hands vigorously. "The Eclipse Express should become a reality within a few weeks—as fast indeed as the engineers can build."

"So the Government accepted the idea?" Bart asked eagerly.

"It did, and without a tremendous amount of persuasion, too. Fortunately I had the blueprint with me, and my reputation as a scientist is established enough for my word to be accepted. Later to-day you will discover the newssheets covering all the details, and don't be surprised if a parallel is drawn between your machine and Dr. Gordon James' unsuccessful flight into space two years ago."

"What's the connection?" Bart asked, puzzled.

"Quite an obvious one. Some of the Government scientists brought up the matter of space travel and how unsuccessful all efforts to master it have been, so your vessel, embodying some space flying principles as well as normal stratosphere flight, came in for a little criticism —which I disposed of. Naturally the news reporters were there and they will state everything which happened. There was, I am afraid, a rather acrimonious discussion concerning Rita James, Dr. James' daughter, which I would have preferred to avoid—but, well, there it is."

"And what happens now, sir?"

"With your permission, since it is your invention, this blueprint will be sent to the scientific engineers for execution and with our modern methods there is no reason why two weeks should not see the machine complete. Before sending the machine to the engineers, however, I would suggest that you register it in the patent office, which makes you secure. Another point is, have you a second plan of this machine?"

"At home, yes," Bart assented.

"And from it you could perhaps construct a dummy control board so that Mr. Mason can learn right away what will be required of him as pilot?"

"I can do that," Bart assented. "I take it that Ray Mason's appointment as pilot may be regarded as official?"

"Certainly. I arranged that with the Government . . . Very well then, Mr. Broadbent, that covers the situation to date. Take your blueprint and have it registered: afterwards return it to me and I'll do the rest. We, of course, will supply the television equipment which will be needed and I shall also convene a meeting of every reputable scientist to view the eclipse when you set off to televise it."

Bart took the blueprint, rolled it, and then hesitated for a moment. "Financially, sir, what do I get out of it?" he asked.

"At the moment, nothing, because your machine has yet to prove itself. If everything works out right on this Ceylon job you can rest assured that the Government will buy the patent rights from you and you will stand to profit by something like half a million pounds. That's only a guess: I have nothing to do with the financial end."

"Thank you, sir, for all you've done," Bart said earnestly, and with that he departed. Ten minutes later he was in the patent records office in another section of the town, and his

business here concluded he returned the blueprint to Dr. Murchinson and then hurried to impart the good news to Ray Mason.

"Nice work," Ray commented, when he had the details. "And you can rely on me to imbibe all I can towards becoming a pilot. Shouldn't be difficult. I was a commercial airline navigator before I took to being a film processor."

"Yes, I remembered that," Bart smiled. "Well, for the moment I'm leaving you. I've a dummy control board to rig up. If you'll be at my place at eight to-night maybe we can put in some work."

"Eight it shall be," Ray promised.

Bart hurried away, reaching his mid-town flat twenty minutes later. In a few moments he had dug out his copy blueprint from the wall safe and pondered over it for a while, deciding upon the materials he would need to make a dummy control board. There were far more than he had suspected, so very shortly he was off into town again to make several purchases. Lunch time had arrived before he had completed his task, so he retired to an automat with his packages. Here, over the public newscasters, he listened detachedly to the news of the day. After a few minutes the news announcer came to an item which made Bart look up sharply.

"The Government—Scientific Division—to-day passed for service in the Astronomical Photography Department a new type of spaceship-stratoplane, sponsored by Dr. Murchinson, the eclipse specialist, and invented by Mr. Herbert Broadbent, chief photographer to the astronomical department. This machine, by a process which the inventor has retained, is able to travel in the shadow of a solar eclipse and remain in it as long as need be. The obvious benefit of this, if the eclipse be transmitted back to earth by television, is that an eclipse may now be viewed for many hours if necessary and all features connected with it thoroughly determined.

"In the course of the debate several members drew a parallel between Mr. Broadbent's conception of a space-air machine, and the space machine invented by Dr. Gordon James who committed suicide most elaborately two years ago when he attempted to conquer the void. Another member brought up the fantastic claims of his daughter, Miss Rita James, who has since sworn that her father is alive and living at the moment in one of the buried cities of the Moon. Such absurdity, of course, was quickly disposed of.

"It is proposed that this machine of Mr. Broadbent's—which it was finally decided to test—should be used for the total solar eclipse on February 26 next and . . ."

Bart did not wait to hear any more. He had a good deal yet to do, and even as it was it was late afternoon before he returned to his flat. He had barely set out his various requirements and donned an overall when the door bell rang. "Curse it!" he muttered. "Now what?"

Crossing to the door he pulled it open and then stood gazing at the trimly dressed blonde with the oval face and blue eyes who was standing in the corridor regarding him in anything but the friendliest fashion. He needed no introduction. He had seen this pretty but very self-confident face on many a television screen. "Miss James!" he exclaimed, surprised.

"That's right—Rita James," the girl acknowledged. "Do you mind if I have a few words with you?"

"Not at all—but I think you should know that I am all alone in this flat of mine, and ethics being what they are—"

"I'm not interested in ethics," she broke in. "This matter is far too serious for me even to consider them."

"Oh? Well then—come in by all means." Bart held the door open wider for her. "Please sit down."

She brushed past him with all the indications of annoyance and settled herself on the settee. Puzzled, Bart closed the door and then came over to her.

"What exactly is wrong, Miss James?" he asked politely. "And forgive my saying it but I've a pile of work on hand."

"So have I, but I've taken time out. And I think you can do the same. I suppose you were present at the debate when your space-air machine—your marvellous Eclipse Express—was passed as worthy of a test? That being so I suppose you agreed with those scientific Master-minds who dare to say I'm talking rubbish when I insist that my father is in one of the Moon's buried cities?"

"I was not at the debate, Miss James. In fact I wasn't allowed to be."

"And if you had have been would you have agreed with them?"

Bart hesitated, struggling not to allow his heart to rule his head. Here was an earnest, extremely pretty girl to whom it was exceedingly difficult to be anything but nice. Just the same he had to adhere to his scientific principles.

"I don't expect you to believe me any more than the rest of those scientific boneheads," she said bitterly, "but I think you should know that my father has radioed to me by short wave ever since he landed on the Moon two years ago. He and I are the only ones with that particular wave-length."

"Yes, I've heard you make that statement before," Bart acknowledged, "but you must admit that it isn't very convincing when you won't permit anybody to see your short-wave apparatus. Science lives on facts, you know, and what it doesn't see it doesn't believe."

"Maybe you are not aware that I have actually relayed to the whole world my father's voice speaking from the Moon!"

"I'm quite aware of it, but you know what the reaction of the scientists was. That you just used a micro-tape and an artificial voice created by a stencilled sound-track. In other words, science believes you are trying to cash in on your father's gallant but unsuccessful effort to conquer space."

"And do you believe that, too?" the girl demanded.

"Frankly, Miss James, I haven't given it a great deal of thought. I am not a general scientist—just an astronomical photographer with a bent towards astrophysics. As far as you are concerned, I am afraid I have allowed my mind to be swayed by the majority. It might be better if you allowed some responsible authority to see this short wave apparatus you claim to be using."

"And would you if you had the secret of a perfect short-wave apparatus entrusted to you?"

"So that's how things are?" Bart asked thoughtfully.

"Definitely! I gave father my solemn promise that the secret would never pass out of my hands. Why, there are certain top line scientists who'd give their eyes to know the principle it embodies. If they got to know the secret they'd use it for all kinds of purposes. No, the secret of a radio which can communicate over two hundred and forty thousand miles of space remains with me."

"I see." Bart stood regarding the girl for a moment. "And where do I fit into all this? Or did you just come along to upbraid me?"

"That was my original idea yes, since I can't get at any of the big scientists. But now I ——" Rita James hesitated, then suddenly she dropped her indignant pose and became so

appealingly feminine that Bart began to feel uncomfortable.

"I tell you, Mr. Broadbent, that all the stories I have told have been true. It really was my father's voice which I relayed, not a stencilled one. What is more, when father gives me the final details for another spaceship space will be open to everybody! He didn't fail: he was just unlucky on his maiden trip. Unfortunately I'm only getting his messages in snatches. Good though the apparatus is, reception and transmission are constantly interfered with by the Heaviside Layer. There isn't the penetration for which we'd hoped. If I could only afford a machine which would lift my receiver to about a hundred miles above the earth I'd have the chance to get the full final details of a new spaceship, similar to the first one my father used but with many improvements."

"Interesting," Bart commented, but not yielding a fraction of an inch.

"I last heard from him about three nights ago," the girl went on eagerly. "He promised to give me the final communication, with complete details, at the time of the total eclipse of the Sun. The absence of light in the Moon's umbra area will, he believes, make his communication crystal-clear. It will take thirty minutes at least to transmit it, which is far longer than any eclipse will last in one spot. That is, unless . . ."

Rita became silent, her eyes lowered and her finger tracing a meaningless design on the arm of the settee.

"So now we come to it?" Bart asked drily. "You are daring to suggest that you and your transmitter come on the Eclipse Express? You must think me a first class idiot, Miss James! If your father is alive, why doesn't he come back to Earth with his invention? Why all this radio jiggery-pokery?"

"Why should he come back all this way when he's making important discoveries?" the girl demanded, petulant again. "Likewise, what's wrong with me coming aboard the Eclipse Express? I've a right to prove my case as a scientist."

"Doubtless—but the Express, although I invented it, is technically the property of the Government and only I and my pilot Ray Mason are allowed on board."

"Yet any Government scientist who wished to join you would be allowed to do so, wouldn't he? So why shouldn't I, then?"

"There's no comparison, Miss James, and you know it."

"I don't know anything of the sort! If anything I have more reason to be aboard the Express than any other scientist, chiefly because I don't just want to look at the eclipse: I want to prove myself right in the eyes of the world after the unjust way in which I've been treated."

"It still can't be done," Bart said doggedly. "Appreciate my position, please!"

"And you appreciate mine! I'm asking you as a fellow scientist——"

"I'm not. I'm a photographer."

"Stop splitting hairs, Mr. Broadbent! You're a scientist—and a very good one—or else you could never have conceived so brilliant a machine as the Eclipse Express. So, as a fellow scientist, please help me to do something I cannot afford to do myself. I told dad I'd find some way to get his message at the total eclipse. I was thinking then of a helicopter or something. Then came the news of your Express so I thought I'd come along."

"In a bad temper!" Bart gave a grim smile. "That was hardly the right note on which to open proceedings, was it?"

"I thought I'd better see if you were dead against me."

"No, I'm not that," Bart shrugged. "On the other hand I am not going to commit myself by saying I believe you. I'm just neutral. As for coming aboard the Express, forget it! It would be

more than my job's worth . . ." Bart hesitated for a moment as the girl's blue eyes fixed him. He was feeling uncomfortable again and conscious of the fact that he was appearing extremely ungallant. "I also might get into hot water," he added, "if I dared to agree with your view that your father still lives and that there are traces of a lost civilisation, or cities, inside the Moon."

A change of expression came to Rita's face. For the first time the aloof touch went from it and she seemed to become prettier than ever, or else Bart was becoming more susceptible.

"You mean that, deep down, you do believe me?" she asked. "You're different from the others?"

"Well—er—— You see, as I've insisted all along, I am not a scientist, Miss James, therefore I am not compelled to agree with their opinions. Maybe," Bart went on awkwardly, "that sounds rather a contradiction of my earlier statements, but I'm speaking now, as myself. If I dared to agree with you publicly I'd lose my job. I just daren't offend the powers-that-be. If you could provide proof of your statements I'd stand by you in the open as well. I'm afraid nothing short of actual photographs of these supposed cities within the Moon, or your father's actual return to Earth, will convince scientists generally. You see my point?"

"Yes—and you don't know how much it means to me to have even one person believe in me. I'm sorry for the way I behaved when I first arrived, Mr. Broadbent, but surely you can take me with you? I'll give science all the proof it needs, then."

Bart shook his head. "Sorry. Can't possibly be done. Just why doesn't your father come back? Then you'd have all the proof that's needed."

The girl rose to her feet. "I've told you why, Mr. Broadbent, and I'm afraid I can't add any more to it. Thanks for being so patient anyhow. I hope your Eclipse Express is a tremendous success. Good-bye."

She held out her hand frankly and Bart grasped it.

"Not good-bye, surely?" he smiled. "Even if scientific opinion does put us on opposite sides of the fence we'll surely meet again later?"

"Possibly," she answered ambiguously, and then turned to the door. Bart opened it for her and without even a glance back she went on her own down the corridor. There was a certain dejected droop about her shoulders which made Bart tighten his mouth a little.

"Durned if I won't risk it," he muttered, as he closed the door. By the time he had returned to his task with the model switchboard he realised he just dare not step out of line. At this very moment of all time, when the Eclipse Express was on test, any breach of regulations would be fatal. So he went on with his work, by no means in the best of tempers, and at eight o'clock as arranged, Ray Mason arrived for his first "lesson".

He stood surveying the contraption which Bart had rigged together and then looked at Bart himself. His expression was one of profound discontent.

"Anything the matter?" Ray inquired. "Doesn't this model switchboard measure up to your expectations?"

"Oh, it's okay, all we want to give you is the rudiments. No, I've something else on my mind."

"For instance?"

"Rita James."

Ray looked surprised. "Why Rita James anyway?"

"She's been here begging permission to go on the eclipse trip to Ceylon. You know, the more I listened to her the more I think that the scientists have given her a raw deal."

Ray raised an eyebrow. “She always has been a persuasive talker, Bart. Don’t tell me even you have fallen for it.”

“I’ve not fallen for anything, but——” Bart hesitated and then he went into a detailed description of what had happened. By the time he had finished Ray was seated before the dummy switchboard, lost in thought.

“So,” Bart asked, “what would you do?”

“Same as you. You can’t jeopardise everything because you’ve fallen for Rita James—and I don’t just mean her line of talk either!”

“I haven’t fallen for her.”

“No?” Ray grinned widely. “Then you’re giving a marvellous imitation of a man in love.”

“Don’t be a damned fool,” Bart said coldly.

“I’m not. Just telling you how you look to an outsider. In any case there’s nothing you can do about Rita James, so forget it. Seriously, old man, she’s having you on a string, same as she has everybody else. The Moon, scientifically and visibly, is dead. So, I believe, is Dr. James himself. These stories of short-wave transmission and of vast scientific knowledge left by a dead race inside the Moon are all hot air—the effort of a financially hard-pressed girl to make money out of her father’s memory.”

“Mmmm, maybe you’re right,” Bart admitted. “I must say that I can’t understand her desperate desire to complete radio reception from the altitude the Eclipse Express will reach. Nor can I understand her earlier notion of using a helicopter. She said the radio transmission would take thirty minutes. Well, how the devil could a helicopter stay within the umbra that long? And no helicopter can move at the same speed as an eclipse shadow . . .”

“Forget the whole thing,” Ray advised, as Bart stood trying to think it out. “Now, how about this switchboard?”

CHAPTER THREE

By the time the finished Eclipse Express had been delivered to the Government proving grounds, Ray Mason was completely efficient in the art of piloting the craft—which was just as well for there were only four days to go before departure.

For Bart they were extremely busy days, crammed with last-minute details and tests of the television equipment aboard the vessel. He had little time to think of anything else—and certainly not about Rita James, from whom he had heard nothing since her departure from his flat. He did not quite know what to make of it. Somehow he had expected her to make another effort to make him change his mind—for at least a good wish message now the time of testing was near, but so far nothing had materialised.

There was no sign of her, either, among the thousands of sightseers who, by permission of the Government, were allowed in the last two days to tour the Eclipse Express. Since the populace in general was highly scientific this was a concession always granted by the Government when anything new of a technical nature was launched. There was also the added advantage that it gave the public a chance to see how their money was being spent.

So to the morning of February 26th. Every detail had been arranged and the machine equipped with every conceivable necessity in case of a possible disaster. For Dr. Murchinson and the famous scientists whom he had invited to view the eclipse in the television theatre annexed to the Astronomical Department it was also an exciting morning, and without all the need of miles of weary travel.

The only ones present around the Eclipse Express when Bart and Ray arrived for the journey were senior technicians of the testing ground, and one or two of the engineers who had built the machine.

"Pretty, isn't she?" Ray murmured, as he and Bart crossed the great open space to where the vessel stood.

"Who?" Bart asked quickly, looking about him on the distant roped-off spectators. "Where?"

"I'm talking about the Express, not a girl. And not Rita James, either!"

Bart did not answer. In fact he was hardly looking at the machine his own genius had devised. He was looking, almost with a touch of despair now, for the one person he wanted to see. If only to shake hands . . . Ray, however, was preening himself with the thought of piloting the machine ahead. It was three hundred feet long, tapered at both ends, and fitted with the latest and most powerful multi-jet engines. The exact composition of the metal of which the ship was composed was, of course, Bart's own secret. Otherwise, except for its small sawn-off wings, the vessel looked exactly like a space machine. It stood in a massive cradle which angled it to forty-five degrees towards the grey February sky.

Such was the actual take-off scene, but all over the world, apart from the television theatre of Dr. Murchinson and his fellow scientists, there were preparations to receive the most amazing tele-broadcast ever made. Every public and private television receiver was at the ready. Within all the big scientific institutions astronomical experts were grouped before giant scanning-screens, notebooks handy, movie cameras ready to turn. The whole thing was organised to be a conquest of speed over time.

Then at exactly 8.0 a.m. the blast roared through the machine's jet engines and she took off, rapidly becoming a speck in the dreary sky. Within the combined control and television room Bart stood before the instruments whilst Ray handled the controls. He was smiling to himself and watching the city and the testing ground minimising into remoteness as the flyer climbed.

"Like a bird," he murmured. "What beats me, Bart, is why on earth you've wasted your time being a photographer. You ought to be an airplane designer."

Abruptly the view below was hidden as the clouds embraced the vessel in dense white fog. Both men could feel the floor thrusting against their feet as the vessel's speed slightly increased in the diagonal leap against the pull of gravity and air resistance.

Motionless, they waited. Then the clouds thinned out and the vessel plunged through the 7-mile-high troposphere into the stratosphere. The Sun, blindingly brilliant, shone through an atmosphere which externally registered well below freezing point. The sky had become deep violet.

Without a pause the vessel climbed higher into reaches which were violet-black, gaining speed as the air became more attenuated. It hurtled through the 38-mile stratosphere layer and burst suddenly into the dazzling, warmer beauty of the auroral draperies. Outside the observation window concealing even the Sun's brilliance, crackled and twisted incredible electric energies, shooting stars, fragments and pieces of meteoric matter, the eternal hurtling dust in Earth's upper atmosphere—dust that was mostly nickel-iron, reduced to flaming streamers by frictional impact with the atmosphere.

Here and there meteoric pieces hurtled dangerously close, bounced off the vessel's thick hull, and she went onwards with scarcely a check to her ascent into the seething, boilingly hot fury of the ionosphere, immediately below the Heaviside Layer, a belt known by the strato-pilots as "Hell's Gulf." The external thermometers gave a reading equalling the boiling point of water, heat produced by the dazzling Sun's invisible rays beating on the Heaviside Layer immediately above.

The whole great gap was a mass of brickbats and bolts of energy, terrific solar radiations which, but for the proofed walls and windows of the vessel would have incinerated the occupants—or failing that have turned them white as Albinoes with the storm of radiation.

"Okay," Bart said. "Maintain ascent and move onto course. It's all mapped out."

Ray, knowing exactly what he had to do, gave a nod and operated the controls. The great vessel turned smoothly in the airless heights, jet engines roaring a song of power. So gradually the machine settled on her course which lay straight across Europe, Asia Minor, and Arabia, and so after that over the Indian Ocean to the vicinity of Ceylon where, at a predetermined point on the air-map contact with the eclipse would be made.

"Pretty, isn't it?" Ray murmured, handing over tinted goggles and donning a pair for himself.

"From this side of the window," Bart agreed. He slipped the goggles over his eyes and stared out upon the last few miles of gap to the greater heights. The ship was now rocking and swaying as it fought its way both in vertical ascent and forward acceleration.

The ebon dark of infinite space was replacing violet-black. The view, out there into the abyss, was frightening in its majesty. Far below, a seemingly incredible distance, Earth was no longer flat but a bulging planet.

"Stop ascent, Ray," Bart ordered, "otherwise we'll be in free space. Forward acceleration only. We've got to hurry to make our rendezvous with the eclipse on time."

"We'll make it," Ray responded, glancing at the chronometer. "Just watch this."

He opened up the jet engines to their fullest capacity and at dizzying speed the machine devoured the hundreds of miles, streaking through the stratosphere with breath-snatching speed.

Even so it seemed to the anxious Bart that they were lingering on the way. Now and again he sent radio messages back to Earth, reporting on progress to date, then again he would survey outside or ponder the chronometer. He need not have worried. Everything had been exactly planned, and the Sun was still uneclipsed when the required position in the area of Ceylon was reached.

"Cruise in circles," Bart ordered. "We've fifteen minutes before the eclipse begins, and we can't float into the shadow until the moment of totality."

Ray gave another glance towards the chronometer and then did as he had been ordered. Through his tinted goggle Bart studied the Sun carefully. In these nearly airless heights it blazed savagely, backed by its streaming corona and girdled with prominences. But at the lowest right-hand corner the first "bite" of the encroaching Moon was just commencing to appear. Calculation on the time of the eclipse had not been dead correct, evidently.

"Stand by, Ray," Bart said, then he switched on the radio which kept him in contact with Earth. "Okay down there?" he asked.

It was the voice of Dr. Murchinson himself which answered. "We're ready and waiting, Mr. Broadbent. Have you reached the appointed spot?"

"Yes, doctor, we're at it this moment."

"Good. What are your readings?"

Bart consulted the meters. "Altitude eighty miles; speed almost zero at the moment. Eclipse shadow will shortly be fully manifested and we will then move into it. Transmission will begin at that moment. We're having no troubles at this height except for a brickbat or two. Stand by . . ."

Bart turned aside and carefully checked over the equipment—the telescopic television projector itself, the beam mechanism for carrying the image back to Earth and thence by relays to stations throughout the world, the X-ray photographic equipment, the innumerable guide-instruments. When he came to the solar micrometer he found Ray was looking at it pensively.

"Anything wrong?" Bart enquired.

"Wrong? No—not exactly. Seems to be a chain of pretty deep sunspots in action though. Take a look."

Bart stooped and studied the Sun's dimmed, reflected notched edge, giving supreme testimony of absence of lunar atmosphere. What remained of the Sun's disc was plainly mottled, far more so than Earth plates had ever shown it through the blanket of atmosphere.

"Yes, they are pretty deep," Bart admitted, straightening up. "Nothing unusual about them, though. It's the sunspot period just about this time."

"Think they'll interfere with the transmission?"

"No reason why they should. You might as well take a reading of them—depth, area, and so forth. We can see how they check up with the Earth plates."

Bart glanced at the chronometer again and then turned back to the window. The flooding glare of the sunshine was dying, blocked by the fast moving bulk of the Moon. Already the dim, uncertain shadow of the penumbra—the false shadow—was in evidence, reaching out across the void.

Ray finished his sunspot calculations, a job indeed which the solar micrometer almost did for him, then he turned back to his task of keeping control over the vessel. It was still idly cruising, kept on its course by the automatic devices.

"Right!" Bart said abruptly. "Start climbing to the limit."

The jets immediately roared and the vessel swept up the last twenty miles to the safe limit of the atmosphere, in the very edge of space itself. Automatically recoil rocket tubes took up the load as the jets no longer functioned. The vessel rose even higher, clear above the Heaviside Layer and, technically, in space itself.

"Stand by," Bart said tensely. "Here comes the shadow!"

Both for him and Ray there was a tautening thrill in watching the umbra of the total eclipse sweeping through the distant void, a cone of darkness pointed Earthward, darker than space itself it seemed.

"Stand by, Earth," Bart snapped into the microphone, then he gave a final glance over the television projector. It had its telescopic receiving lenses firmly locked into a special section of the ship's wall, so that every image received would be absolutely free from distortion, would be transmitted back to Earth receivers along the carrier-wave being generated from the Express.

Bart pulled the microphone towards him as the last crescent of Sun began to be swallowed up. "Ready!" he cried, and on that instant Ray, knowing just what he had to do, hurtled the machine straight into the edge of the oncoming shadow. The Sun had almost gone. The phenomenon known as "Bailey's Beads" was just at an end—the last trickles of expiring sunlight caused by the mountainous edge of the Moon—then came totality.

The power plant in the machine ceased. The television projector started up, whirred steadily, and the carrier-wave generators began to hum. Ray stared outside. Bart looked into the projector's pilot-screen and found the image of the eclipsed Sun dead-centred.

"Okay," came the voice of Dr. Murchinson. "Perfect reception. Heartiest congratulations, Mr. Broadbent."

Bart sighed with relief and then turned to look out upon the astounding glory of the eclipse. It was somehow uncanny the way the vessel was hurtling through the void at fifteen hundred miles an hour, held solely by that mighty shadow.

"It's marvellous!" Ray whispered, pulling off his goggles and staring outside.

"Uh-huh," Bart acknowledged, freeing his own eyes.

No earthly spectroheliograph had ever revealed so perfectly the awesome marvel of that ruby cromosphere and prominences. No eyes chained to Earth had ever seen the corona so magnificently revealed—a blinding haze of pearly light sweeping out for millions of miles into the coal black of space. Travelling along in the track of the shadow was an unforgettable experience.

The control room now was in total darkness. What fight there was came from distant starshine and small relief bulbs in the ceiling.

For a space of perhaps ten minutes the transmission of the eclipse proceeded perfectly, and every moment of it was sheer fascination. Ever and again the delighted voice of Dr. Murchinson broke sharply from the loudspeaker. Then Bart, back at the projector, looked up with a sudden start of anxiety, his gaze following the path of the complicated shutter-blades in the projector.

"Say, it's slowing down!" he gasped. "The image will be badly blurred back on Earth!"

Ray swung around from the window, strode to the projector and studied it earnestly. Though he was not a television engineer he did know that the speed of the fan's rotation must be maintained if a flickerless image was to be transmitted back to Earth.

"What's up with it?" he demanded blankly. "Power can't be dropping, surely?"

Bart was thinking hard to judge from his expression. He raised his eyes as he became aware for the first time that the lights in the roof were merely dim glows. The generators, too, were not humming as powerfully as before.

"The current's leaking somewhere," Ray insisted, jerking round to survey the meters. "Look here! We're down to nearly half our normal output!"

"Hello there!" bawled the irate voice of Dr. Murchinson, and his tone was edgy and harsh due to power deficiency in receiving him. "What's gone wrong? Reception's falling off. Images blurred. Remedy immediately!"

"I'll try," Bart answered brusquely; then he switched off and to Ray he added, "I don't get this at all. Our current is being absorbed at a terrific speed!"

"Solar field, maybe?"

"No, I don't think that is very likely. Probably a faulty contact or something in the main power-room. I'll take a look. Tell Earth to stand by for a moment."

Bart turned swiftly and grasped the handle of the metal door in the tail of the ship which led to the main generators and switchboards. Then he stepped back in surprise as the door refused to budge.

"Say, Ray, what's the idea of locking this door?" he demanded, fumbling for his duplicate key. "While we're on test it ought to be left open in case of sudden emergency."

"Huh?" Ray looked around in surprise from the radio apparatus. "Far as I can recall I haven't had any need to go that way. And I certainly didn't lock the door!"

Irritably Bart rattled his key in the lock. On the other side of the door there came a distinct clink as a second key dropped to the metal floor—then the door swung wide.

Bart strode within the power-chamber and then stopped in amazement as he found that the light was on, albeit dimly. Instantly his attention moved to a slim figure in slacks and jersey seated amongst the droning electrical apparatus.

"Rita James!" he gasped in astonishment. "What do you think you're doing here?"

He began to stride forward and then stopped again as he caught sight of a small revolver in the girl's steady hand. Bewildered, he gazed at it, then to the complicated but compact radio device on the folding table in front of her.

"How are you, Mr. Broadbent?" she greeted laconically, her blue eyes bright and determined. "Since you didn't see fit to give me a break I took one for myself. It wasn't so very difficult either. Remember the sightseers permitted to look over this ship? Well, I made myself up as one of them, brought my apparatus aboard in an ordinary valise, and hid it in here. Then I concealed myself in the wall cupboard overnight, waited until the journey got under way, and then . . . A pity I overlooked your having duplicate keys, but I think my revolver evens things up."

Bart was trying to collect his scattered wits when Ray came whirling in. Catching sight of the girl he pulled up short and rubbed his head in perplexity.

"Miss James!" he ejaculated. "Or is my memory for faces going back on me?"

The girl smiled with complete assurance, waving the gun significantly. "I suppose my hooking my radio to the power-feed made your transmission output drop?" she asked. "That's

a pity, of course, and I apologise, but I think my work is a darned sight more important than any solar eclipse."

Bart looked at her apparatus, studying it carefully. Then his eyes moved back abruptly to the girl.

"I thought," he said deliberately, "that you wanted to come aboard this machine to get a final reception from your father."

"That is what I said," Rita acknowledged.

"Then that apparatus doesn't make sense! It's a beam-radio transmitter—remote control device. And what is more," Bart finished abruptly, "this can't go on!"

He charged suddenly in one straight dive, catching the girl unprepared by his whirlwind tactics. The revolver flew out of her hand and in her effort to grab it she capsized out of her chair to the floor. Immediately Bart whirled her to her feet, pinning her arms to her sides. She kicked and threshed, lashing out at his shins with her feet.

"Take it easy," he said sourly, looking into her hot, infuriated face. "Young ladies can't do just as they like aboard a research ship. Ray, disconnect this radio apparatus and get the transmission going again. Maybe we'll grab a few minutes for you at the end, Miss James ____"

"That won't do!" she screamed desperately, fighting like a wildcat. "Let me go! This isn't —isn't what you think. It means my father's whole life! Everything!"

She relaxed from the sheer helplessness of wasted effort. Bart still held onto her, watching as Ray cut out the contact of the radio from the power-feed. Immediately the generators in the control room hummed as of yore. Ray gave a satisfied nod and went out.

"Reception okay," announced the voice of Dr. Murchinson.

Slowly Bart released the girl, allowing her to fall back slackly against one of the generator guard-rails. In silence she picked up her revolver and pocketed it.

"You might have known you couldn't get away with it," Bart told her.

She did not answer him. She stood in a half-slumped position, blonde hair tumbled dejectedly over her face. Then all of a sudden she looked up with blazing eyes.

"I hope you feel satisfied, Mr. Broadbent, when you realise that you've probably cost my father his life!" she flamed. "Yes, this is a beam radio for remote control—and that story I told you about getting a message was plain rubbish. At least it sounded logical. Whether I'd used this equipment or an ordinary transmission-reception radio it wouldn't have made any difference in regard to power. Either would have cut your output to half, and you'd never have known the difference."

"Then why all the duplicity?" Bart demanded. "In any case I couldn't have allowed you to cut our power like that. Or perhaps you didn't realise it would consume so much?"

"No, I didn't."

"Suppose," Bart said quietly, "you tell me what this is all about? Why you have need for all this trickery?"

"What's the use?" she asked hopelessly. "The chance has gone now, and as for my father . . ." She stopped, her eyes misting.

Something stirred inside Bart at her obvious grief. This was not play-acting. He moved forward and caught her by the shoulders.

"Do you really mean that you are guiding your father by remote control? Is that it?"

"Yes." Her voice was low. She continued mechanically. "You see, he is desperately ill—so ill he can't trust himself to drive his ship back home again. He has spells of coma and space

travel will probably make him unconscious most of the trip because of gravitational strain. He told me about it some little time ago, and in his last message he said he intended to convert his radio equipment for automatic remote control of his driving panel. He gave me the details of the transmitter necessary for the job. That's it, there. But down at the Earth's surface the Heaviside Layer interfered with its action. I just had to get beyond the Layer. That was why I tried to get permission to come aboard."

"Then why couldn't you have told me your real reason?" Bart demanded in bewilderment. "I'd have been more than willing."

She gave a wan smile. "I don't think you would. You see, my father is suffering from a severe form of radium poisoning and it is highly contagious. He contracted it on the Moon. His ship, too, is affected in the same way."

Bart gazed at her blankly. "But, good heavens, do you realise what such a thing might mean? Think of the danger! Not only to those who might come in contact with him, but even metals if they were to touch his ship—"

"There you are! I guessed you wouldn't let me do anything if you knew the truth. For myself I was prepared to take the chance. I had made arrangements so there wouldn't be any risk of contagion. Of course I might have caught it but——"

The girl straightened up suddenly, her chin stubborn. "It would have been worth it!" she declared proudly. "My father would have brought back the scientific proof of the knowledge which awaits us inside the Moon. As things are now I don't know what's happened but I can pretty well be sure that your cutting off the radio control would cause father to fall back into the Moon's gravitational field. It is most improbable that he'd be conscious, judging from what he told me."

Bart's expression showed how keenly he felt the situation. "I'm very sorry for that," he replied quietly. "But, to face things squarely, don't you think your father will be better off dead? Don't you think, if he's in the condition you say, that he would prefer death to risking bringing contagion and probably a metal plague back to Earth?"

"Yes, of that I am almost sure. In fact he would never have attempted to return but for hearing how science had refused to credit his lunar messages. He knew I was having to stand all the ridicule so he decided to come back with proof. Long ago he gave me the details of a rocketship able to conquer space—plans for a machine similar to the one he had used, only with improvements born of his own experiences. The trouble is, I haven't the money to do anything about it. What cash there was in dad's fortune was absorbed in that first machine of his. And you know how futilely I have tried to interest scientists and so secure a financial backing. Without proof they won't even listen to me, and I suppose I can't really blame them. Now the proof has gone forever." The girl sighed heavily. "Well, I've done my best."

There was a long silence, broken only by the comments of delight from Dr. Murchinson as his voice came through the loudspeaker in the control-room. Bart was scarcely listening to it, and certainly the girl was not. Finally Bart asked a question: "How exactly did your father contract radium poisoning?"

"Well, piecing his messages together it seems that the Moon got into its hollow internal state through the action of radio-activity. The outer husk of the Moon's pumice rock is only two miles thick. Some of the radio-active areas still exist in parts of the Moon's interior, just as there is a much younger radio-active centre in our Earth's core. Traces of connecting links to those radio-active areas are seen in the bright streaks and rays. Those denote the surface

outlets, which explains why astronomers have never been able to determine what the 'streaks and rays' really are."

"Go on," Bart invited, musing.

"Once he got to the Moon my father naturally investigated the underworld. There's no air, of course, but he went around in a spacesuit of his own manufacture. Unfortunately it was not proof against radio-active energy. His suit went rotten, but being near his ship he got back just in time to avoid disaster to himself by air leakage—only to discover that he had got a disease like radium poisoning, the difference being that it is more virulent and highly contagious. He found that his ship had been affected too, being pitted and corroded. Of course, being so tough it could last a long time, but he describes it as a kind of progressive rust. It seems that he was desperately ill before he scarcely realised what was upon him. Also, he told me that it seemed obvious to him that the lunar inhabitants had had the same trouble to combat for most of them—the survivors being riddled skeletons within the Moon—had migrated to a small planetoid behind the Moon, and apparently are still there."

"Planetoid behind the Moon?" Bart repeated in surprise. "That's news, anyway!"

"It may not really exist," the girl sighed. "Father rambled a lot at times, due to his illness. But on the other hand a planetoid always hidden from Earth by the Moon's bulk might explain certain perturbations in the lunar orbit which have always perplexed astronomers. According to father, this planetoid has air."

"And he hasn't explored it?"

"No. He was on the point of doing so when ill-health struck him down. As far as he can tell this planetoid is about fifteen hundred miles in diameter."

"Which hardly sounds like a delusion to me," Bart commented. "And in the Moon itself there are no Selenites left?"

"Only skeletons—and the vast heritage they left in the form of buried cities and the scientific secrets contained therein."

"Mmmm. Proof, Miss James. That is what we've got to have."

The girl looked blank. "Well, great heavens, haven't I been telling you that all along?"

"Yes, of course you have, but I never realised before just how important this whole business is. I'm wondering if we might not get private enterprise to——" Bart stopped, shaking his head. "No, that would mean giving away too many secrets, and though it would possibly clear you of the ridicule you've suffered it wouldn't do us much good personally. Let me think now. There must be an answer to this one."

For a long time there was silence, even from the loudspeaker in the control-room, so evidently Dr. Murchinson was completely satisfied with the transmission now being given.

"I just wonder if——" Bart looked up with an inspired light in his eyes. "By all the saints I believe I've got it!"

"What?" Rita looked at him anxiously.

"Dense material! The lunar cities!" he exclaimed, and snapped his fingers. "That's it!"

"What?" Rita insisted. "For heaven's sake, tell me!"

"Maybe I'm crazy," Bart said, turning to her, "but if I'm not we'll give scientists all over the world—those who are looking in on this eclipse—the surprise of their lives and prove you and your father absolutely right!"

Rita clutched his arm tightly. "But however can you? It would be wonderful if you could, of course, but I can't imagine for a moment how——"

"I'll show you," Bart interrupted. "Come with me."

He led the way into the adjoining room where Ray was standing beside the television projector, gazing out into the void. The machine was still sweeping onwards soundlessly in the umbra at 1,500 miles an hour.

"Everything all right?" Bart enquired.

"Apparently," Ray responded. "Dr. Murchinson's satisfied anyhow, and he's the one who counts. From the sound of things every scientist on Earth is getting the thrill of his life."

"Good!" Bart glanced at the girl and gave her a significant smile. "In a few minutes they'll get an even bigger one. Ray, just give me that reading you made on the sunspot chain, will you? The one we were discussing just before the eclipse commenced."

Ray looked puzzled but he went to the recording cabinet and handed over his card of computations, watching in some surprise Bart's gradually deepening expression of excitement.

"By gosh, it's a chance!" he whistled at last. "The present depth of the major sunspots is roughly two hundred and sixteen thousand miles, about a quarter of the depth of the Sun itself. That means they go down the devil of a long way into the Sun's inner structure."

"What about it?" Ray asked, frowning.

Bart did not answer immediately. He tossed the record to one side and went to the window, gazing out onto the still total eclipse, then back towards the umbrated Earth far below.

"We've quite a lot of time left yet for transmission," he commented, apparently to himself. "Which is just what we need."

He looked at the chronometer and then contacted Earth.

"Everything okay, Dr. Murchinson?" he enquired.

"Perfect, Mr. Broadbent! Reception ceased for a while but it is excellent now. Every scientist sends his congratulations. There's little doubt that your Eclipse Express is going to make you a fortune."

"I sincerely hope so, sir—but I am transmitting now to tell you that the big show hasn't even begun yet."

"Hasn't begun? But that's absurd! What more can we have besides this marvellous view of a total eclipse? Why, already we have made discoveries about totality which we never before dreamed of!"

"The show I'm referring to, sir, has nothing to do with the total eclipse. It concerns Miss Rita James, who is at present aboard the Eclipse Express—standing right beside me, in fact."

"Did you say Miss Rita James?" barked Murchinson's voice from the speaker.

"I did, doctor."

"You apparently don't realise, Mr. Broadbent, that your machine is Government sponsored and that it is a flagrant breach of the regulations for you to carry anybody aboard who is unauthorised—and Miss James least of all."

"Sorry," Bart said dryly. "I just can't help thinking how badly Miss James has been treated. However, Dr. Murchinson, I want you to know that I am now going to prove to every scientist—and indeed every person on Earth—watching this television transmission that Rita James has been right in everything she has said. I intend to prove that the Moon has got cities buried within it. Just give me a few minutes and then you'll see plenty—and stand by for my radio commentary as I proceed."

"And what," Murchinson asked coldly, "do you intend to do?"

"I intend," Bart replied, with another smile towards the anxious, puzzled Rita, "to do something no man has ever done before. I'm going to televise the Moon and X-ray it at the same time!"

CHAPTER FOUR

Bart cut the radio contact and turned quickly to Ray. “Stop the television transmission, Ray,” he ordered.

Ray hesitated and then shrugged. He switched off the television projector and the whirling fan became still. The driving unit also ceased its steady humming.

Without a moment’s hesitation Bart unscrewed the massive lensed snout of the televisor extension, swung it on one side, and then between it and the telescopic extension fused into the ship’s side he fixed the huge X-ray screen, normally used for photographic observation of distant stars. With vigorous movements he bolted the whole thing together again.

“Start up again,” Bart said quickly. Then he contacted Earth again and spoke sharply. “Hello, Earth! Are you receiving me, Dr. Murchinson?”

“I am—and we are waiting for your explanation.”

“Then here it is, doctor. You have had ample time by now to record the normal eclipse, so now I am taking the liberty of replacing it with the first complete X-ray of the Moon ever made. Listen carefully, please! You see a circle of hazy brilliance caused by the Sun behind the Moon, but it is not so bright that you cannot study it carefully. Gaze well! In the centre of the circle you behold sprawling dark markings.

“Those are the lunar cities mentioned by Miss James from information sent to her over short-wave radio from her father. She has told me that the Moon’s outer rock husk is only two miles thick—but these cities, in order to combat the effect of still undead radio-active substance existent in the Moon, are of extremely dense material. Please remember that, in view of what I am shortly going to tell you. The view is clearer than normal, of course, for two reasons. One is the absence of air both here and on the Moon, and the other is the telescopic apparatus attached to this televisor which shortens the Moon’s apparent distance.”

Bart paused for a moment and glanced at Ray and Rita to find them watching him intently; then he continued:

“This feat is made possible by violent X-ray activity on the part of a field of deep sunspots. The existing field goes down some two hundred and sixteen thousand miles into the Sun itself. As you astronomers are aware, at a temperature of millions of degrees radiant energy consists of X-rays, temperatures such as exist at the depth I have mentioned. If all the atoms and electrons in the Sun were suddenly abolished, the X-rays confined in the interior would scatter through space with the speed of light—some three hundred thousand years’ supply of radiation would be instantly squandered. Normally, however, the atoms dam back this flood, catching and turning away the ether waves as they try to emerge, absorbing and re-emitting them in a new direction.

“But in the case of intense, deep-seated sunspots, immense amounts of radiant X-rays escape, pass out into space—and in such a case as the present one, when there is a direct gravitational line between Sun, Moon, and Earth, radiations are drawn strongly in one direction. In effect, the Sun becomes the anode of an X-ray machine, the Moon is the subject, and my barium platino-cyanide screen between telescope and televisor is, as in the normal way, the resolving medium. Also remember that in space, at this height, there is the same effect of a vacuum as that produced artificially in a Crookes tube.

"I have said," Bart went on steadily, "that Miss James's reports of her father's observations distinctly state that the Moon has been hollowed out by radiant energy, but that the cities are proof against it. That is why they are of a metal dense enough to be visible against the haze which constitutes the thin husk of the Moon's shell. Remember that that shell is only porous pumice rock, offering but little resistance to the power of X-rays. Before very long, indeed, the Moon is likely to break up into cosmic dust.

"There, ladies and gentlemen, right before you, is the proof that Miss James is right! Gaze for yourselves!"

Bart turned away from the microphone, switching it off, and he tried to imagine what sort of an effect his explanation had had on Earth. Then Rita had caught his hand, her eyes bright with gratitude.

Silence dropped for awhile, then radio communication was restored from Dr. Murchinson. Bart listened for a moment in some trepidation. Soon he relaxed in relief.

"Well done, Mr. Broadbent," he said. "If only other young scientists had your ingenuity there'd be far more progress in the world. Is Miss James there?"

"She is, doctor, yes."

"Put her on the microphone, please."

The girl stepped forward and spoke rather nervously. "Yes? This is Miss James speaking."

"Congratulations, Miss James. You are completely vindicated, and so is your father. Now to a few questions. Why doesn't your father return to Earth if he is alive? Surely it is not beyond his ingenuity?"

"I'm afraid it is too late now," Rita answered bitterly. "To the best of my knowledge at the moment my father is dead. He was suffering from acute radium-poisoning."

"I see." Murchinson's voice was quiet and regretful. "Tell me, did your father assume that Selenites vanished from the Moon when air gave out or is there air inside these buried cities?"

"There is no air anywhere inside or outside the Moon. My father made all his explorations in a space suit. As to the Selenites who have departed, they have probably gone to——"

Rita stopped in surprise as Bart's arm suddenly reached in front of her and he switched off the microphone.

"Why did you stop me?" she asked, astonished.

"Because you seem to have a supreme knack of making statements without proof—and in consequence getting yourself into the most frightful tangle afterwards. Do you suppose for a moment that science would believe in a planetoid behind the Moon without seeing it? Hardly! We know from the way you were treated earlier just how things stand."

"Then what do you suggest?" the girl asked, shrugging. "Matter of fact I had rather hoped that when you X-rayed the Moon the planetoid would also show up behind the Moon, but it didn't."

"No reason why it should, unless it happens to be of very dense material, which I hardly think it will be. The greater possibility is that it is made of porous rock somewhat like the Moon, therefore the solar X-ray would pass clean through it. That, however, is not the point, Miss James. We have to announce this planetoid in spectacular style and prove its existence to the hilt. Only one way to do that: go there and televise it!"

"We're in space now," Rita commented, gazing out onto the void.

"Exactly. With a distance of about two hundred and fifty thousand miles or so between us and this mystery planetoid your father mentioned. I see no reason why we can't risk making the journey. Our rockets are powered by atomic force so we should have easily enough energy

to make the trip and get back. Added to the fact that we can bring news about the planetoid is the extra glory that we shall have crossed space, the very thing which science said your father had tried to do and failed."

"We might even find your father, come to think of it," Ray commented.

"We might at that!" Rita's eyes were glowing. "All right, what are we waiting for? I'm game."

Bart swung immediately to the television equipment and switched off the now useless transmission of X-ray Moon. Then he opened up the radio again. "Dr. Murchinson?" he asked, and waited.

The wait was a long one for the vessel was rapidly moving away from Earth with every second, relentlessly held by the eclipse's shadow.

"Murchinson speaking," the scientist's voice answered presently. "What's been happening, Mr. Broadbent?"

"Technical hitch," Bart answered ambiguously. "At the moment, sir, we are travelling free space away from Earth, the eclipse having ended, as far as Earth is concerned. However, this is to inform you that we are not returning to Earth just at present."

"But why not, man? We want to honour you for having——"

"Yes, yes, I know, but that can wait. I think I can bring more surprises and discoveries to the notice of science by staying right where I am. I intend to venture out into space."

"What for?" Murchinson demanded, and he sounded alarmed. "You've no right to take a risk like that without it being given due consideration! You just don't realise what you are getting into. To fly on the edges of the void—as you have been doing to transmit the eclipse—is more than sufficient for a start, but the Government forbids you to go any further."

"I'm doing this of my own initiative, sir, in the cause of science," Bart replied calmly. "You'll see why later and be glad that I did it. All that I ask is that you leave the television screens on open power. I am not sure how long it will be before I'm able to transmit another set of pictures which will certainly make you and every other scientist open his eyes. I'm not even sure that we'll be able to bridge the distance."

"How far in the void do you intend going?" Murchinson shouted.

"To the Moon at least—and maybe further. Good-bye for now."

"Now look here, young man——"

Bart cut off and grinned. "It isn't me or any of us he's thinking about," he remarked. "He's worried lest the Express be lost and they have to start building another. First, we have a meal and then we cast off from this shadow."

"Best thing," Rita agreed. "Once we're in space it won't be so easy to eat or drink with gravity non-existent. Where do you keep the stuff?"

"In the locker there." Bart nodded to it. "And we'll have to take care how we go because the provisions were not intended to last us for a long time."

"We'll ration them," the girl smiled, and swung open the locker doors.

In a few minutes they were at work on the concentrates and liquids, all of which they consumed in the dim, uncertain light of the total solar eclipse.

"Suppose," Ray asked, "we didn't pull free of this shadow. What would happen?"

Bart shrugged. "Presumably we'd remain in it for all time, always in the heart of the eclipse, swinging in a great arc through space."

"Charming speculation," Rita commented, with a little shiver. "And why bring up such a thought, Mr. Mason?"

"I dunno. I'm just curious that way—and call me Ray, will you? Most folk do."

"Yes, let's drop the formality," Bart insisted. "We'll get along much better. Okay, Rita?"

"Okay, Bart," she smiled, and it seemed that a definite understanding had been reached.

Bart considered for a while as he ate and then he asked a question: "You haven't any more particulars concerning this planetoid than those you've already given, I suppose?"

"Unfortunately no. That particular transmission was badly blurred, and if there were any more details I certainly did not receive them."

"I see. It would have helped to know how far away from the Moon's other side this planetoid is. Since we don't know the only thing for it is to go and look."

When they had finished, Bart got to his feet and crossed to the switch-panel, applying the power to the rocket-tubes. Immediately the vessel gave a slight jolt in its unresisted onrush; then it seemed as though it were standing still whilst the eclipse passed away. A shaft of bewildering light stabbed from the edge of the Sun across infinity. Brilliant glare began to flood into the control-room. In the space of a few minutes the shadow had passed on into the void leaving the Express floating freely in space, Earth looming down to her left.

"So far so good," Bart commented in satisfaction. "Now for the tough part. At the moment the Earth's gravitational field is giving us a fairly comfortable feeling, but when we start to tear against it we'll know all about it. Better lie down, Rita: you'll find it more comfortable. You, too, Ray if you want to."

Bart, in the sprung driving seat, had the strain somewhat absorbed, but even at that it was tough going. Fortunately, the tremendous strain was only necessary as long as the machine was pulling against Earth's gravity. Once the field had weakened sufficiently Bart cut off the power and everything immediately became weightless. The vessel had achieved enough momentum to continue hurtling Moonwards without any check in speed.

"At our present rate," he said, consulting the instruments, "we should reach the Moon in ten hours. Until that happens we can do nothing but look around us, or sleep."

Bart's calculations proved to be more or less correct. Ten hours later the Earth seemed an enormous distance away, green and serene in the abyss, whilst the Moon had changed from a crescent in the depths to almost a half-illuminated landscape, craters and mountains rearing jaggedly in the pitiless glare of the unclouded Sun. The pull of the satellite was also distinctly evident now, swinging the machine out of her course.

"Now we come to a question," Bart said, seated at the control board. "Do we descend to the Moon, Rita, and have a look for your father in the underworld, or what? There are two space-suits aboard which would have been used for emergency so I suppose Ray and I could try and——"

"No," the girl interrupted quickly. "Definitely not! You seem to have forgotten the radio-activity which penetrated my father's suit. It would do the same with yours. In any case I don't think it would be any use searching the underworld for dad. He must have been well on his journey into space when you interrupted by radio-control, Bart. I'd suggest we fly over the Moon's surface. We ought to see some signs of his vessel somewhere, for surely it must have been pulled back."

"Right," Bart assented. "We'll circumnavigate the Moon and see what there is."

He switched on the recoil tubes and immediately their blast against the Moon's attraction slowed the vessel's headlong drop towards that white, inimical surface. After that it was not a difficult task to keep the machine under control until it was perhaps five miles above the lunar

surface. Then Bart switched on another set of recoil tubes and the Express levelled out, thereafter flying at a tremendous speed parallel with the Moon's surface.

"Rock—pumice dust. Pumice dust—rock," Ray commented, staring below.

Presently, darkness began to loom ahead as the machine hurtled away from the Moon's sunlit side—and also the side facing Earth.

"He certainly couldn't have fallen on the other side," Bart remarked. "So what's the answer?"

Rita's brows were knitted. "I don't know. I just don't. Keep on going anyway. Maybe we'll see something even yet."

Bart knew it was a forlorn hope, but he kept the vessel on the move just the same. At length it sped out of the harsh blaze of day into the utter night—the other side of the Moon.

"Holy smoke!" Ray gasped. "What a view! Who'd have ever expected anything like this?"

There was good reason for his exclamation. Here, on the side of the Moon forever turned from Earth, there was a sky such as no astronomer had ever dreamed of. The stars hung and flashed in airless splendour, reaching to the very outposts of infinity, but magnificent though they were they were dominated by what seemed to be an enormous moon, cloud-wrapped, and to judge from its motionless aspect evidently following exactly the same orbit as the Moon itself but at a much greater distance.

"The planetoid!" Bart cried. "That's it! Your father was not having delusions, Rita."

"Notice something else, too?" Ray asked, peering below. "The moonscape sinks in like a gigantic crater. Some tremendous subsidence or other."

"Two possible answers to that," Bart replied. "Earth's gravity has possibly caused the Moon to sink on the side away from Earth—or else we're looking at the gigantic depression caused by the creation of that planetoid. We're moving too fast to observe this in detail," he decided. "It's time we landed."

Forthwith he brought the vessel down to the night-ridden plain amidst a flaring of the rocket-tubes. The landing was made comfortably enough and the drone of the power-plant ceased.

"Televisor's trained right on the sky, with the planetoid centred," Ray pointed out. "Think they'd be interested back on Earth? Be a chance to show them how things look from the other side of the Moon, anyway."

"Try contacting them by radio," Bart instructed. "If that will reach 'em so will the television. Meantime I'll check up on this planetoid with the instruments and see what it's made of."

Ray nodded and settled at the radio equipment.

"That world is quite small," Bart said at length, when he had completed calculations by the stars. "About fifteen hundred miles in diameter. Atmosphere too, with spectrum lines showing argon, oxygen, and hydrogen. Nitrogen, too. See here."

The girl looked at the prismatic equipment catching the light of the planetoid and then nodded. "Sounds pretty similar to Earth's own atmosphere," she said.

"Nothing unusual about that," Bart replied. "The Moon, when she had an atmosphere, would surely have had one like Earth's since she is a satellite of Earth."

"She's revolving, too," Rita added, peering at the image in the hair-lined telescopic mirror. "Those cloud markings have definitely moved position in the last few minutes."

"Yes, it definitely has a revolution," Bart confirmed at length. "In relation to the Sun it seems to revolve at a speed of—er—four days, twelve hours and twenty-five minutes. As for

the gravity, if the materials are similar to those of the Moon here we can expect an attraction slightly less than here. The atmosphere seems breathable, so as far as I can make out there's nothing stopping us having a look what's on that planetoid."

"Nothing," the girl agreed, and fell to thought.

"Anything the matter?" Bart asked after a while, and she raised her eyes to his.

"I was just debating the possibility of whether or not dad's machine might have fallen there. After all, if it was free in space it might have instead of striking the Moon."

"Yes—yes, Dr. Murchinson speaking." The voice was thin and unreal, marred by deafening bursts of static and fading mysteriously at intervals, but it was unquestionably there.

"Murchinson!" Bart exclaimed, twirling in his seat and looking at the radio equipment.

"I managed it," Ray said, smiling. "Up to you now, Bart."

Bart crossed immediately to the microphone, stepping up its output power to maximum. "Hello there, Dr. Murchinson! Broadbent speaking to you from the other side of the Moon. We're receiving you fairly clearly considering the distance."

Pause; then, "Other side of the Moon, did you say? You mean you have actually crossed the gulf in the Eclipse Express?"

"Right! And if you are ready to receive them there's a television record coming right away."

Interval. "Give me time to get some of the scientists informed, Mr. Broadbent. It's the middle of the night on Earth—in England anyway—and it may take a little while. Say in an hour. I was called specially when your contact came through. Heartiest congratulations, young man."

"You are also going to see something else," Bart continued, "and all the credit for it goes to Dr. James for he discovered it in the first place. A planetoid behind the Moon which no Earthman has ever seen before. I'll transmit a scene of it in the lunar sky as soon as you can get the scientists together. One hour from now then." With that he switched off.

CHAPTER FIVE

Exactly one hour later Bart contacted Earth again by radio and learned that all was ready and waiting. So he started up the transmitter and then added his radio commentary, explaining the facts about the planetoid as he had learned them from Rita.

Murchinson's voice floated through after a while: "Mr. Broadbent, you and Miss James—not forgetting Mr. Mason—are definitely making interplanetary history. You have every intelligent person hanging on your words. Never was an expedition so casually planned or so daringly executed. That planetoid is a monumental discovery, and full credit shall go to Dr. James for being the man who found it. We can see it fairly clearly on our screens. Do you think it will be possible to transmit any near scenes when you reach it? Of the inhabitants, for instance?"

"We'll do our best," Bart promised. "And now we must be on our way. Stand by for further communication later."

With that he switched off and moved across to the control board. Then he glanced at Ray. "Do you feel I've usurped your position, Ray?" he asked. "It never occurred to me before, but having built this thing I just sort of drive it as a matter of course."

"I think I could pilot it just as well," Ray responded. "Anyhow, give me a chance. Best for two of us to know what to do in an emergency."

Bart nodded, relinquished his seat, then crossed over to where the girl was seated on a wall-chair in readiness for the sickening drag of the take-off. Ray gave a glance over his shoulder, and made a wry face.

"So that's it?" he asked. "You talk to Rita and I do all the hard work! No wonder you gave me the job."

"I didn't," Bart grinned. "You volunteered."

Ray closed the power-switches and the atomic motors started up. Swiftly the machine climbed, hurtling skywards by the recoil force of the rockets. In a moment or two it was high above the night-plain of the Moon, the pressure of acceleration forcing all three fiercely downwards. At last the Sun hit the speeding machine and blazing glare flooded the cabin.

"Okay," Bart said at last. "Cut the power, Ray. We can make it on our own velocity from here."

Weightlessness came immediately as the recoil tubes ceased. Ray relaxed in his chair and mopped his face, then he stared through the window upon the planetoid in the distance, already growing larger as the vessel hurtled towards it.

"Say," Ray commented, "we're certainly covering the distance at a terrific lick. Sure that thing is a hundred and sixty thousand miles away?"

"I'm not sure, but it's a good guess." Bart looked through the window. "Mmmm—maybe I miscalculated somewhat with all those cloud belts hanging around it. I'll take over from here, Ray. I can 'feel' my way down better than you can."

Bart slipped into the driving seat as Ray vacated it, and switched on the nose-recoil tubes. Immediately the pull of the planetoid was checked. For a while Bart studied the planetoid and then he turned to the telescopic apparatus. The survey he made finally seemed to decide him.

Two hours passed before the Moon really sunk away into distance and the mystery world loomed in all the sky ahead. The cloud formation was exceptionally dense, bespeaking a high

water-vapour content, almost as much indeed as that in the atmosphere of Venus.

With the rocket tubes working full blast against the gravitation Bart "felt" his way down, watching the radar screen for the first sign of some mountain peak or unexpected object looming in the vapours. It was as well he kept alert for on no less than three occasions huge mountain peaks glided past in the fog and were gone. At length the machine burst abruptly from the clouds and below there was spread a livid green jungle, walled in on three sides by mountains which vanished in the all-prevalent vapours.

"Looks like Central Africa," Ray commented, staring below. "Certainly a world rich with vegetable life, anyway."

"But is there any other form of life?" Rita asked the question as she studied the view. "I certainly can't see anything. No cities or anything like that."

"Apparently not," Bart agreed, and with the normal air-wings and jet-engines now in operation he brought the machine down swiftly, finally bringing it to rest in a huge clearing in the jungle.

The throbbing of the power-plant ceased. The vessel lay in the half light of towering trees which stabbed upwards to a surprising height in the slight gravity. Sunlight was absent—the clouds were too dense to permit of any—but instead there was a diffused pearly glow which filtered down through the vegetation.

Bart turned to the instruments and then studied them, finally giving a nod of satisfaction. "The luck's with us," he announced. "We can explore without space-suits—just as we are in fact. Temperature is around eighty, similar to Earth's tropics, as also is the atmospheric density and composition. The gravity is about that of the Moon. So, let's grab ourselves some arms and provisions and sally forth."

"Before we do," Ray said, a queer note in his voice, "can you explain what that is?"

He pointed through the window and for a moment or two all three were preoccupied in watching a curious phenomenon visible over the distant mountain range. It seemed to be a rim of pale, quivering fire, independent of the clouds evidently for it reflected back from them. In some strange way it resembled the Earth's Northern Lights.

"No idea," Bart said at length. "Magnetism of some kind, I suppose, a not uncommon occurrence on any planet. Let's be on our way."

Preparations were made and in a little while Bart had the control room door open. He sniffed the dry, warm air and then leapt down to the soft, vegetation-smothered surface of the planetoid. Immediately he noticed the slightness of the gravitation. He had barely turned to lend assistance to Rita before she had alighted at his side, and Ray followed a moment or two afterwards.

"Mmmm, not bad," Ray commented, looking around him. "But if we see no more signs of life than this I'm afraid our friends back on Earth are going to be mighty disappointed with the views we'll have to televise back to them."

Bart and Rita made no comment. They both stood accustoming themselves, breathing the somewhat dry but tolerable atmosphere and conscious too of a burning warmth being radiated through the cloudbanks.

"Well, what next?" Ray asked. "Do we just stand here surveying the scenery or do we go on a search for Dr. James?"

"We're certainly not going to stop here," Bart answered. "We've protection enough for any normal risk so let's see what we can find."

He started forward, the girl at his side, Ray going ahead of them. After a while, Ray—quite a distance in front—paused and looked back. “Do you smell something?” he called, and Bart and the girl paused and sniffed the air.

“Burning wood,” Bart said finally. “In a tinder-dry jungle like this I suppose a fire isn’t at all unlikely. And if so we——”

“I think I can see it,” Ray exclaimed, and went racing onwards amidst the trees with Bart and Rita blundering after him. After a while they came upon him, half-hidden by drifting smoke, and for some reason he was standing still even though blazing vegetation was crackling dangerously near him.

“What’s the idea?” Bart demanded hoarsely. “Come out of there, you lunatic! We’ve got to get back to the ship mighty quick if we don’t want burning up——”

“I can’t move!” Ray protested. “I’m stuck. Keep away from this bit of ground. Something queer about it!”

The warning came too late as far as Bart was concerned. He had already leapt to the area, but the moment he alighted he felt as if a vice had closed about his feet.

“I’ve got it!” Ray yelped suddenly, zipping the front of his boot and dragging his foot free. “The ground just here is magnetic or something. Yes, that’s the answer. It’s magnetised the steel protectors on our boots.”

Apparently he was correct for the moment he pulled his feet free he was able to move with the same ease as normally. In a moment Bart too had dragged himself out of his boots, but before he leapt after Ray he gazed at the ground on which the two pairs of boots rather fantastically stood.

“Say, this stuff is magnetite!” he exclaimed. “Natural lodestone—like the Swedish deposits which used to exist on Earth. Magnetic oxide of iron.”

“Never mind that!” Rita exhorted him. “Take a look at the fire!”

Bart glanced and then sprang, stumbling backwards in his besocked feet and cursing as brambles stabbed into them. In dismay, Ray and Rita now either side of him, he gazed at a beating wall of flame moving inwards.

Floundering wildly in the light gravity, stabbed by barbs and vicious thorned roots, Bart and Ray kept going, helping Rita along between them. They had not the slightest idea where they were heading. All sense of direction was at sea, chiefly because they were on an unfamiliar world but also because the smoke had formed into a dense, impenetrable fog behind them.

Now they were becoming aware of other things too—of the bellowing of enigmatic beasts, the shriek of unknown birds, all stampeded by the conflagration. Here and there through the rifts were glimpses of incredible objects plunging and ploughing through the undergrowth.

Bart swung to the right, clutching the girl’s arm. Together, with Ray close behind them, they vaulted the nearest five-foot high row of bushes, but they did not strike solid ground beyond. Instead they found themselves unexpectedly in the midst of warm, fast-moving water, struggling desperately amidst a jammed, screaming mass of animals, none of them resembling anything ever seen on Earth.

“Watch yourself!” Bart panted, his gaze darting around him on the fighting creatures. “A flick from one of those tails and it’ll be finish. Fortunate for us that these guns of ours will still work even if under water——”

He ducked suddenly, forcing Rita down too. A mighty object, mad with fright and twice the size of a crocodile, breathed its last as its abdomen was transfixed by a vicious spire of

dead tree stump projecting from the water. With bursting lungs the trio bobbed up from the froth and foam of the death struggle.

"Say," Ray cried, "that carcase wouldn't make a bad raft! The lesser gravity will help it to float, too. Give me a hand with it. I don't think these other creatures are going to attack us: they're too concerned for their own safety."

He struck out vigorously and clutched the creature's scaly body with both hands. It rolled over in a tumult of water. With some effort, which somehow reminded him of riding a bladder-horse in a swimming pool he managed to scramble onto the broad back. Wedging himself as well as possible he held down his hand, dragging up the girl with ease against the lesser gravitation. Then he assisted Bart.

"And now?" Ray inquired, as they began to drift downstream amidst the bubble and smother of stampeded animals.

Bart did not answer and Ray ceased commenting. Then the girl gave a little exclamation as a bend in the river brought them within sight of that phenomenon which Ray had noticed earlier—the quivering band of white light high in the sky over the mountain tops, but augmented now by streaks of amber and lilac arcing across the clouds.

"Wish I could understand what that is," Bart mused. "It looks as though it might be centred over the North Magnetic pole of this planetoid. High electrical energy of some kind—maybe connected somehow with that natural lodestone area we found."

He paused and frowned as there came to his ears the sound of a dull, booming roar. For the first time he also noticed that the animals in the river, seized with the instinct of danger, were struggling to reach the weird masses of the jungle on either bank. There was certainly no danger of fire here: that was far behind.

"Bart, what is that noise?" Rita demanded suddenly, catching his arm. "It's funny but I seem to remember that Niagara sounds like that from a distance."

It was not very long before another bend of the river brought into sight the filmy mist that hangs eternally over plunging water. Backed by the rainbow hues of the distant aurora the effect was both beautiful and extraordinary.

The carcase quickened speed. Bart clutched Rita to him. "It's a waterfall all right," he said. "Tidy size too, if the din and the mist are any guide. The only thing that can save us is the lesser gravitation. As we go over, jump outward—outward for your lives. You'll miss the main impact of the water that way."

He tensed himself as he spoke, keeping his balance with difficulty as the carcase bobbed up and down with ever increasing speed. As they rocked and swayed they felt it hurtle forward to the gleaming cataract ahead. Beyond, they had a transient glimpse of the river's continuation through a deeply-wooded valley—which portion of the planetoid had probably been out of sight when they had first darted below the clouds in the Eclipse Express—to the left of which was a blunted, sullenly-smoking volcano.

"Jump for your lives!" Bart cried suddenly, and simultaneously he flung Rita into space and then leapt after her.

In the lesser gravity the girl went soaring away absurdly, turning slow somersaults. Twirling through the air Bart got a brief glimpse of the waterfall. It was at least two hundred feet high. He began to drop towards the river below with ever-increasing speed, automatically straightening his body for a dive. Rita was falling too, several yards away, and Ray was somewhere above.

Bart struck the water, and something else which exploded his head into oblivion. When he struggled back to consciousness, pain biting at the roots of his skull, he could hear the murmur of voices. He opened his eyes to the familiar heavily clouded pearly sky. The ground underneath him was warm and stony. Several feet distant the river was racing past.

"Bart! thank heaven you're okay!" Rita was suddenly on her knees beside him, clutching at his hands. Her own clothes appeared to be nearly dry now which gave him some idea of how long he had been unconscious.

"Uh-huh, I'm all right," he acknowledged, then he forced a grin. "Worth being knocked out to find out how much you care."

"You caught yourself a glancing blow on a submerged rock," Ray explained. "No damage done, thank goodness. We managed to pull you out."

"Good! And many thanks." Bart turned his head and looked about him, wincing with pain. Then he saw something that made his eyes open wide in amazement. "What—what the——?" he asked blankly. "Who the hell are those people?"

"I think they're Selenites," Rita said. "They've been waiting for you to recover. The most surprising thing is: they talk English."

"What!"

Bart blinked and gazed again at a group of twenty men and women, all of them but scantily attired, practically Earthly in general development, save that the lesser gravity had given them shorter stature and more highly developed biceps. All the men were white-bearded.

Their faces were strikingly child-like and docile, differing but little from good-tempered Earth boys and girls of some ten years of age. The chief oddity lay in the slit, cat-like pupils of their misty blue eyes. Beyond them stood a rather makeshift city of dried mud, yet remarkably enough it looked as though it were meant to resemble one of Earth's own modern cities. Here was a miniature mud version of London, without doubt. There were recognisable edifices, even streets, but there was a complete lack of unity and planning.

Bart got to his feet at last with his eyes on the men's beards. He raised his hand solemnly and went forward.

Immediately one of the bearded men raised his hand also.

"Here's looking at you," Bart proclaimed gravely.

"Mud in your eye," replied the four-foot leader, and bowed so profoundly that his beard eclipsed his narrow waistline. Then straightening up again he looked Bart full in the eyes and asked politely, "Did you take your restorative this morning?"

"Did I what?" Bart blinked in astonishment, hardly aware that Rita and Ray had come up behind him.

"I speak to you," the leader said, "by courtesy of the people of Malinjah. We, the Malinjahs, offer you a free sample of our excellent hospitality. Come at once or write at once, but do not delay!"

Bart shook himself and then thumped his forehead. "No doubt about," he muttered. "That wallop I got on the head has made me daffy. Why, this chap talks like a radio-television announcer handing out advertisements! There can't be such a person! Who'd you say you are?" he demanded.

"The Malinjahs. I am Ansid Rawl, leader of my people's hook-up, complete with network."

“Never mind the network. How do you come to be here? How did you learn English? Are you from the Moon?” asked Bart pointing vaguely into the cloudy sky. He would have given anything at that moment for a clear view of the Moon so that he could make his point obvious. For apparently Ansid Rawl did not understand. He pointed instead towards the aurora and replied: “Knowledge is cheap when it is free. Write now for my prospectus and send no money.”

“I wouldn’t dream of it,” Bart assured him sourly, and behind him Ray and Rita started to laugh.

“Don’t you get it, Bart?” Ray asked. “Somehow these folks have a means of hooking onto Earth broadcasts—the audible part anyway. That’s where they’ve picked up the language and they use advertisement slogans and bits and pieces out of plays, sketches, and so forth to make their meaning clear. And we expected mighty scientists! Ye gods, what a sell!”

“There’s something queer about all this,” Bart said stubbornly, looking around him. “There are no signs of radio aerials in that city of theirs—if you can call it that—” He stopped, trying to collect his thoughts, and the quaint people looked gravely at him with their slumberous blue eyes and cat-like pupils.

“We,” Bart said deliberately, “are from Earth—the third planet from the Sun. We—er—are trapped. We want food and friends, and to ask you a lot of questions.”

“Eat with pleasure,” Ansid Rawl responded. “Fear of pain afterwards positively banished. Come, before the hour grows too late.”

Turning suddenly he led the way up the shingle towards the crazy looking mud city. Rubbing his bruised head, more from perplexity now than anything else, Bart followed him, motioning Rita and Ray to do likewise. In a moment or two they had caught up.

“Not much sign of mighty scientific genius about them, anyway,” Rita sighed. “What do you make of it, Bart?”

“Hanged if I know! They strike me as being really quite child-like, with little initiative of their own. Take this city we’re coming to. It’s not been built by their own ingenuity: it’s taken from descriptions they’ve heard over innumerable radio broadcasts. Note the lack of unity, showing minds which are only partly developed in the matter of self-government and control. Rawl said that the aurora had caused him to know English and——” Bart broke off and gazed at the strange phenomenon. “North Magnetic Polar lights, all right,” he breathed. “I just wondered how——”

“Phew! what a smell!” Rita interrupted him, pinching her tip-tilted nose. “Who’s opened a sewer around here?”

“There’s the source of it,” Bart said, nodding towards the volcano. “We’re getting a downwind drift from it. H{2}S gas, better known as sulphuretted hydrogen—— Say, that gives me an idea! Maybe these folk don’t smell that odour. Maybe some other sense is developed instead. It might be. For instance, animals have a sense of smell developed above sense of eyesight.”

“Well?” Ray asked, as they walked along.

“I dunno.” Bart sighed and gave a shrug. “Except that perhaps these folks have a sense we don’t know about which compensates them for lack of smell.”

At this point the downward wind drift changed direction and the overpowering stench dissipated.

Ahead, Ansid Rawl was pointing to the nearest building in the mud city. With a beaming smile and a good deal of ceremony, surrounded by his silent people, he led the way to it. To

the deepening amazement of the three travellers from Earth the place was furnished in a style which was crudely terrestrial. There were chairs and tables in the centre of a huge room that filled the entire length of the building. There were no other floors and the ceiling went up to a surprising height.

"More evidence of lack of brains," Bart murmured, mystified. "They don't seem to realise that Earth buildings have several floors and not only one ground floor. Seems to me they are just playing at being civilised, like kids play at shop. They're just—well, Pretenders. Certainly not the kind of folk we hoped to meet. I hope we'll do better, Rita, when we ask them about your father."

"So do I," the girl muttered, not very hopefully. She was looking at naturally ignited volcanic gas jets spouting from crudely designed stone stems in the walls.

Rawl motioned to the chairs. "Food shall be brought," he said. "None finer than ours. The labels say so."

Turning aside he clapped his hands sharply, spoke for the first time in an unknown language, presumably his native one. It was the signal for his child-like, passive followers to spring into action. They vanished into various recesses of the slipshod building and returned bearing armfuls of fruit, presumably jungle products.

"Are they safe to eat?" Rita asked dubiously, and after examining them Bart gave a nod.

"Far as I can tell they are, yes. Overgrown plantains, or something like them. Not poisonous to our constitution, I think, since we're pretty similarly constructed to our friends here."

Ansid Rawl watched in complete contentment as the trio began to appease their hunger, sharpened as it was by their experiences. Then presently one of the women hurried outside and returned shortly with four garlands of livid-hued flowers. With a little cry of delight she put them about Bart's neck and then kissed the top of his head.

"You must have more glamour than I thought," Ray grinned, and Bart gave him a discomfited glance.

"Apparently got me ear-marked as a kind of god, or something," he said; then it was his turn to smile as two other women hurried out and also returned with garlands, which they placed about the necks of Ray and Rita. It suited the girl perfectly, but Ray looked even more embarrassed than Bart—if that were possible.

"I don't get the idea," Bart said, looking about him, "but thanks just the same."

At his words Rawl came forward from the ranks of his smiling, highly delighted people.

"I bring you a message," he stated. "We wait for the Appointed Ones whom we were told would come. You are the Appointed Ones."

"You're wrong somewhere," Bart assured him. "We're just three lost travellers from another world. What's more we have to leave here as soon as we can get the chance."

"You are here," Rawl observed calmly, "on a journey which knows no returning."

"That's garbled Shakespeare," Ray commented. "And I think maybe he means there's no way back over that waterfall."

"Hell!" Bart whistled, and sank back beaten for the moment.

CHAPTER SIX

After a time Rawl and his people began to hum, in not unmusical voices, watching the trio as they did so. At first it did not dawn on Bart what they were chanting, but when it did he leapt up.

"Listen to 'em!" he shouted. "That song is 'I'll Buy Me a Robot'—the latest craze song on Earth. They can only have contacted that by direct radio. Look here, Rawl," he went on, striding towards him, "whereabouts is your radio receiver?"

Rawl shrugged and tapped his head. "Why travel far when it comes to your door?" he asked, and then he pointed towards the far end of the room. It was obvious that he meant the aurora, not hidden from sight of course.

Bart gazed in perplexity, and then suddenly Ray exclaimed, "Listen, Bart, is it possible, do you think, that perhaps these people are natural radio receivers? They haven't the brains to build apparatus: they're just kids."

"Possibly," Bart mused, "you may be right. Their lack of a sense of smell may, to some extent, be compensated by another sense, unknown to us. I can have a try, anyhow. Rawl, can you hear radio waves?"

"All-wave receiver given free," he said, thudding his white-haired head again.

"He meant it's inside his brain!" Rita cried. "Or where his brain ought to be, anyway."

"But—how?" Bart started to pace around in his besocked feet, thinking as he did so. "Shortwave radio does penetrate this far, since we have already communicated with Earth and proved it. It might even travel as far as Pluto for all we know, but——"

He broke off and snapped his fingers. "I begin to get it now! I mean the connection between the aurora and this radio reception. This planet is naturally highly magnetic: we know that by discovering that lodestone area back in the forest. There may be thousands of such areas knocking about in different parts of this planetoid, particularly at the poles."

"Well?" Rita questioned interestedly, and the little people themselves moved closer to hear Bart's halting exposition.

"Is there any reason," he deliberated, "why the free electrons of short radio waves cannot be caught by this planetoid's lines of force spiralling around its magnetic poles? It is a highly magnetised planetoid, for one thing: it doesn't spin too fast, of course, but quite fast enough to form itself into a planetary dynamo and collect radio waves and redistribute them—— Gosh, yes! That would account for the weird electrical display at the pole. Probably the same thing happens at the other pole too only we don't happen to have seen it. Not only trapped radio wave electrons, but electric radiations of various types have full play. This planet has such a high magnetisation it captures them pretty freely, both from outer space and possibly from the Sun."

"That may be right," Rita agreed, thinking, "but how do you account for these folk being able to hear them?"

"Just a minute," Bart said, still pondering—and turning to the table he picked up the skin of one of the plantain-like fruits. Folding it, he rubbed the two edges of skin gently together. "What does that sound like to you, my friend?" he asked Rawl.

"Visit Niagara Falls for your honeymoon," Rawl answered, and at that Bart gave a yelp of delight and slapped the peel back emphatically on the table.

"There you are! To us that sounded like a faint, slippery sort of noise. To him it sounds like the din of Niagara! Do you get it? The hearing perception of these people is way ahead of ours. Human ear limit is around ten or twelve watt power, and that's pretty low. Animals a bit higher. These people are above our audible frequency."

"Maybe," Ray mused, "but how does that connect up with them hearing radio waves—electronic waves? Those aren't audible anyway: they're electrical."

"I know that. The point is that their brains are adapted differently from ours. If they can hear inaudible sounds and magnify them as much as they do, it logically indicates that they can also receive electrical waves and interpret, them."

Rita looked about her upon the child-like faces and then she gave a shrug of despair. "Can you beat it?" she asked. "Children with radio-receiver minds living in a mud city a few thousand miles from a satellite which contains vast science! Nature is ever paradoxical."

"I wonder if you've noticed something?" Ray asked, studying his hands. "About ourselves, I mean? Since we landed here."

"You mean we've got more grey hairs than ever before?" Bart suggested.

"No, I mean that we've all developed a terrific sunburn! And we haven't been in the open very much—and what there was of the open was heavily clouded. Only one answer to that, Bart, excess of ultra violet coming from somewhere, and it might quite easily be from radio-activity without the inclusion of its more dangerous emanations, such as alpha, beta, or gamma. We're not burned in any way: we just happen to look disgustingly healthy. However, it's time we made some kind of effort to get away from here——"

"Before we do, let me ask our friend here some questions," Rita interrupted.

"Surely. Go ahead."

The girl turned to Rawl close by. "Rawl, have you ever, on this world of yours, seen anybody like us? A—a man, that is." She indicated Bart and Ray. "Like them, but older."

"Only he who came and told us of the Appointed Ones," Rawl answered, and at that not only Rita, but Bart and Ray too became suddenly interested.

"When did he come?" Rita insisted. "What did he look like?"

"Like——" and Rawl motioned to Bart and Ray. "But hair like mine," and he fingered his beard.

"White haired," Rita cried, and flashed a joyous glance at Bart. "Bart, that could be father from the description!"

"Just how did he refer to the 'Appointed Ones'?" Bart demanded, taking over the questioning, and this seemed to plunge Rawl into deep thought for a moment or two. Finally, however, he essayed an answer.

"He said—Appointed Ones follow. Treat them as gods. They will have mighty powers."

"Which we haven't," Ray remarked, puzzled. "Frankly, I don't get the angle at all."

"I think I do, though!" Rita exclaimed, her eyes bright. "Doesn't it occur to you that compared to these people—their natural gift for absorbing radio waves excepted—we have got mighty powers? Doesn't it also occur to you that only father could have said such a thing because outside ourselves he is the only person who has travelled into space!" She swung on Rawl quickly. "Where is he?" she demanded. "This man with the white hair?"

"He came from the sky, and into the sky he went," Rawl answered ambiguously.

Bart frowned and Ray scratched the back of his neck. The girl gave each of them a troubled glance. "As far as I can interpret it," she said, "it sounds as though my father's

machine did drop here, yet evidently not with such force that it knocked him out then he took off again——"

"How?" Bart asked. "I thought you said he'd changed his control board to radio guidance?"

It was perfectly obvious that Rita did not know what to make of the situation. Both hope and anxiety were struggling for expression on her taut features.

"As far as I can see," Ray commented, "we're just wasting our time trying to get sense out of these folks. It seems pretty certain that Dr. James departed into space again, so by now he may be half way back to Earth. What he did to his control board to enable him to handle the machine himself I don't know, but it does appear that the best thing we can do is chase after him quick as we can. Once we can find him everything will be explained."

Bart reflected for a moment and then nodded, turning to Rawl again. "Look, Rawl, there must be some way to get back into the jungle without having to climb two hundred feet of sheer cliff. Isn't there a pass, or something?"

"Happy the man whatever his lot, is he who's content with whatever he's got," Rawl answered, folding his arms with a certain fatalism.

"What's the use?" Bart groaned. "And his statement is plain enough. There is no way back past that waterfall otherwise these walking radio receivers would probably have found out all about it long ago. Come to think of it," he continued, "there are no animals down in this valley. The cliff and waterfall stop them. Otherwise they'd have been down here by now and wiped out these folk."

"How would it be to try walking right round the planetoid?" Ray suggested. "We'd be bound to come back to our starting point."

"Maybe; only I don't feel like tramping two thousand miles without my shoes on!"

For the moment the three were stumped, then Rita looked up sharply and held her nose. "That ghastly smell again!" she exclaimed in disgust. "The wind must have changed, or something."

Bart was far too busy with his thoughts to even notice the odour of sulphuretted hydrogen drifting around him, but after a moment or two he did become aware of a queer sound. It was rather like the splash of water descending from a height and it was becoming louder.

"What's that?" he questioned, raising a hand. Then, since neither Rita nor Ray seemed able to answer him, he hurried to the door and looked outside. The moment he did so both the odour and the noise reached him with redoubled force.

"That's a rocket-machine or I'm crazy!" he exclaimed. "For the love of Mike don't tell me that somebody's found our machine and is making off with it, otherwise it's the finish!"

By this time both Ray and Rita had reached his side and were gazing anxiously into the misty sky. In the background Rawl and his fantastic followers came silently forward and then drifted to the outdoors, gazing around them and apparently wondering what the travellers were looking for.

"It's dad's ship!" Rita shouted. "I'd know it anywhere! Quick! Attract his attention! Do something to show that we're here!"

Bart came to himself abruptly and raced wildly forward into the centre of the clearing in huge, stumbling leaps. Rita and Ray joined him in a matter of seconds and there began a frantic performance of arm waving. Rawl and his people, gathering the idea, also started an insane war dance against the slight gravity, performing the most incredible leaps into the air whilst they sang the craze song "I'll Buy Me a Robot".

“Hey!” Bart yelled frantically, as the machine swept in the direction of the smoking volcano. “Hey! come back here! Can’t you see us? Hey!” He cupped his hands and bawled with all his lung power.

A stream of red, glowing deposit crawled up the volcano side as the space machine flew over it. Something was wrong somewhere. It’s underjet was not working properly, was discharging far more exhaust than was normal. Then suddenly it seemed as if the entire planetoid went out in a blindingly brilliant light and torrent of sound.

Bart, Rita and Ray found themselves hurtling backwards under the blast of a tremendous explosion. Every one of Rawl’s followers, including Rawl himself, was knocked flat, holding their ears with anguish as their higher level of hearing was wrenched and blasted by the frightful concussion.

“Look!” Rita cried, struggling up again. “An eruption!”

“It—it can’t be——” Bart caught hold of her. Then he gave a gasp of horror as he saw the space projectile reeling and swaying wildly, completely out of control, wafted on the air tremors of the explosion. Either accident or design brought it whizzing down towards a distant corner of the clearing so that it finally landed not half a mile from the base of the waterfall.

The three were undecided for a moment. They were looking now at a suddenly newly born rift in the side of the volcano through which was spouting a hellish fury of cinders, pumice, poisonous fumes and bubbling lava.

“Now I understand!” Bart cried. “That sulphuric gas must have been ignited somewhere by that under jet exhaust. It wasn’t behaving properly in any case: perhaps a hasty repair job or something. Anyway the sparks must have blown out a blind cone or blister when the gas ignited and started an uprush of matter——”

“Never mind that!” Rita shouted, above the din of escaping steam. “Let’s get over to the machine!”

She started the example by racing across the clearing, Bart and Ray tearing after her. In a matter of ten minutes progressing in flying leaps—which Bart and Ray found pretty hard going to their almost unshod feet—they had reached the machine to find it lying on its side.

“Yes, it’s dad’s machine all right!” Rita exclaimed, visibly trembling with excitement. “Maybe we could see in through the windows.”

She hurried to the nearest one and clawed her way up the slanting plates until she had gained the densely thick glass. Hanging on tightly she peered within the vessel, just as Bart struggled to her side. Together they gazed into the machine and particularly at a slender white-haired man who had been flung from his seat at the control board and was now sprawled upon the floor.

“Well?” Bart questioned sharply, and it took the girl all her time to speak, her voice choked with emotional relief.

“Yes—yes, it’s dad! And—and he doesn’t look at all as I’d thought he’d look. I—I mean, with radium poisoning you’d expect him to have burn marks all over him, but there just isn’t anything. He looks quite normal, except for being unconscious, of course.”

“Any way we can get in?” Bart asked quickly. “You know all the tricks on this vessel, don’t you?”

“Yes. The airlock can be opened from the outside as well as the in. It was a device dad thought of in case of emergency. Moving the outer screws also moves the inner ones—but they can be locked inside, of course, if anybody unwanted tried to get in.”

By this time they had scrambled to the ground again. Ray, who was watching the increasing threat from the volcano, was given the facts and then he lent his assistance as the airlock's heavy screws were twisted back. In a matter of minutes the massive metal valve had been swung outwards and Rita was first into the control room, raising her father's head and shoulders in her arms.

"Nothing to worry about," Bart said, after a quick examination. "Only a wallop on the head. Restorative will soon bring him round. Get some from the locker there, Ray, will you please?"

Ray obeyed promptly, and under the influence of the powerful liquid Dr. James spluttered and gasped, and then colour began to surge back into his cheeks. He looked about him dazedly, and the next thing he knew Rita was hugging him desperately and kissing him whilst tears ran down her cheeks. Bart and Ray glanced at each other, a trifle embarrassed, and then they turned their backs and looked about the machine until the emotions of the reunion were over.

At last Dr. James's voice reached them. He was on his feet now, unsteady but determined. "Gentlemen, I am delighted to meet you." He held out his hands in greeting. "Mr. Broadbent and Mr. Mason, of course?"

"Well, yes, doctor, but——" Bart looked puzzled, recalling that the girl had not so far mentioned their names. "How did you know? Our names, I mean?"

"From Ansid Rawl and his fellow radio-brains," James smiled, glancing towards the window; then he gave a sharp frown. "Just a minute!" he exclaimed. "Something seems to be wrong with our friends out there. We'd better go and see."

Bart took a hurried glance through the window and was just quick enough to notice that Ansid Rawl and his quaint followers were still lying on the ground where the explosion from the volcano had flattened them, nor were they making any effort to rise. Except Rawl himself. By the time the anxious quartet had reached him, coughing now in the acrid fumes from the increasing fury of the eruption, he was almost on his feet, but he soon fell back again.

"Rawl, what's the matter?" Bart asked quickly, lifting the bearded little man's head. "Are you ill?"

The strange creature tried to smile, then choked over his words. "Pa-parting is such sweet sorrow," he whispered. "Undertaking estimates g-given. Write for—my prospectus." That was all he said, and then he relaxed.

"Apparently," Bart said quietly, "that's that! The shock produced by that volcano seems to have wiped out the lot of them. And that's a pity. They were about the most unique set of people I've ever met."

"The degenerated survivors of a mighty race," Dr. James remarked, shaking his head sadly. "It's tragic to think that great intelligence can go so far downhill."

"Meaning what, sir?" Bart asked, standing erect again. "In fact, if it comes to that, there's a whole flock of things which need explaining, particularly about you."

"Yes indeed." Dr. James glanced quickly about him. "But this is hardly the time or the place. From the look of that volcano we'll be in trouble before long. We'd better get to safety. Your machine's in the jungle, isn't it?"

"Yes," Bart admitted. "But—how did you know? Anyway, it's lost. We got caught in a forest fire and had to run for it. We'll have to use your vessel, I'm thinking."

"That isn't possible, unfortunately. My machine has a fault in the jet tube and it means it certainly won't rise from the ground!"

"Then what do we do?" Ray asked anxiously. "From the look of things the eruption is becoming worse and just to go to your machine and hide in it, Dr. James, wouldn't do any good. We might find ourselves overwhelmed by a lava flood at any moment."

Dr. James thought quickly, Rita hanging onto his arm. She did not appear in the least concerned about the situation. The fact that she had found her father seemed to be the only thing that mattered.

"It's that waterfall which is holding us up," Bart explained. "We've got to get up it somehow in order to find our way back to the Express, and judging from what Rawl told us I don't think there's a way."

"On the contrary," Dr. James said, "there is a chance, even though it is a slim one. At least it might afford us protection from this ash and lava which seems to be falling with increasing regularity. Come with me—— Oh, are you sure you two gentlemen can manage with your feet like that?"

"That depends on what sort of ground we're going to cover," Bart replied ruefully.

"Very rough ground, I'm afraid, and climbing will be involved, too. We've two hundred feet to ascend to get to the jungle level, remember. Anyway, since we're going to the waterfall we can get two pairs of spare boots out of my machine whilst we are there. Now let us hurry."

No further time was wasted. Spots of lava were falling with unpleasant frequency, either exploding dully in the dust or else falling on the almost bare skin of the running quartet, burning them viciously. Smoke, too, was blanketing the valley, making it difficult to see the way.

"Say," Ray murmured, as he caught up with Bart, Dr. James and Rita hurrying on ahead, "he's got a terrific amount of vigour for a man who's supposed to be dying from radium poisoning, hasn't he? Look at the rate he runs at! He might be only twenty-five! Sure he is Dr. James?"

"I'm not," Bart answered, "but I don't see how Rita could possibly be mistaken in her own father."

"Mmmm, I suppose not. The old boy's sure got a lot to explain."

By the time the lopsided space machine had been reached the volcano was exploding with shattering violence. What diffused daylight there was was commencing to dim before the density of smoke rolling across the sky, and into the valley there was descending an ever-thickening deluge of cinders and white-hot ash. Dr. James considered this grim scene as he paused at the airlock of his machine. "On second thoughts," he said, "I don't think we had better risk our waterfall ascent just yet. We shall have to risk staying here for shelter. There are two miles to go in the open before we can get to the inner pass which leads under the waterfall and so, by underground passages, to the upper plateau. Daren't risk it in this. If that volcano blows to pieces, as could happen, we'd be wiped out. Come along inside and let's make the best of it."

There seemed to be nothing else for it so the four edged their way into the control-room and closed the airlock. Dr. James switched on the emergency lighting and then went across to a locker from which he produced two pairs of heavy lace-up boots.

"There you are, gentlemen." He handed them over. "And whilst we are hamstrung for the moment I may as well explain a few things. Rita, you might do worse than fix up a meal for all of us. Plenty of provisions in the storehold there."

"Right away, dad," she answered promptly. Then, whilst she set out the meal and Bart and Ray struggled into their boots, casting a glance now and again at the grim, darkening scene

outside, Dr. James made matters a little clearer. “The change of events came for me,” he said, “when Rita, who was guiding this vessel from the Moon by radio, suddenly ceased to exercise control——”

“Which was my fault,” Bart said. “I didn’t quite realise what was going on and I had a particular mission of my own to fulfil.”

“Yes, I know.” There was a touch of dryness in Dr. James’s voice. “You had the total eclipse of the Sun to televise back to Earth—and later the X-ray of the cities within the Moon. That was a magnificent feat of science, Mr. Broadbent.”

“Thank you, sir,” Bart said. “Considering I let you down, literally, that’s a very handsome thing to say.”

“In ‘letting me down’, as you term it, you also showed me the way back to health and vigour, and no man can be too grateful for that. However, let me keep my story in order. I had converted my switchboard for radio control, just as I had told Rita in my communications with her, chiefly because I was then too ill to trust myself to control the machine. I had been lifted perhaps two thousand miles from the surface of the Moon when the control failed. Naturally I began to drop back. But, fortunately for me, I was not then unconscious even though I had expected to be. The reason was to be found in the smaller pull the Moon exerts in comparison to Earth, inertia drag being reduced by a sixth. So, when the guidance failed me, I had sufficient strength to get the situation in hand. As you will see I was not foolish enough to sacrifice entirely all the switches to remote control: I made them so that in an emergency an immediate cut-out could operate and permit of manual manipulation.”

Bart looked towards the switchboard in the bright roof light and then nodded. He, Ray, and Dr. James moved towards the table as the girl motioned to the meal she had set out.

“Then what happened?” Rita asked earnestly.

“I found that in my journey into space I had moved a long way from the path I had expected—and also, of course, the Moon had moved on in her orbit. She was to one side, whilst directly below me, though at a far greater distance, was the planetoid always behind the Moon. Having never been there and finding myself in a direct line with it, I decided I might as well avail myself of the opportunity to land there. In any case, I reasoned, it could not be any more inhospitable than the Moon. So on this planetoid I landed, quite safely, to find myself almost immediately in the kindly hands of Ansid Rawl and his strange followers.”

In the pause whilst Dr. James considered what he should say next three tremendous concussions outside reminded the quartet that the eruption was still in progress, and from the look of things outside the window becoming worse.

“You may imagine my surprise,” Dr. James continued, “on discovering, within no more than two hours of my arrival on this planet, that all traces of radium poisoning had completely left me! The burns which had been on my skin, and the severe inroads which had been made on my internal organs, were all absent. Being a scientist I looked for causes and discovered that this planetoid emits three vital radiations, all of them quite natural. One of them is ultra-violet——”

“Accounting for our tremendous sunburn,” Bart smiled.

“Exactly so. The other two are unknown in Earth physics. I think they are basically connected with radio-activity, but the fact remains that they produce an amazing beneficent effect on the body. In time I’ll analyse exactly what the wave-length is, and what it does. For the moment let us be satisfied with the fact that, if we ever get back to Earth, we shall suggest

to the authorities that this planetoid be used solely for the ailing of the community, by which they can recover complete health.

"However, my surprises were not over. From Ansid Rawl I learned exactly what was happening aboard your Eclipse Express because he and his fellows were able to hear—by natural processes—the exchanges of communication you made with Dr. Murchinson. I resolved to set off into space and meet you immediately, but this was not as simple as I had expected. Examination of my projectile showed me that the exhaust tubes had been somewhat damaged on my arrival and that I would have to stay for awhile and straighten them out. I got Rawl and his friends to help me and, being also their guest, it was at this time that I learned of his ancestry and his reason for being on this planetoid."

Dr. James paused again whilst he consumed some of his meal. He was so absorbed in his narrative that he seemed to have completely forgotten the midnight blackness which had descended outside, painted here and there with the flickering red of advancing fire.

"Rawl was not an easy person with whom to converse," James continued. "His queer way of talking was the direct outcome of listening to Earth broadcasts, but at least it did enable him to speak to me in my own tongue. To cut a long story short it appears that the Selenites had to desert the Moon in a hurry because in the course of its life it reached a mutation—and worlds do mutate, you know, as do living beings and some metals—and its arrival at this point caused the intense radio-activity which, thousands of years later, affected me upon my arrival. There was not even time to uproot some of the mighty scientific engines in the depths of the Moon. Get out! Nothing else mattered. So in their space projectiles the Selenites fled for their lives, out to the planetoid so near to them.

"But, and this is the vital point, the radiations which did me so much good wreaked irreparable harm on the constitution of the Selenites, it being a true fact that no two creatures of different worlds are alike. The radiations caused them, almost before they had realised it, to lose their towering intellects and apathy set in. The science they had started to spread on this planetoid died. They sank back quickly to the level of children, retaining only one gift—that of being able to detect and interpret radio and electronic waves without any equipment. Such is the story of the Selenites, and Ansid Rawl and his followers were the last surviving members. Now even they are dead, so the Moon race may be truly said to be extinct. That will not stop us retrieving the wondrous secrets they left within the Moon."

"And then you departed into space after making a rather ambiguous reference to the Appointed Ones?" Bart asked.

Dr. James gave a faint smile. "Consider the intellect of Rawl and his people," he said. "It was of no use my explaining that I intended flying into space and, that if by some mischance I failed to encounter you, and you happened to land here, would he tell you what had happened. I knew he would not grasp such a situation as that. To keep him on the alert I built up a story of wondrous beings who might come searching for me: that, I knew, would keep him on his toes. Of course, I didn't know that you would come here, but judging from your radio reports to Dr. Murchinson you evidently intended doing so, so in case I failed to contact you that was the message I left behind."

"And the forest fire drove us down here," Ray said, spreading his hands. "Blessing in disguise evidently."

"Truly," Dr. James agreed, "but even if you hadn't have come down here and so contacted Rawl and his followers he would undoubtedly have made some effort to contact you. He knew his way about this planet intimately, which is how I learned of a way back up the waterfall."

“Then why did he tell us there was no way?” Bart demanded. “He made some reference to ‘Happy the man whatever his lot——’ and that was that.”

“He probably wanted to keep all three of you close beside him, convinced in his child-like way that you could perhaps dispense some kind of beneficence. However, I set off into space as I had planned, not at all sure of my jet tube repair, then when I was half way between this planetoid and the Moon I saw your vessel as a dimly visible speck in the infinite. I tried radio signalling but solar static jammed it, so the only thing to do was turn about and follow you to the planetoid here. My radar screen kept complete track of your vessel, but when I finally located it I found it deserted amidst the ashes of a forest fire. At first I had the horrible fear that you had perhaps been burned to death inside the ship, so I descended to make sure. I found the airlock open, so evidently you were around somewhere, unless the fire had indeed trapped you. I decided to ask Rawl if he had seen anything of you, and the rest you know. The only misfortune in the whole business is that my faulty underjet set that volcano going—and from the look of things through this window the eruption’s pretty bad.”

CHAPTER SEVEN

His narrative over, Dr. James moved quickly to the window and peered outside, Ray, Rita, and Bart looking over his shoulders. The non-reflecting glass gave no image of the lighted control-room in which they stood, only a perfectly clear-cut view of the chaos reigning outside. The floor of the valley appeared to be peppered with red glowing points, chiefly hot cinders, and over the entire area hung densely fuming smoke. By this time, presumably, Rawl and the last of the Selenites had found their unexpected crematorium.

"I promised Dr. Murchinson a television view of this planetoid and its inhabitants," Bart sighed. "I hope he isn't still waiting because I'm afraid he is going to be unlucky."

"And so are we unless we move fast," said Dr. James. "I'm afraid we're going to have to take a chance and try and reach your vessel, gentlemen. This one of mine is quite useless since it only operates by rocket recoil: it hasn't even got air wings as yours has. The eruption will be more or less local, I expect. Once we can get beyond its area we're safe. Are you willing to take the chance?"

"Willing, yes," Bart agreed, after a glance at Rita and Ray, "but is it the best course? Surely the eruption will die down before long—at least for a time—and give us a chance to get free."

"And if it doesn't?" Dr. James gave a grim glance. "The possibility of this vessel becoming submerged under a flow of lava becomes a very real one—— No, we'd better take a chance right away."

His mind made up he unfastened the airlock and then stood coughing for a while at the surge of evil-smelling vapours which billowed around him. They were not so thick, however, that breathing was impossible. Now and again came patches of clear air. "Ready?" he asked, glancing over his shoulder. "Hang onto me."

Rita gripped his arm and, in turn, Bart seized hold of her hand, Ray coming last in the chain. So they stepped out into the murk, each one of them coughing heavily as they strove to get fresh air into their lungs.

"As far as the waterfall's direction is concerned we'll have to be guided by its noise," Dr. James shouted. "We can just about hear it over the din of the volcano."

In this he was correct, though it was sometimes difficult amidst the concussions exploding from the hidden crater. Now and again splashes of white hot lava descended from the reeking pall above and one or other of the party gave a sharp yelp as the skin was burned.

That Dr. James was completely restored to health was no longer in doubt, judging from the speed at which he travelled. Bart, Rita, and Ray stumbled over loose rocks and stones in his wake, hearing the din of the waterfall coming ever nearer. Then, unexpectedly, they were almost upon it. A drift of the wind drove the dense smoke clouds to one side for a moment and the waterfall was momentarily visible, plunging into the fast-moving river upon the bank of which they now stood.

"We swim this," Dr. James said. "At all costs don't let yourself be swept away by the current otherwise you'll be carried right into the heart of the eruption and that will be the finish. Now, are you ready? Straight across to the opposite bank at the waterfall base."

With that he plunged into the water and swam vigorously with Rita close behind him. Here, Bart and Ray noticed, the conditions were somewhat better than on the land since the

falling cinders were instantly extinguished and any hit from a splash of lava was most unlikely. The biggest problem of all was the current, but by exerting all their strength they succeeded in swimming broadside to it and finally had the shingle under their feet as they stumbled out.

"All right up to now," Dr. James panted, flattening back his soaking hair. "Now, as far as I can remember it from description this is the way we go."

He led the way up the stony beach. It was easier here to see the way since the wind drift still continued and blew the smoke of the active crater away towards the valley instead of towards the waterfall. So, finally, they gained the rocks which formed the cliff over which the waterfall was plunging. After several minutes of searching Dr. James came upon a narrow cleavage in the rocks and forced himself through it. It led into a dark and not very wide tunnel.

"This is it," he explained, as the others crowded in behind him. "The route used by Rawl and his followers when they wished to visit regions beyond the valley. It leads—or should lead—upwards to the plateau. If it doesn't we'll have to try climbing the cliff escarpment and that certainly wouldn't be any picnic."

His fears were not realised, however. The tunnel continued in total darkness for several yards and then, from the feel of it, took a decided upwards turn. Presently the four were clambering upwards steadily, the uncertainty of the darkness mitigated by the fact that the lesser gravity made their upward labouring easy.

Just how long they were in making the ascent they did not know, but at length warm air began to blow around them, proving an opening to the surface was not far away. At last they came to it, a mere star in the blackness to begin with, growing larger as they raced towards it until, thankfully, they emerged into the forest region, its densely-packed foliage illuminated with that evasive pearly-grey light.

"Done it!" Bart exclaimed in satisfaction then he added in surprise, "And the forest is still standing! I expected to find it in ashes."

Dr. James shook his head. "Hardly, Mr. Broadbent. No matter how great a forest fire becomes there is always something left. Nothing short of a titanic holocaust could wipe out an entire forest area. Let us be thankful for the fact that the area containing your vessel was burned down; had it not been we might never have found our way to it again. As it is we have merely to start looking when we reach the devastated area."

So they began moving again and, in about an hour, they emerged unexpectedly from the jungle to find a huge, blistered waste ahead of them, most of it still smoking from the fire which had raged over it. Bart came to a stop, looking slowly about him, then he pointed sharply. "There she is!" he cried. "See it? That grey pencil in the blackness? Come on!"

The thought of once again being aboard their one link with home was enough to lend them wings. They picked their way as rapidly as possible through the burned area, leaping the parts which were still smoking, and so finally gained the friendly side of the vessel, its airlock open just as it had been left.

"Apparently no serious damage done," Bart commented, making a swift survey of the machine. "Hardly to be expected since it is made to stand the most rigorous conditions. Okay, let's get inside."

Rita led the way with her father close behind her. He surveyed the interior of the vessel and smiled admiringly. "From the look of this, Mr. Broadbent," he said, "it should not be long before regular space travel is an accepted thing. You have embodied a lot of improvements in this machine which I could have done with in my own vessel."

"In fact, between you," Rita said proudly, "you have probably established the James-Broadbent Space Line. I don't see how any Earth government can take exception to such a proposition."

"Talking of Earth," Ray remarked, "wouldn't it be a good idea to try and contact Dr. Murchinson and put him out of his misery? He must be wondering what's happened to us all this time."

"And this," Rita said, rubbing her hands, "is where we get our own back! They can hardly disprove now that you are alive, can they, dad?"

"Hardly," he smiled, watching Ray at work on the radio.

There was an interval whilst the apparatus warmed up and the carrier-wave was adjusted to reach Earth, then Ray spoke into the microphone. "Eclipse Express calling from lunar planetoid. Come in, please. Calling Dr. Murchinson."

An interval, the hum of power in the speaker, then came the recognisable tones of Murchinson and they sounded incredibly weary.

"Murchinson answering. Where the devil have you been? I have had to stand by during this long interval. Put Mr. Broadbent on right away."

Bart moved to the microphone. "Wouldn't you rather hear Dr. James than me, sir?" he asked. "He's right beside me and can do all the explaining."

Just what Murchinson's reaction was at the other end was not known for Dr. James began to speak before an answer was received. He spoke for nearly ten minutes nonstop, and in that time covered the entire ground of his experiences. When he had finished there was the usual pause as the spacial gap was hurdled, then Murchinson's unreal, faraway voice floated through.

"In the name of science, Dr. James, we salute you for the amazing thing you have accomplished. Every scientist will honour you upon your return to Earth, and it shall be set on record that this planetoid behind the Moon, which you believe will be so beneficial in restoring health to some ailing members of humanity shall be called the James Satellite, in honour of your name. We ask only one thing now—television views of this planetoid which every scientist can observe. Can that be arranged?"

Dr. James gave Bart a questioning look. He nodded. "Very well," Dr. James said. "Stand by to receive."

Bart turned to the television equipment and checked it over, then he gave Ray a glance. "You pilot the machine, Ray: I'll do the televising. I only hope the image reaches Earth."

"No reason why it shouldn't," Dr. James commented. "Not with intense clearness, perhaps, but good enough to get by."

Ray settled himself at the control board and switched on the power, then using the normal flying equipment he lifted the machine over the burned-out waste, rose to a thousand feet, and then headed forward. Bart moved the televisor camera so that its ubiquitous eye was trained on the view below, the lens automatically moving with the special section of outer plate. When at length the first phases of the transmission had reached Earth there floated from the speaker Dr. Murchinson's delighted voice. "Excellent! Excellent! An ideal planetoid for colonisation. As you have said, Dr. James, we can build many sanatoria there and take a big step forward in the ceaseless battle against disease—— What is that? A volcano?"

"In eruption," Dr. James answered. "The one of which I told you. It may just be possible for you to get a fleeting glimpse of the last of the Selenites if their bodies have not been destroyed by lava flow. See what Mr. Mason can do with the Express."

Ray did quite a lot as it happened. Having the complete "feel" of the machine he swept it downwards through the smoke and fumes and, for a moment or two, there were clear visions of several of the dead followers of Rawl. The others, including Rawl himself, had been buried under the slowly surging lava. Then Ray swept the machine upwards again and kept on going, this time over territory which was completely unexplored since it lay on the other side of the valley away from the waterfall.

"Ever been this way, sir?" he asked Dr. James, keeping a watchful eye on the radar screen as volcanic smoke still hid the view outside at intervals.

"No. My activities were entirely confined to the valley. I shall be interested to see what else this planetoid contains."

So indeed were Rita and Bart. They stood together at the main window, looking out over the clearing scene as the region of the eruption was left behind. Noticing Bart's arm firmly about the girl's waist Dr. James smiled a little to himself and wisely selected one of the opposite windows through which to view the panorama below.

At the moment there was nothing remarkable, only jungle broken here and there by those queer lodestone areas. After a while jungle country was left behind and it became obvious that they were crossing a plateau which, from its very smoothness, had evidently been created by scientific means.

"What's that, do you think?" Ray asked sharply, after a while, peering ahead.

Dr. James, Rita, and Bart had already noticed the thing which had attracted his attention. At the moment it was a considerable distance away and looked like a range of low-built hills, but as the flyer hurtled on it slowly became evident that the "hills" were buildings, massive edifices, some of them eroded and crumbling with decay, their metallic surfaces defaced with the ravages of time and climate.

"A city!" Dr. James cried in delight. "And why not? Rawl spoke of the civilisation his people had tried to create before devolution struck them down, but I had far too much on my mind when he told me to trouble investigating further. Land if you can, Mr. Mason. The city may prove of exceptional interest and value. You can continue televising, Mr. Broadbent?"

"Surely—as far as the external view of the city is concerned, but if we go inside any of the buildings there'll be no television. Light will be too bad for one thing."

Evidently Dr. Murchinson had caught most of the conversation through the microphone for his voice came floating through. "You are certainly proving that planetoid to be a most extraordinary and instructive place, my friends. Please examine the city and report back on its contents."

Before he actually descended, however, Ray kept the machine circling at five hundred feet so that a good view of the buildings could be transmitted back to Earth. In design they were exceptionally massive, and every one of metal, but it looked as though some of them had been abandoned before completion, or else the climatic conditions of the planetoid had destroyed them very rapidly. Otherwise there were signs of intelligent order everywhere. Streets, square, terraces—they were all there, as also were interconnecting bridges across the streets which could only be pedestrian or traffic levels. It seemed a fantastic sacrilege that such a magnificent layout should be going to rack and ruin.

"Yes, they're definitely lunar design," Dr. James said, peering downwards. "The edifices are practically identical to those I beheld in the Moon's underworld."

"And surprisingly similar to Earth buildings," came the voice of Dr. Murchinson. "We have seen all we need to see on Earth here, friends. Why not explore further?"

Dr. James gave the signal and Ray ceased his circling, bringing the Express down smoothly to the great central square. Then he cut off the power-plant as Bart also switched off the televisor.

"Now, let's see what we can find!" Dr. James was full of obvious enthusiasm. "I hope it won't be just empty shells."

He opened the airlock and stepped outside with the others close beside him. Now they were actually in the city they could gather some idea of its colossal size. There was hardly a building which did not soar up to three hundred feet and more, its facade studded with glassless windows.

"Nowhere particular where we can start," Bart remarked at length. "Unless you've other ideas, doctor, I'd suggest we begin with that enormous building opposite—on the other side of the square there. It looks promising."

Since Dr. James did not dissent they all crossed to it, entering through the crumbling doorway. In a moment they stopped moving, hushed by the immensity of everything and the silent testimony to departed scientific genius which lay within.

The mighty hall was clearly visible in the drab pearly light filtering through the big windows. It cast upon a wilderness of motionless machines, all of them thickly covered with age-old dust. Up into the roof, looking like thick ropes by reason of the dirt which clung to them, snaked endless wiring circuits, all of them disappearing through a vent in the lofty ceiling.

"Must be more machines on the second floor," Bart remarked. "Maybe we should look?"

They did—on floor after floor—until they came finally to the flat roof overlooking the city.

"Apparently," Dr. James said, "we have come upon the main powerhouse of the city, only it was never used. All the vast intentions of the Selenites were destroyed by this planetoid's peculiarities; but at least let us thank the Fates that we came across this legacy of superb knowledge. Though many of the machines we've seen baffle me at present, others did make sense. I saw one obviously intended for drawing power direct from the Sun and storing it, another for disseminating atomic force as simply as we on Earth disseminate radio and television waves. There were also machines for making clothing and food out of the very atmosphere itself—— Oh, a host of things too wonderful to describe and which we, of Earth, as the discoverers, must take over. We can vastly enrich our scientific knowledge, and—what is more—the necessity for penetrating into the Moon with its dangerous radio-activity is now eliminated. This planetoid is definitely the greatest treasure trove that ever was."

"It seems queer to me," Rita remarked, "that with the vast knowledge they possessed the Selenites didn't find some way to defeat the fate which they knew was overtaking them. Surely the radiations of this planetoid didn't operate upon them so swiftly that they hadn't time to consider the problem?"

"It is more than possible that that is exactly what did happen," her father answered her. "For instance, when we landed here we were sunburned with ultra violet before it had even dawned upon us that it existed."

"Maybe so," Bart said, taking up the subject, "but these Selenites must have had time to build these edifices—no mean feat—before anything happened."

"It might have been," Dr. James replied, thinking, "that they did grasp what was happening but were not able to devise a means of counteracting the trouble before it overcame them. It is one thing to know that something, a radiation, is affecting you, but it is decidedly

another to work out quickly a neutralisation against it. However, the why and wherefore no longer signifies. The Selenites are dead and we, in the name of Earth, shall take over their heritage and put it to good use. Providing, of course, we can understand one half of it. And now we'd better be returning to the Express and let Dr. Murchinson know what we have found."

Just the same they lingered on their way down through the great halls, drawn by the scientific fascination of it all—and it was on the ground floor that Dr. James, ahead of the others and exploring a region so far unexamined, found something which completely absorbed his attention. Rita, Bart, and Ray waited for a moment or two for him to catch them up, then as it appeared that he had apparently forgotten their very existence they crossed to his side—and, like him, they became muted with amazement at the sight before them.

Dr. James was standing before a sheet of immensely thick glass let into the metal wall in the fashion of a panel, and to judge from the sockets in which it was embedded it was completely air-tight. Beyond the partition, faintly lit by diffused light—probably daylight cunningly contrived—was some kind of dormitory. At least it looked like that. There were forty-eight trestles, twenty-four on each side of the hall, and upon them reposed silent figures very much like Earthlings in outline except that their stature appeared shorter and their heads were far more developed. Far away in the distance, so uncertain it was almost an illusion, loomed complicated machinery which resembled pumping apparatus.

"Selenites?" Bart's voice was a whisper as he asked the question. It was as though he were afraid of waking them up.

"Yes—Selenites," Dr. James answered, a touch of dismay in his voice. "I am afraid we have been assuming too much. Ansid Rawl and his followers were not the last of the race. He and his friends must have been just a portion of it who were completely unaware of what had happened to the rest of their fellows. Now we know. They are here, apparently in the sleep of suspended animation."

"But to what purpose?" Rita asked in surprise. "It won't make the least difference to them when they wake up, will it? I mean, the conditions around them will still be the same. They will still have that mysterious radiation to deal with which caused their devolution."

"That depends," her father answered, obviously worried. "When they put themselves to sleep like this they may have known exactly how long it would be before the mysterious radiation ceased to function. Such a time will surely come. That being so perhaps they timed themselves to awaken when there could no longer be any danger."

"That could be to-morrow, or tens of thousands of years hence," Bart remarked.

"Exactly." Dr. James tightened his lips. "This is a most disquietening discovery! Our intention to take over all the Selenite science cannot now be carried out because if these creatures awakened to discover their secrets stolen there would be terrific repercussions."

There was silence for a moment, the silence of dismay—then Ray spoke. "There's one thing I don't quite understand. Isn't the radiation working on them whether they are asleep or not? They can't avoid its action by just becoming insensible, surely?"

"They can," Dr. James answered with conviction. "Suspended animation should not be confused with ordinary sleep or anaesthesia, Mr. Mason. It is a condition in which not only the bodily reactions are frozen—or at least reduced to such a low molecular reaction that it is almost death—but also the processes of the brain. Therefore a radiation cannot act upon a dormant brain as upon a live one. Much in the same way as you are unaware of a light trained

on your face when asleep. No, I fancy these Selenites have everything thoroughly determined and know exactly what they are doing."

"And because of them we are to lose a priceless heritage of science!" Rita exclaimed. "Dad, it's unthinkable!"

"There is also another side to it," Bart commented. "How do we know but what these Selenites—when they revive—will stick in their own backyard? With the kind of apparatus they seem to have they could very easily subject the entire Earth if they were so minded. Because they haven't bothered us up to now doesn't say they'll stay that way, particularly when they discover we have learned how to travel space, as discover it they will."

Dr. James gave a little shrug and looked at the troubled faces around him. "All these arguments in favour of ourselves are not the slightest bit of use," he said. "If we took away the secrets of Selenite science, knowing as we do that the real owners and inventors of it are only sleeping, we'd be little better than interplanetary thieves, and I, at least, refuse to have such a thing on my conscience——"

"Have you also considered something else?" Ray broke in. "We can't use this planetoid for curative purposes, either. If the Selenites woke up to find our sanatoria scattered around the place they'd probably resent it."

"Probably so," Dr. James agreed. "So the only answer is to call this planetoid the James Satellite and let it go at that. Exasperating, I know—but inevitable. Come, let us get back to the Express."

He turned and Rita and Bart, gloomy-faced, followed him across the great hall. They had only covered perhaps half a dozen yards, however, before a sudden tremendous explosion and shattering of glass brought them to a halt. Twirling round in amazement they were just in time to see Ray staggering on his feet, cuts on his face from flying glass, his atom-pistol still clenched in his right hand. Immediately Bart hurtled back to him.

"What—what the devil happened?" Bart demanded, as Ray held his handkerchief to his face.

"The thing I wanted to happen!" There was obstinacy in Ray's eyes. "I fired at that glass and the third jet of my atom-gun shattered it. Then the air swooshed out. It must have been under pretty considerable pressure in there."

Dr. James came hurrying up. He took one look at Ray and then stared through the shattered partition. The forty-eight figures which had been there were crumbling mysteriously as though made of clay. The wind disturbances set up by the sudden escape of air pressure stirred the recumbent remains of the Selenites and they became dust, drifting towards the ceiling in a fine haze.

"Dissolution," Dr. James breathed. "That's what you have brought about, Mr. Mason! The sudden escape of air and the effect of change of pressure caused these creatures to catch up on the time they have been sleeping—all at one fell swoop. So they have dissolved—into dust!"

"And unless there are any more hidden somewhere that definitely is the end of the Selenite race," Ray said, his voice clearly indicating that he expected to be challenged. "Call it murder if you like—call it cosmic anarchy. It doesn't matter to me. I've got my own way of looking at the problem."

"So it would seem," Dr. James commented, turning to him. "I'd rather like to hear what prompted your extraordinary action."

"All right: it's logical enough. I reasoned that if these Selenites woke up they might raise hell for us at some uncertain time in the future, particularly if they knew we have space travel

and might at any time poach on their preserves. Why risk the most deadly war in history, why endanger millions of Earth lives, when one blast of the atom gun—three, as it happened—could stop the whole possibility in its tracks? Why should we forsake this wonderful planetoid with its curative properties, to say nothing of vast scientific knowledge, just because of these beings who might, or might not, wake up. They were asleep anyway so what difference could death make? That was my reasoning, Dr. James, and I'll stand by it even if you decide to haul me into the Scientific Court about it!"

Dr. James gave a grave smile. "Naturally, Mr. Mason, I shall not do that. You did the very thing which I was tempted to do myself, only you haven't my maturity which brings more caution. By your action, whether it was wrong or right, you have certainly removed a most complicated obstacle. Now, I think we had better look around and see if there are any more sleeping Selenites on this planetoid."

But apparently there were not. Though they spent many hours toothcombing the city, returning to the Express at intervals for a rest or a meal, they found no more traces of beings in suspended animation. Machinery, however, they found in plenty, and every machine different. The scientific knowledge of the departed ones appeared to have been without limit.

Still unsatisfied Dr. James insisted on a complete circuit of the planetoid in case there were other cities, but none became apparent. Finally they found themselves returning to the jungle area, and it was at this point that the voice of Dr. Murchinson came through. "Congratulations, my friends, on the television views you have secured. I have not followed them continuously in their original form due to the fact that I must rest sometime, but what you have projected has been cine-photographed for projection as often as need be. The scenes of the Selenite city on the James Satellite are particularly intriguing. Did you find any scientific equipment?"

"All that we could possibly wish for," Dr. James replied, taking over the microphone. "It will take Earth scientists many years, I imagine, to determine the exact nature of some of the apparatus we have discovered. I think, through this expedition, for which much of the credit must go to Mr. Broadbent and Mr. Mason, that we have succeeded in advancing Earth science by nearly a thousand years."

"Splendid! And did you find any signs of Selenite life, outside that of Ansid Rawl and his contemporaries?"

"None," Dr. James replied blandly. "And we are now returning to Earth where we can discuss everything face to face. For the time being, Dr. Murchinson, good-bye. We'll keep you advised as to progress."

Ray turned to the control switches as he received the signal and for the next few minutes the pull of inertia drag made itself felt as the Express hurtled from the planetoid into the depths of space. When the machine was well and truly on its course Ray turned a puzzled face to Dr. James. "Thanks, doc, for lying to support me," he said.

"Lying?" Dr. James gave a laugh. "I wasn't, Mr. Mason. The Selenites we saw and which you destroyed could hardly be called alive, could they?"

Ray grinned. "I see what you mean. Eh, Bart?"

Bart did not seem to be listening. He and Rita, close beside each other, were gazing out onto the fathomless immensities of space.

THE END

TRANSCRIBER NOTES

Numerous printer errors have been fixed.

[The end of *The Eclipse Express* by John Russell Fearn (as Vargo Statten)]