

OUTPOST
ON THE
MOON



Hugh Walters



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A Chris Godfrey of U.N.E.X.A. Adventure
Book 4 in the Series

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By the Same Author

**Blast-Off at 0300
Menace From The Moon
First On The Moon**

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“What’s your weight these days, Chris?”

Sir George Benson, the famous British rocket scientist, had been talking for about five minutes to his young friend Christopher Godfrey before he asked the question.

Chris—with his Cambridge science degree barely a week old—and Sir George had been firm friends for many years. The young man had been delighted that the scientist, who had been away at an important international conference, had taken this opportunity, so soon after his return, to come by with his congratulations. They hadn’t seen each other for several months, and Chris was anxious to have a long talk with his friend.

But behind “Uncle” George’s genuine pleasure, Chris thought Benson had seemed a little over hearty in his congratulations. Then out of the blue had come this inquiry about his weight.

“About 140 pounds,” Chris answered. “Why do you ask?”

It was some time before the scientist replied. He stood up and took a turn or two about the room, occasionally banging the fist of one hand into the palm of the other. Finally he stopped in front of his young friend and looked him squarely in the eyes.

“How do you feel about making another trip to the Moon?”

• • •

For a moment Chris wondered if he had heard correctly. Another trip to the Moon? Only two years before, Chris had actually made the fantastic journey, and had set foot upon that desolate, empty world. Had he been the first human to do so? He would never know, for at about the same time a young Russian, Serge Smyslov, had been sent on the same mission by the Soviet Union. Which of these two young men had been the first to land had been the subject of endless controversy, though in recent months they had agreed to call it a draw.

Memories of his previous adventures came crowding in on Chris. He recalled the mysterious activity he'd been sent to investigate—activity by some agency, apparently from outer space, which had resulted in Earth's being bombarded with harmful radiation. This had only been stopped by launching atomic rockets which had blasted certain strange structures on the lunar surface from which the radiation was coming. Chris's most recent voyage had been an attempt to discover the cause of radiation, and, with the help of the Russian, he had succeeded in bringing back to Earth a fragment of one of the mysterious domes from which it had come.

All this flashed through Chris's mind, together with certain incidents between Serge and himself which he preferred to forget. Now Uncle George was asking him if he'd like to face the perils of another journey into the unknown, another venture to Earth's satellite where, perhaps, the mysterious forces from another world still lurked.

“Why me?” he inquired. “What's in the wind now?”

Sir George chose his words carefully.

“I'll tell you as much as I can,” he began, “but you must understand there's still a great deal to be settled. It is still in the planning stage, and only the broad outlines have been laid down.

“The next expedition to the Moon is to be a joint East-West venture. As you know, the Russians and ourselves have finally recognized the plain common sense of working together on this.

“Briefly, Chris, what we hope to do now is to put a small expedition on the Moon. It will establish a base and try to discover all it can about the lunar surface and the best means of surviving on it. There will also be further explorations into the area containing the remains of those strange domes which threatened Earth with their terrible radiation. We want to obtain larger samples of them for study—and also more extensive observations on the deadly gray mist which you encountered before. We’re still far from understanding either phenomenon, and must have more specific information in order to proceed with our investigations. The expedition will remain on the Moon as long as it can, only returning when it has accomplished its task, or when its leader decides to call it off.”

“How many people are going, and who are they?” Chris asked avidly.

“Not more than three or four. That’s all we can ferry across and support yet. There’ll probably be a Briton, an American and a Russian. You could be the Briton. But I must warn you, Chris. Great risks will be involved.”

Chris’s heart was beating rapidly. A new expedition to the Moon! A lunar outpost! And Uncle George was asking him to go! Risks? Yes, of course there’d be risks. But what matter? He’d undertaken many before, and he’d do it again. He remembered the story of a racing driver who’d taken fantastic risks on some of the world’s most dangerous racing circuits. He’d survived, only to be run over and killed by a farm wagon in a quiet country lane. There were risks in everything one did—in crossing a road, in eating food even, in operations, in thunderstorms, in almost every sport. Another story he remembered was about an eccentric old lady who had such a mortal fear of the risks of everyday life that she spent her time lying in a bed of cotton wool, only to

be stifled by it one night in her sleep. Hang the risks. Of course he'd go!

"Who are the others who'll be going with me?" he asked.

"You'll go? I never doubted you would," smiled Sir George, a little sadly. He was very fond of his young friend.

"Well, your companions haven't been finally selected yet," the scientist went on, "but I think the odds are on your friend Smyslov and that young American, Kant."

"Serge and Morrey!" Chris exclaimed in delight. "That would be great, just great. I'm sure we'd team up well together."

"You and Serge didn't do too well last time, did you?" Benson grinned. "Sorry, Chris. I was only pulling your leg. We know now that the friction between you was caused by close confinement and weightlessness. We've been doing a lot of work on that problem recently."

"And you think it will be all right this time?"

"I hope so. You see, the possibility of trouble is considerably lessened by the presence of a third person. With four, five, or six people it would be reduced progressively."

"So for space travel 'the more, the merrier'?"

"That's about the size of it," Benson smiled.

"Is there any chance of someone else coming too?" Chris asked eagerly.

"I don't really know. You see, it's all a matter of weight. That's why I asked what yours is now. It's very doubtful whether we could squeeze another person in with you. Then again, every additional member of the expedition means a considerable increase in the freight load. Food, oxygen, equipment and so on," Sir George explained.

"Can't you tell me more about the plan?" the younger man demanded.

"I'd rather wait till a few more things have been settled,"

declared the scientist. “The great thing is—you’ll go. So now we can get ahead with our part of the plans.”

“Who’s going to run the show this time? Sir Leo Frayling?”

“Fraid so,” Sir George answered with a rueful smile. “He’s the best man for the job, you know, Chris.”

The young man grimaced. He had suffered before from the biting sarcasm of Frayling, but he was forced to admire his brilliant mind and administrative skill.

“Oh well,” Chris sighed, “as long as he pulls the job off, I suppose we can bear the rest.”

“We’ll have to,” Uncle George nodded.

• • •

Several days later, Sir George Benson again visited his young friend. Chris had been waiting impatiently for this second call. Having committed himself to the undertaking, he was impatient for activity. Since the scientist had left, Chris had been able to think of nothing but the venture ahead, and his mind was full of dreams and speculations about this ambitious new effort to probe the universe.

Benson had hardly seated himself in Chris’s room before the young man was firing eager questions at him.

“Steady, Chris,” laughed Uncle George. “Give me time to get my breath. I’ll tell you everything just as soon as you give me a chance.”

“Sorry,” Chris apologized, “I’m all worked up over this.”

“I know, but just calm down for a few minutes while I give you the information I have. The first item, I’m sure, will please you very much. Your companions will definitely be Serge Smyslov and Morrey Kant.”

Chris beamed. He had been a close friend of the other two ever since his last adventure into space had brought them together. Yet Kant, the American, and Smyslov, the Russian, had never met each other, and it was Chris who had formed

the link between.

“Do they know all about it too?” he asked. “Do they know I’m going?”

“Yes, they know just what you do and we’re planning to bring the three of you together within the next week so that you can start your training.”

“Has the date been fixed yet?”

“Not exactly. It’s now the end of August, and about the middle of November is the most likely choice. That’ll give you two and a half months to get into shape. There’ll be a great deal to do, new equipment to test, new procedures to be worked out, and—above all—you’ve got to get to know each other perfectly. “Oh, we don’t think there’ll be any trouble between you,” Benson went on hastily, “but we’ve got to be absolutely sure. Psychological preparation is going to be just as important in space travel as physical preparation. You’ve got to be a very close team.”

“Where are we going to do our training?” Chris asked.

“Farnborough, most of it, though the Russians want you to have a taste of something they’ve cooked up for you, so you’ll probably be spending some time in the Soviet Union. Anyway, your basic training will be the same as before. This time, though, you’ll all be together until you act and think as one. Your friends will be coming to London in about five days’ time, September 2nd I think it is, and you can stay here till then to clear up all your things.”

“Five days!” Chris exclaimed in dismay. “But my bags and things are all packed! Can’t I go back with you now?”

“‘Fraid not,” the scientist sighed. “I’m right up to my neck with all the preparations, and I don’t know where I’ll be from one day to the next. Tell you what, though. How about spending a few days with old Whiskers? He’d be delighted to see you, I’m sure.”

Chris’s face lit up. Second only to Sir George, Wing Commander Greatrex—that boisterous R.A.F. officer with

the famous moustache—was his best friend. Yes, he'd love to go and see old Whiskers again, pay his respects to Mrs. Greatrex, and play with the Wing Commander's two growing sons.

"Yes, I'll do that, Uncle George. I'd go off my rocker staying here alone for five more days."

"Get a grip on yourself, young fellow," Benson said with mock severity. "You'll have to control yourself much better than that if you're going to the Moon."

"Sorry, Uncle George, but everything around here seems so tame now that I know what lies ahead."

"Then get off to old Whiskers. And give my love to Sylvia too. I must be getting along now, but I'll arrange for you to be picked up at the Greatrex home early on the second."

The two shook hands affectionately; Chris watched his friend call a taxi and drive off around the end of the road.

Now that Sir George had gone he could not bear to hang around a moment longer. Within ten minutes he was on his way and a couple of hours later he was talking excitedly to the Wing Commander and his wife. Whiskers listened enviously to Chris's enthusiastic account of the new adventure he was to undertake, and Chris sensed rightly—that his friend would give much to be taking part. After all, why not? Whiskers was a sound man, very knowledgeable, and with the courage of a lion. Surely he could be of some help in the tremendous work that lay ahead! He'd have to put in a word or two with Uncle George and see if something couldn't be arranged. Sylvia, too, knew exactly what her husband was thinking, for she was well aware that he barely tolerated the "office" job he had in the Air Force. Well, if he wanted to break loose again and join up with another of the space adventures, then let him. After all, it was really through one of these escapades that she'd met this great overgrown boy.

Chris kept his resolve to himself, for he didn't want to raise his friends' hopes until he'd sounded out Uncle George.

It would be too cruel to tell him about it and then for Sir Leo Frayling to veto it. Better try and get it fixed up first and tell Whiskers afterward. He had no doubt about what the Wing Commander's reaction would be.

Sylvia Greatrex had been delighted when Chris had dropped in on them. She always had a spare bed waiting for him, so Chris had no qualms about upsetting the family routine. He'd played with the two little boys, talked endlessly with his friends, and now he'd come up to the bedroom he'd used many times before. Before undressing he sat down and wrote a long letter to Sir George Benson, using all the arguments he could think of in favor of Whiskers being seconded to assist with the new venture. He knew that the scientist would have to pass on his letter to his chief. It was with, perhaps, a touch of genius that Chris phrased the end of his letter so that it conveyed the impression he might be unwilling to undertake the adventure himself unless he had the moral support of the Wing Commander. He mailed it secretly the next morning.

Three days later, on September 1st to be exact, a telegram arrived at the Greatrex home as Chris was having breakfast with the family. The Wing Commander was relieved of his normal duties for the next three months, was to join Sir Leo Frayling's staff, and was to proceed to Farnborough with Godfrey the next day!

No Indian brave could have bettered the blood-curdling whoops of delight that rose from the throat of the flushed and happy Whiskers as he read his orders. Sylvia gave a resigned little smile at the antics of her husband, and then Chris felt himself growing red under her knowing stare.



“**M**orrey, this is Serge. Serge, I want you to meet Morrey.”

The three young men were meeting for the first time in a comfortable lounge at the Headquarters Building at Farnborough. Chris’s two friends shook hands and looked at each other with friendly curiosity.

Morrison Kant, the young American, had crew-cut hair and a wide grin. His healthy, tanned face crinkled with good humor. He was tall, had broad shoulders and looked as though he was a good football player. Serge Smyslov, the Russian representative, was dark, serious looking, with high cheekbones and a round head. He was very conscious that he was representing the Soviet Union, and anxious to acquit himself well alongside his western companions. He laughed much less frequently than Morrey or Chris, but sometimes his brown eyes twinkled with amusement.

In the room with the three were high-ranking officers and leading scientists of Britain, Russia and the United States. By design they were leaving the three young people very much on their own so that they could become acquainted. While the older ones talked shop, Chris and his companions went and sat together in a corner. Somehow, Chris felt it was up to him to help knit the three of them into a team, for on their mutual trust and cooperation the lives of all might depend.

“You’re going to get your chance now, Morrey,” Chris smiled to the American as they sank into their chairs. “You know, Serge, if he hadn’t broken an ankle in a riding accident, Morrey would have made that last trip to the Moon instead of me.”

“I hope your ankle is well again now,” Serge said politely in his careful English.

“Sure is,” the American grinned. “Stronger than ever if I don’t pull some fool trick again.”

“We’ll have to keep you off horses,” Chris chuckled. “You know, Serge, you’re speaking English very well. You must have been studying hard since I saw you last.”

The Russian gave one of his rare smiles. “Yes, but I have enjoyed it so much,” he said. “Chris gave me my first lessons,” he went on, turning to Morrey.

“Yes, and you started me off on Russian,” the Britisher retorted, “though I’m afraid I’m not as good as you.”

“Hey! Can you speak Russian?” Morrey demanded.

“A little,” Chris laughed, “but don’t worry. It’s strictly all English on this voyage.”

Gradually, as they talked, the strangeness wore off. Each was determined to get on well with the others. For Chris, knowing both his companions already, this was not difficult, but for Serge and Morrey—with their widely differing backgrounds—it wasn’t easy at first. Chris felt that his two companions—products of opposing political systems—were sizing each other up. Yet, deep down, both young men were fundamentally alike: excited by the adventure ahead—and perhaps a little afraid.

“We’d better go and meet the others,” Chris said at last. They all stood up and walked across to a little group consisting of Sir George Benson, Professor Boronoff, the Russian scientist, Dr. Elton Rosenberg, America’s foremost rocket expert, and the irrepressible Wing Commander. The group opened to absorb the three young men and few would

have guessed, from the light-hearted banter, that here was the vanguard of Man's most audacious venture yet into space.

"Had a word with Frayling yet?" Benson quietly asked Chris a little later.

"Not yet. Must I?" the other inquired ruefully.

"Yes. He's got something special to tell you. No, I'd better leave it to him," Uncle George smiled as Chris was about to ask what it was all about.

The chief scientist had been moving around the room having a word with the men under his command. Although this was supposed to be a purely social occasion, Frayling thought it a waste of time and insisted on discussing the work ahead with those of his colleagues who were too polite to turn away or unfortunate enough to be seized before they could escape. When he thought that enough time had been thrown away, Sir Leo called for silence.

"Gentlemen," he said as soon as he had the attention of all. "Now that Godfrey, Kant and Smyslov have had time to become acquainted, I have an important announcement to make. You know I hold firmly to the opinion that to achieve anything with the utmost efficiency it is necessary to have a leader to accept responsibility. I am responsible to our governments in this project to establish the first international lunar base. A number of you here are responsible to me for the work of your own particular departments. There is a most important section of our work in which a leader has not yet been appointed. I refer to the expedition itself."

Everyone in the lounge was now following Frayling's words with the closest attention. All knew that this brilliant man believed in a system of responsible leadership and accepted no excuses for failure. He would offer none himself and accept none from others. The success of his previous assignments had been largely due to his ruthless and unswerving pursuit of his objectives. He had no patience

with failures or personal emotions, and he was constantly trying to imbue his lieutenants with these qualities too. Few men could ever have been so hated and yet so admired by their fellow workers.

“The leadership of the lunar party is as vital—if not more so—as that of any other branch of our activities, and so I have chosen a leader from these three young men. This leader will make, and will be accountable for, on-the-spot decisions taken once the party has landed. Guidance, as far as possible, will be given from Control, but only the leader will be able to decide on the activities of the expedition in the light of the circumstances he finds.”

Chris and his two friends listened intently. Which one of them was it to be? They looked at each other with the same questions in their eyes. Everyone in the room was waiting for the chief scientist to speak.

“I have given careful consideration to the question,” Frayling went on, “and I had no difficulty in choosing the leader. Because of his previous experience, and for other reasons, I have decided that the responsibility shall be Godfrey’s.”

For a moment Chris failed to understand. Then he felt the blood drain from his face as he realized the significance of Sir Leo's words. He—he was to be in charge when they were on the Moon! He was to make the decisions—and be answerable for them to Frayling! Although he wasn't aware of it, Morrey and Serge had each grasped one of his hands and were shaking them. All eyes in the room were on the trio.

“I'm glad it's you and not me,” Morrey was saying, his cheerful face lit with a smile of genuine pleasure.

“I congratulate you,” Serge said formally. Was he pleased or not? It was impossible to tell from the young Russian's inscrutable face.

With an effort Chris pulled himself together.

“Er—thank you, sir. I'll do my best,” was all he managed to

stammer.

A hefty thump on the back shook him. It was the beaming Whiskers offering his congratulations, and soon all the scientists and officers had surrounded the little group to give Chris their good wishes. Sir George Benson gave his friends arm a little squeeze, and from the look on the scientist's face Chris judged that Frayling's announcement was no surprise to him.

• • •

Next morning the three young men began their preparations in earnest. Most of the day was taken up with a series of strenuous and extremely thorough medical examinations by a team of doctors. All were pronounced fit, but were warned that a similar examination would be a weekly occurrence. In the interval, Chris did have time to wander around the grounds of the establishment with his two friends. He was also able to renew his acquaintance with some of the people he'd met when training previously, including Squadron Leader Lambert, who was in charge of the medical side of their preparations.

"Good to have you back, Chris," the medical officer said heartily as he shook hands. He was introduced to the other two.

"You know, you fellows are giving us some real trouble," the Squadron Leader declared as he joined them on their tour.

"How come?" Morrey asked.

"Sir Leo—bless his heart—has insisted that as far as possible you are to be trained together. So we've had to enlarge much of the apparatus to squeeze all three of you in."

"Do we have to be in the centrifuge together?" Chris asked, a little startled.

"Yes—and in the pressure and temperature chambers too. You'll also have quite a lengthy session in a mock cabin we've built to reproduce the confined conditions in the rocket,"

Lambert informed them.

“Any plane flights?”

“Not this time. The Russians want to try out a brand new gadget on you to simulate free fall. I don’t know what it is but you’ll find out soon enough,” the officer said cheerfully.

“Can you guess what it is, Serge?” Chris asked the Russian.

“No. It must be something we have built since my training last year,” he assured them.

“Anyway—let’s not worry about it yet. We’ll find out soon enough,” Morrey grinned cheerfully. “By the way, sir, what have you got cooked up for us tomorrow?”

“Oh, nothing much,” the Squadron Leader answered casually. “Just a little run on the centrifuge.” “Wonder what it will be like with three of us in it,” Chris mused.

As they turned the corner of the next building, a figure hailed them with relief.

“I’ve been looking for you everywhere,” Wing Commander Greatrex informed the trio severely. “You’ll get me sent back to that office job if I let you out of my sight again.”

“Sorry, Whiskers,” Chris said contritely. “We were just admiring the scenery.”

“Then come and admire the scenery in your bedrooms,” the Wing Commander ordered. “You’ve to be up with the birds tomorrow.”

It was a great temptation to rag old Greatrex, but Chris knew that behind everything was the pale cold image of Sir Leo Frayling. With a complete absence of a sense of humor, the chief scientist would take a dim view of any pranks they might pull. Poor Whiskers would be held responsible, and his fear of being sent back to the old grind was not entirely groundless. Affection for his old friend caused Chris to lead his two friends meekly to their quarters, and soon the three young men were tucked safely, though rebelliously, into their

beds.

It was part of their training that they should live and sleep together, so Chris, Morrey and Serge lay awake for several hours talking before going to sleep.

• • •

“Come on, fellows.”

It was the breezy voice of Whiskers that woke up Chris next morning. With a groan he sat up to watch the Wing Commander’s vigorous efforts to rouse Morrey Kant. At last, with much protestation, the young American opened first one eye and then the other. Serge, with a polite “good morning,” slid out of bed and began doing deep breathing exercises. Soon Whiskers had bullied his charges until they were all ready to face the ordeals of the day ahead.

The breakfast in the canteen was a jovial affair, though perhaps the high spirits of the three young men were a little forced. Today, they realized, was to be the real start of their preparation for the journey to the Moon and the sojourn on its inhospitable surface. Each of them was wondering secretly how he would stand up to the terrific task, while Chris had the additional worry about the responsibility Frayling had thrust upon him. All of them—not least the Wing Commander—were glad when the meal was over and they faced their first run on the centrifuge.

Just as Whiskers was about to shepherd them from the canteen toward the building which housed this huge machine, Sir George Benson hurried up. From his face they could tell that something had happened, so they followed without question as he led them to the little room he was using as an office.

“I’ve got some rather startling news for you,” Benson began as soon as the door was shut.

“Sir Leo Frayling’s just called me on the phone,” he burst out. “And he says you are to have a companion! A fourth person will go with you to the Moon!”



Two weeks before Sir George Benson's sudden, surprising announcement to the crew, a doctor in the industrial city of Aston had been talking seriously in his office with a distraught, shabbily-dressed woman. Their conversation seemed far removed from the future voyage to the Moon.

"Mrs. Hale," the doctor said gravely, "I would like your son to be examined by a consultant. Would you agree to him being admitted to the Queen Elizabeth Hospital for observation?"

The little woman twisted her hands nervously.

"I don't know what to say, Doctor. If it's best for Tony I suppose his dad and me had better let him. Is it serious, Doctor?" she asked anxiously.

"Frankly, I don't know, Mrs. Hale," replied Dr. Merriman. "I've certainly never had a case like his in the course of my general practice, but I've no doubt that they will be able to diagnose his trouble at the hospital. Will you and your husband agree, then?"

"I'm sure Albert—that's my husband—will want to do what's right. When will he have to go in, Doctor?"

"Right away, Mrs. Hale. The sooner we find out what is the matter with Tony, the sooner we can begin treatment.

Now take the boy home, and take this form for his father to sign. Come and see me in the morning and I'll

.let you know what I've fixed up," concluded the doctor.

As he spoke a copper-headed, snub-nosed boy of fourteen came from behind a screen where he'd been dressing himself after his examination. He looked scared, for he'd heard what the doctor and his mother had been saying.

"Cheer up, Tony," Dr. Merriman said kindly. "I'm sure you'll have a good time in the Q.E."

The boy looked at his mother tremulously as she rose and folded up the form the doctor had given her. She put it carefully in her battered handbag.

"Come along, Tony," Mrs. Hale said, with forced briskness. "We mustn't keep the doctor any longer. He's got plenty more patients to see in the waiting room."

The boy grabbed his cap and followed his mother obediently out of the office. In the street he turned to his mother and said, "What've I got to go in the hospital for, Mom?"

"Dr. Merriman thinks it would be best for you—but I expect you heard as much as I did. Now come along, Tony, we'll talk it over with your dad when we get home."

• • •

Instead of calling in the next patient after Mrs. Hale and Tony had gone, Dr. Merriman remained seated in his chair. There was a puzzled expression on his face, for what he'd just told the woman was no less than the truth. He'd certainly never come across such a strange type of leucopenia—and in a boy so young, too! He reached for his telephone and dialed the number of Birmingham's famous hospital.

"Hello, is that the Queen Elizabeth?" he asked, as soon as a girl's voice answered. "I'd like to speak to either Dr. Ruby or Mr. Carfax if they're available."

"Certainly, sir, though I think Mr. Carfax is in the

operating room. Who shall I say is calling?" the telephone operator asked.

"Merriman—Dr. Merriman of Aston," the doctor replied. "I'll hang on."

A few moments later the girl's voice spoke again.

"I'm sorry, Doctor, Mr. Carfax is in the middle of a major operation. Dr. Ruby is across at the medical school lecturing. Can I give either of them a message, or shall I ask them to phone you?"

"Ask one of them to phone, please. I'll be in my office for another hour, and then from six o'clock on this evening. The number is Aston Cross 3902," Merriman said. Replacing the receiver, he called in the next patient, but the peculiar case of Tony Hale was still on his mind.

• • •

"That you, Carfax? Ruby speaking."

It was about ten o'clock that evening before Dr. Ruby had managed to contact his colleague. Both men were engaged in an urgent research project to try and discover the cause and cure of a strange new form of blood disease. When the first cases had been reported—all in children under sixteen years of age—the whole medical profession had been baffled. At first there had been just a few isolated reports, but as the months had passed more and more cases had come to light and now there were almost a hundred in different parts of the country.

Britain wasn't the only country which was experiencing this mysterious and disturbing development. In fact every nation which subscribed to the World Health Organization had reported similar cases. In America, Russia and France doctors and scientists were frantically engaged in trying to discover all they could about the illness. In Britain, research was concentrated at the famous Midland hospital and Mr. Carfax and Dr. Ruby were responsible. Already more than a score of children in Britain had died, and as yet there was no

prospect of preventing the inevitable death of all the other sufferers.

The surgeon and the doctor had discovered that the expectation of life after the disease was first diagnosed was a maximum of two years. Usually the patient felt few ill effects for the first year, but afterward his condition would rapidly deteriorate until death followed some six to twelve months later. At the moment there were only two patients in the direct care of Dr. Ruby and Mr. Carfax, three others having died within the last few weeks.

“Hello, Ruby. Carfax here,” the surgeon’s voice came back. “Another case?”

“Seems like it from the report of his physician. It’s a local boy, and I’ve arranged for him to be admitted tomorrow afternoon,” Ruby explained. “How are you fixed for giving him a look over?”

“I’ve a pretty heavy schedule tomorrow, but I’ll try and manage it about four o’clock.”

“Right. I’ll get the Pathology Lab to work as soon as he gets in,” the doctor said and then wished his colleague good night.

• • •

The boy and his mother were not the first in line at Dr. Merriman’s office next morning, but the doctor saw them before the others when his receptionist told him they were there.

“Good morning, Mrs. Hale. Good morning, Tony. How do you feel this morning, young man?” he asked.

“I feel O.K., Doctor,” the boy said brightly, “but do I really have to go into the hospital?”

“You have to, my friend—if your mother and father agree.”

“Oh, I’ve got the form, Doctor,” Mrs. Hale put in. “His dad’s signed it. He’d have come with Tony himself this morning but he didn’t want to miss his shift at the factory.

When will Tony have to go in, Doctor?"

"I'd like you to take him right away, Mrs. Hale," Merriman said. "Go to the admission desk and give them this letter I've written. They'll be expecting you."

"We'd better go back home and get his things together. I didn't think he'd have to go in this morning," Tony's mother told the doctor.

"Don't worry about fetching anything from home. They'll be able to fix him up with everything he needs at the hospital," Merriman declared.

Mother and son were both a little scared, but they bid the doctor good morning and caught a bus to the hospital.

When they arrived at the reception desk they were expected, as Dr. Merriman had said. As soon as they said who they were, the receptionist on duty spoke into the telephone and then sent them in the care of a nurse to one of the wards.

To Mrs. Hale's surprise it was a small private room with a single bed.

"Come on, now. Get undressed and into bed," the nurse ordered briskly.

"But I don't feel bad," Tony protested.

"You've still got to get into bed, young man," the nurse said with mock severity. "Do you want me to undress you?"

"No thanks," Tony answered hastily. "But, nurse, couldn't I go in a big ward with the others?"

"I'm afraid not, Tony. It's doctor's orders that you come in here."

"Oh, all right," the boy grumbled as he began to unlace his shoes.

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"One thing strikes me as very significant," Mr. Carfax said to his colleague as he looked up from the pile of papers on

the table. "All these cases have occurred within the last three years."

He and Dr. Ruby had been poring over the hundreds of case histories supplied to them and other research teams by the World Health Organization. On the table was an account of every known case of leucopenia. Every one, with only four exceptions, had been reported during the past three years.

"But what on earth would account for that?" asked Dr. Ruby wearily—for both men had been at work for many hours.

"I don't know. At least—" began the surgeon, then stopped.

"For God's sake, Carfax, if you've any ideas at all, no matter how crazy, spit them out," Dr. Ruby burst out.

"It's a crazy idea all right, but it's one that's sprung up in my mind and I can't get rid of it."

"Well?"

"You remember what happened three or four years ago when the whole Earth was bombarded with radiation from some source on the Moon? I'm wondering if this isn't a delayed effect of that bombardment. Oh—I know all the visible effects vanished when the domes sending out the rays were destroyed. But it is just possible, you know, that some of the radiation affected young children, and that the results are only beginning to show now."

There was a long silence as the other man weighed the surgeon's idea. At last he spoke quietly.

"I don't think your idea is crazy at all," he said. "In fact I believe that you've got the answer. This type of blood disease did occur earlier than four years ago but it was extremely rare. In my pile of case histories were accounts of the four older ones. What is significant about these four cases, and these four only, is that they were cured! Now what do you make of that?"

“Only that the type could not have been the same. Similar? Yes. Identical? No. Every case since the radiation from the Moon has been fatal. And there have been no exceptions.”

“The reports of these four tally very well with the later ones. I believe they were identical but what disturbs me is that no explanation can be given for the cures and—they all occurred three or four years ago.”

The two men looked at each other in almost a frightened way, for the same amazing thought had come to them both. Something in the radiation had caused this present crop of cases, but it had also cured those few cases already existing!

Far into the night the two doctors discussed their theory, and the more they talked, the more they were convinced that they were right. Gradually excitement began to mount in them. They must pass on their ideas to the World Health Organization. Dr. Ruby reached for the telephone.

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“This theory may be sound—or it may not,” the chairman said. He was presiding over an international conference of doctors called urgently by the WHO. At it the Carfax-Ruby theory had been put forward and it had won many supporters.

“The only way in which we could test this theory would be to build an apparatus sufficiently powerful to reproduce as nearly as possible the lunar radiation. Apart from the terrific expense of such a machine, it would take at least a year to design and build. Meanwhile our patients are dying, and we would have no guarantee that the money and time would not be wasted. What are we to do, gentlemen?”

“Is there no other way of producing the radiation without the help of a costly machine?” one of the doctors asked.

“There is no way I know of—unless you can persuade the Moon to start bombarding us again,” the chairman smiled sourly. “Then if Carfax and Ruby are right, the radiation would cure all the present patients and create a lot of new

ones for us.”

“Mr. Chairman,” a voice sounded from the back of the hall, “would it not be possible to include a patient in the forthcoming lunar expedition? Then the theory could be put to the test at once.”

Everyone turned around to see who had put forward this startling suggestion. A young doctor from Holland stood up. Immediately all over the hall scores of little discussion groups formed as doctors eagerly talked over the logic and simplicity of the idea. Finally the chairman called the meeting to order and it was unanimously decided to approach the governments concerned and to try and persuade them to agree to the experiment.

So great was international concern about the growing menace of the new disease that government approval was quickly given for the theory to be put to the test. Sir Leo Frayling, to that scientist’s great wrath, received a directive to amend his plans accordingly. Dr. Ruby and Mr. Carfax, as a tribute to their work, were entrusted with the selection of a patient and the supervision of the experiment.

Back in Aston they discussed earnestly what to do. The most important step was arranging about the patient. Whom should they send and how could the patient be persuaded to undertake this dangerous venture?

“What about that youngster we admitted a couple of weeks ago—young Hale? His stage of development is such that we can easily assess any improvement or deterioration,” Carfax said.

“Yes, he’d be quite suitable,” agreed Dr. Ruby. “In addition, he’s fairly small—which I understand is very important to these rocket people. Shall I have a word with him?”

“Do. Then we shall have to approach his parents and see what their reactions are,” the surgeon pointed out.

• • •

Tony didn't know whether to be scared or excited. Dr. Ruby had told him that he and Mr. Carfax thought that it would do him good to take a trip in the Moon rocket. If they could fix it up, how would he like to go? Like most boys of his age, Tony was a space enthusiast. One of his school teacher's bitterest complaints had been that the boy was more interested in space stories than serious school work. Always he'd dreamed of being a space pilot—i.f only he could be one without the schooling they seemed to require. Now Dr. Ruby had actually suggested that he could arrange a trip to the Moon for him if he'd like to go.

Would he! It would certainly be better than staying on here in the hospital although everyone had been good to him and the doctors fussed over him all the time. He knew it was bound to be dangerous and the thought of that gave him a little queasy feeling in his stomach. But then he imagined how exciting it would be to roar through space and explore a strange new planet. His excitement proved far stronger than his fears, and he told the doctors he definitely wanted to go.

After much persuasion, his parents, too, agreed to the idea, and final arrangements were made for Tony to leave the hospital and go to Farnborough where he would train with the others in the rocket's crew.



"Chris, this is Tony Hale, the boy who is coming with you.

Sir George Benson had sent for his friend and when Chris entered the scientist's office he saw the boy sitting awkwardly in a chair beside the desk. As Sir George made the introduction, Chris looked at Tony keenly.

He saw a rather scared looking youngster with a snub nose and freckled face. His copper-colored hair was plastered down unnaturally on his head, and his face shone as if he'd been freshly washed and polished. It was obvious that all his clothes were new, and that he'd been fitted out specially for the occasion.

"Hello, Tony," Chris said with a smile. "My name's Chris Godfrey. Glad to have you with us."

A little of the strained look left the boy's face as he slid off the chair and shook the proffered hand.

"You're Mr. Godfrey who's been to the Moon before, aren't you, sir?" Tony asked wonderingly.

"Yes, I've been to the Moon all right—but look, Tony, as were to be companions on the next trip, you may as well start off by calling me 'Chris.' All my other friends do."

"O.K.," the boy replied, a slow grin of relief replacing his

scared expression.

“Come on, Tony, I’ll take you to meet the others,” Chris called, and, smilingly, Sir George Benson watched them go.

Outside in the corridor Chris’s mood changed. He stopped and caught hold of his companion’s arm while peering earnestly into the lad’s face.

“Tony, do you know what this is all about?” he asked urgently. “Do you realize what you’re taking on? Have you been told of all the risks?”

“Yes, Chris, I have. Dr. Ruby said the trip would do me good. I don’t mind the risks,” the other answered.

“Dr. Ruby? Who’s he?” Chris asked, mystified.

“He’s one of the doctors at the Queen Elizabeth Hospital where I came from. He says coming with you will be good for my health.”

Chris hadn’t the least idea what this was all about. Someone will have to do a lot of explaining, he thought to himself.

“All right, then,” Chris sighed, “come along and meet the others.”

Neither Morrey nor Serge could at first understand the broad Midland accents of their new companion, and Chris had to translate many of his phrases. For all his apparent bravado, Chris could see the lad was really shy, but they all did their best to put him at ease. It was Morrey who asked Tony the question in each of their minds.

“Why did they ask you to come on this Moon trip, son?” he inquired.

Tony grinned back.

“Blowed if I know,” he volunteered. “When Dr. Ruby asked me if I wanted to go for a ride in a rocket I thought he was joking. When he said he wasn’t I told him I’d have a try at anything. Talked to me a long time he did, too. Told me I

might never come back. I said I'd always wanted to be a space pilot, and I didn't care what happened. Ordinary pilots crash sometimes too, don't they?" he concluded with a note of defiance.

"Yes, but do you know what you have to do? Has anyone told you why you were asked?" Chris queried.

"I don't have to do anything except help you," Tony replied, puzzled at the questions. "I suppose there was just room for another small one in the rocket, so they thought it would do me good."

"No, that is not so," Serge told the lad. "The rocket was fully loaded. We will have to leave much behind to take you with us."

"But I'm not very big. I won't take up much room," the boy protested. Then after an uncomfortable silence he burst out, "You do want to take me with you, don't you?"

"Of course, Tony, of course," Chris put in hastily. It was impossible to explain to their new companion the vast amount of replanning that his inclusion would mean. There must be some reason for it. Was the boy ill? What did that Dr. Ruby mean when he said it would do Tony good? It was impossible to see Frayling changing his plans so radically unless it was of the utmost importance. Morrey and Serge were as mystified as he was.

Over coffee and cookies, of which Tony consumed an incredible quantity, Chris and the others talked to the boy about the ordeals he would have to undergo with them in the intense period of preparation that lay ahead.

At times Tony seemed a little scared at the prospect, but his cheery grin forced its way through, and they knew that he'd die rather than confess his fear.

While they were fortifying themselves in the canteen, they were joined by Whiskers, who had been away on a flying visit to London. Tony gazed at the voluminous ginger moustache of the Air Force officer with the awe most people felt when

they encountered it for the first time. It took a sharp dig in the ribs from Chris to rouse the boy from the spell of its fascination.

“It’s quite real,” laughed Chris, and the Wing Commander waggled the object of admiration in honor of his new acquaintance.

“So this is the young whippersnapper you’re taking along, is it?” he smiled. “Tony, I hope you set a good example to these characters.”

The boy gulped and smiled back.

“Yes sir! Thank you, sir,” he stammered.

“I see you’ve eaten already,” Whiskers observed with disappointment. “Ah well, I suppose we’d better take Tony on a tour around the place.”

During the walk Chris noticed that the lad always kept close to his side, and he caught one or two expressions of bewilderment—perhaps fear. H’m! Not quite as tough as he pretends, Chris told himself, and he recalled clearly his own secret fears before his first rocket journey.

It was when they visited the huge centrifuge that they all saw the first result of Tony’s inclusion in the crew. Technicians were still at work modifying the gondola so that it could now accommodate all four of the crew together. An extra contour couch was being fitted, as was an additional television camera to observe the effects of high acceleration on its occupant. The boy stared at the complicated apparatus in wonderment.

“Any idea why he’s being sent along?” Chris asked Greatrex in an urgent whisper when Tony was distracted elsewhere.

“Not the slightest, friend,” the Wing Commander declared. “Can’t understand what that cold fish, Frayling, has in his mind. Still—perhaps he’ll condescend to reveal his purpose in his own good time.”

"He'll have to if he wants a hundred per cent cooperation," Chris said grimly.

Patiently Whiskers and the others explained to Tony the purpose of these masses of apparatus. They were to reproduce as nearly as possible the physical conditions the four of them would encounter during the rocket takeoff, its flight to the Moon, the landing, and the stay on the lunar surface itself. The boy was interested, and his questions showed that he had a fair amount of intelligence, though he was almost completely ignorant of any basic science.

"What did you learn at school?" Chris asked him once in exasperation after a vain attempt to explain free fall or weightlessness.

"I've never liked school," the crestfallen Tony confessed.

"That's too bad. You'd have been a lot more useful if you had," Chris snapped back.

The alterations on the centrifuge would not be completed and tested for another two days, but work had started on their space suits, and they had to spend many hours at the factory where they were being made. As patiently and simply as they could, Tony's companions began the process of improving his scientific education. Now that he could see the use of the knowledge his friends were trying to impart, the boy showed an almost painful eagerness to learn. Chris soon had proof of his natural intelligence, and whether they were all getting more used to it, or whether his speech was really improving, Tony's accent didn't seem quite so broad.

The boy would never forget his first run on the centrifuge. With the others he entered the gondola bravely enough, and he cracked jokes with his friends as Squadron Leader Lambert and his assistants fastened them down on their couches. His chatter continued as the door was closed and even when the great arm of the machine began to move. But it died out quickly as the gondola began to fly around faster and faster. Soon the pressure of the constant acceleration pressed him down on the couch so that he was unable to

move or even talk. It was an unexpected and terrifying experience, and he vowed he would get up and run right out of the place once this awful machine stopped. Yet as it slowed down and he recovered the use of his muscles, he saw his friends smiling encouragement, and he knew he'd have to go on. Gradually the gondola slowed to a stop and his first ordeal was over. Chris, Serge and Morrey were unfastening their straps, but Tony lay limp and exhausted on his couch.

“Never mind, Tony,” Chris called as he swung himself free and came to the boy’s side, “it won’t be so bad next time.”

He busied himself releasing Tony, and while he struggled with the fastenings he couldn’t help asking himself angrily why the blazes Frayling had added this youngster to their team. How could the acute discomforts he would undergo possibly improve his health? He, Morrey and Serge fully understood what they were doing, but this boy could have no idea of what lay in store. It wasn’t fair, and he resolved to get to the heart of the matter immediately by demanding an interview with Sir Leo.

Tony, with the help of his friends, climbed out of the gondola, and descended the steps to the floor of the huge building which housed the vast machine. How thankful he was to be standing on firm ground once more! He wiped the sweat from his face with a handkerchief. He tucked the linen square back into his pocket, hoping that Chris hadn't seen. Squadron Leader Lambert, after the usual medical check, pronounced them all fit, though the boy showed more distress than his companions.

A little later, as all four were sitting in the Headquarters’ lounge, Chris deliberately began to describe to Morrey and Serge his own fears when making his first acquaintance with the centrifuge. They, too, confessed to similar emotions, but all said that with repeated runs on the machine they became accustomed to the great physical discomfort. While his three new friends were talking, Tony listened quietly.

In spite of himself Tony was very scared when the quartet

went to take their second trip on the centrifuge, though he would rather have died than admitted it. This time—perhaps because of the assurances of his friends, perhaps because he now knew what to expect—the sensation wasn't as bad. When it was over he insisted on releasing himself, but his confident talk as they walked over for the medical examination was, perhaps, a little exaggerated.

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“Come on,” Wing Commander Greatrex called to Chris next morning, “the big chief himself wants to see you.”

“Who? Sir Leo Frayling?”

“None other,” the officer grinned, “so step lively, young fellow.”

“You coming?” Chris asked.

“Not likely,” the other answered cheerfully. “He wants to see you on your own.”

“And I want to see him,” Chris said grimly.

• • •

“Come in, Godfrey.”

The cold, impersonal tones of the chief scientist always irritated Chris, and he felt that this was going to be a difficult interview. He was right.

“I've had your request for an interview,” Sir Leo Frayling went on without inviting his visitor to be seated. “It happens to fit in with my own plans, otherwise I should not have considered it. I take it you want some information about this latest addition to the pay-load?”

“You mean this boy Tony? Yes, Sir Leo, I think I'm entitled to some explanation as to why he's been included in the crew.”

“You're not 'entitled' to anything, Godfrey, but I intend to give you some information about it because of your position as leader of the expedition. It must be understood, however,

that the information is confidential, and must under no circumstances be communicated to the other members of your crew. Can I have your promise that such will be so?"

"Yes, if it's necessary," answered Chris reluctantly.

For a moment the scientist looked at the young man with hostility.

"Everything I do is necessary," he said slowly. There was an uncomfortable silence before Frayling went on.

"The inclusion of this young person in the pay-load of the rocket is at the request of the three governments concerned," he said surprisingly. "There has been an inexplicable outbreak of a novel form of blood disease in young people all over the world. The medical people believe it is a delayed effect of the radiation from the Moon that we eliminated some time ago. My own theory differs somewhat from the Carfax-Ruby one. If this leucopenia condition is indeed a result of the lunar radiation, I believe it is an indirect one. In my opinion the rays from the objectives we destroyed did not themselves cause the illness, but they neutralized temporarily much of the ionosphere which protects us from cosmic radiation. This allowed for a time heavy cosmic rays to reach the Earth, and it is these that have caused this leucopenia epidemic."

"Has young Hale got Leucopenia, then?" Chris asked.

"Of course. Otherwise he would be of no interest to us. The Carfax-Ruby theory goes on to say that while the lunar radiation—in my opinion cosmic radiation—caused a widespread new outbreak of the disease, it also cured the few known cases that existed before. It is just this that we are proposing to put to the test by including the boy Hale in the rocket. If Hale's condition is improved by the trip, work will be started at once on the construction of machines large enough to produce lunar—or cosmic—radiation artificially. It is hoped by this means to save the lives of many of the present sufferers."

"Is Tony's life in danger, then?" Chris gasped.

“Certainly. Ruby and Carfax inform me that no patient survives more than two years. Although he shows no signs of illness at the moment, the boy will undoubtedly die in much less than that time.”

Chris listened to the chief scientist in horror. Tony doomed to die! Yet he looked fit enough. And he’d passed medical tests. But Squadron Leader Lambert had undoubtedly been briefed about his condition.

Sir Leo broke into Chris’s thoughts.

“If this theory is correct, Hale’s life and many others will be saved. If not, he and thousands more will die. Your job will be to keep a very close watch on him without informing your companions. There may be side effects of the radiation—such as an increasing tendency toward anti-social acts,” Frayling went on in his best lecture room voice. “You must be prepared for any eventuality.”

“But he’s a most likable lad,” Chris protested. “I can’t believe that he’ll be any trouble.”

“That you will find out,” the scientist retorted, “so I shall be obliged if you will confine yourself to reporting facts instead of forming opinions. I have agreed to this irritating modification of our plans on one condition,” he said, looking at Chris keenly. “It is that the health or behavior of this subject shall not be allowed to deteriorate so that he menaces our other plans.”

For a moment Chris failed to understand what the scientist meant. He knew that the primary objects of the expedition were to establish a lunar base, to discover as much as possible about Earth’s satellite, and to try and find out more about those strange domes which he had helped to destroy and the mysterious mists which surrounded their ruins. That Tony might be more of a hindrance than a help, he accepted. But if the radiation made him ill or turned him into a menace to their plans he—

“What do you want me to do?” he asked.

“Your instructions are simple. If the boy proves at all troublesome, he must be anaesthetized and kept in that condition for the remainder of the expedition. He should not be revived until just before you take off on the return journey.

“How,” Chris said sharply, “will he be put to sleep?”

“You will be provided with both tablets and injections. If there is any possibility that his actions will endanger the expedition you must administer one or both of these before he can do any harm.”



It was with a feeling of revulsion that Chris came from his taxing interview with Sir Leo some twenty minutes later. He had protested strongly against the idea of drugging Tony, but the scientist had pointed out that it was better to put the boy out of action if it meant that the other three, together with the results of the expedition, could thereby be saved. When he declared that he would have no part in it, Chris was informed that it was his duty, as leader, to take any action to ensure the safe return of his crew. If he was squeamish about it, Frayling said, he would be relieved of his command and the task given to one of his companions. Perhaps one of them would realize where his duty lay.

The scientist's last words raised an uncomfortable feeling of doubt in Chris's mind. Surely both Morrey and Serge would feel as disgusted as he at this cold-blooded plan! But would they? When, perhaps, their own lives were at stake, could the Russian and the American be depended upon to look at things in the same way he did? There was a possibility that Serge, at least, would take a very realistic View of any possible situation. Better if Chris himself held the reins. Then perhaps he could think out some way to avoid any unpleasant action.

When he joined his companions he found, to his surprise,

that they were all three crouching down on the floor of their quarters. Tony was showing the other two some of the tricks of the game of marbles. Morrey and Serge were watching the boy with admiration as, with a deft flick of the thumb, he propelled a bright little sphere accurately at another one some yards away. In turn Serge and Morrey tried to do likewise, but their efforts were hopelessly wide of the mark, to the great amusement of their instructor.

As he watched, Chris shuddered at the memory of Frayling's words. According to the scientist, this bright, eager boy was dying and was to be anaesthetized if he lost control of himself on the trip. And he, Chris, must do it! His lips set grimly at the thought.

When, later, Morrey and Serge questioned him about Sir Leo's object in sending Tony with them to the Moon, Chris told them that it was to see how a young boy would react to lunar conditions. He doubted that his answer satisfied his companions, but it was the best explanation he could think of and still preserve the secret. As for Tony himself—he seemed completely unaware that he was to be the subject of this experiment. All that seemed to concern him was the excitement of the forthcoming Voyage, his anxiety to be prepared for it, and his intense wish to please his three friends.

The space suits were ready. These complicated pieces of equipment were almost as complex as the rocket itself, for they had numerous functions to perform. First they would have to help the wearers to survive the terrific strain of the rocket take-off. Under the great force generated by the mighty engines, the human body would be crushed and broken unless it received support from the space suit. Then each suit would have built into it a radio transmitter and receiver, for only by this means would the expedition members be able to communicate with each other. The suits would have to permit their wearers to move around in the almost perfect vacuum on the Moon, and at the same time protect them from the extremes of temperature between the

lunar day and night.

Actually each member of the crew had two suits—the one he would wear during the expedition but which was far too heavy to move about in under Earth’s gravity, and a lighter suit for training purposes. The latter hadn’t the same protection for its wearer as had the heavy suit, but it would enable each of the crew to perform his exercises. Each suit had been made to fit its wearer. No ordinary cloth suit had ever been tailored so carefully. As they saw them for the first time the four friends each had no doubt which of them was his. Chris was tall and slim; Morrey was tall but broader; Serge was shorter and fairly thickset, while Tony was much smaller and slighter than any of the others.

The boy danced around his suits in excitement, and the older three were scarcely less restrained. As the scientists and technicians who had designed and made them explained the suits’ various features, they listened closely—eager to try them on and test out their many novelties. It was a great thrill when, next day, they each donned the practice suit with the help of the technicians. Indeed Chris had to utter a stern warning to Tony against possibly damaging his suit by his light-hearted gyrations.

For a week the crew spent most of their time becoming accustomed to their strange apparel. The three older ones had all worn similar things before, but for the boy the novelty was a source of never-ending delight. He seemed to get particular pleasure in talking over his radio with his three friends and to “control”—one of the scientists who gave them all instructions from an outside transmitter. At first Tony found difficulty in manipulating his oxygen supply, but soon he mastered the process and was able to change the cylinder on his back for a new one as quickly as the others. Movement in the suits, while not difficult, required a fair amount of practice, but after a time he managed it reasonably well.

The first run on the centrifuge in the space suits showed what a great help they were. In a few days the crew had succeeded in achieving runs of eight “g”—that is, eight times

as fast as a body would fall on Earth. Sir Leo Frayling had said that they must reach twelve "g" in order to be used to the terrific thrust of the rocket at take-off. Tony no longer felt frightened by this ordeal, though they all felt considerable discomfort, even pain.

Runs on the centrifuge were interspersed with ever longer sessions in the hot and cold chambers—rooms at temperatures of boiling water and subarctic cold. In still another chamber they had to stay in a near-vacuum, always increasing the duration of the tests. During their hours of relaxation they studied large photographs of the Moon, and on one occasion—particularly memorable to Tony—they visited an observatory and peered at their objective through a large telescope.

Perhaps the greatest thrill in all their training came on the day when Sir George Benson paid one of his rare visits to Farnborough. He had some exciting news to tell the quartet. They were to fly to the great Russian rocket base on the Black Sea coast for a week's training in a very special piece of apparatus that Serge's compatriots had just completed. Wing Commander Greatrex would go with them.

For the first time the others saw a flush of real joy spread over the young Russian's face. That Serge was delighted to be returning to his own country for a short period there was no doubt. Perhaps he would even see some of his own family! He was more relaxed and lighthearted than Chris had ever seen him.

What the special apparatus was, Sir George confessed he was unable to say. Apparently it was something entirely new and there was nothing like it anywhere in the world. The Russians would give no clue as to its nature, except to say that it would be of great benefit to the rocket crew. They would, however, permit a team of observers to witness the training, and would be sending one of their huge T.U. 115 jet airliners to London Airport in five days' time to collect the party.

Naturally there was great speculation among the three young men as to what ordeal the Russians had prepared for them. Tony listened to their discussion silently but with intense interest. Whiskers, too, was as excited as a schoolboy, for he would be having all the thrill of the trip with none of its discomforts.

It was a happy little party that stepped out of the staff car at London Airport at dawn on the day of the flight. In the lounge they met the officials, scientists and doctors who were to accompany them. Two mysterious young men from the Russian Embassy seemed to be in charge of the arrangements. When he found the opportunity, Serge broke away from the others to chat with his compatriots, but on his return he admitted ruefully that he'd been unable to get any information. At a sign from the Embassy officials, they all trooped out onto the runway and walked toward the huge, shining plane.

Tony had never been in an airplane before, and raced down the runway toward it ahead of the others. Money and Chris were more restrained, though Serge was scarcely less excited than the boy. Wing Commander Greatrex was having the utmost difficulty in maintaining the decorum expected of a staff officer. After a fairly long run the great plane lifted itself slowly into the air and began its steady climb. Bathed in brilliant sunshine, with a sea of fleecy white clouds far below, the T.U. 115 streaked toward its destination.

In what seemed an incredibly short time they were warned that the plane was preparing to land. Down through the clouds they glided until suddenly they were in the clear and the rolling Soviet territory stretched below. Tony, seated by Chris, babbled excitedly as the air field came into view. The rest of the party were silent with the momentary tension that always precedes a landing. Within a very short time the plane was skimming along the concrete and everyone began talking as the journey neared its end.

The aircraft came to rest at last in front of a group of Soviet officials and scientists who had come along to

welcome their British and American colleagues. There was much handshaking and good humor as the whole party, now numbering about a hundred moved toward a large building to give and receive the traditional Russian hospitality. The four members of the crew received special attention, and afterward Tony declared he'd never had so many cream cakes in his life. But there was still no clue about the training the Russians had prepared.

After the speeches, the handshakes, and the cream cakes of the official reception, there followed the inevitable tour of the district in open cars. The convoy of vehicles traversed some hundred miles of coastal scenery before bringing the visitors back to the glistening new hotel where accommodations had been reserved. After dinner that night Chris's old friend Professor Boronoff came to see them. Boronoff was in charge of the whole Russian astronautical effort, and he was almost as well known to Chris as he was to Serge. The handshakes and introductions over, Chris plucked up courage to ask the fateful question that was foremost in all their minds. What had they come to Russia to do?

This time there was no evasion. With a cheerful laugh the scientist promised to tell the young men what it was all about, and Whiskers, though not involved, listened with as much interest as they.

“Most of the conditions you will encounter can be reproduced on Earth,” the professor began, “but there is one important condition that cannot—that is except for very short periods. This, of course, is weightlessness or free fall. As you know, up till now you have only been able to experience up to about twenty seconds, a period too short to be of much value. Chris and Serge have both experienced this condition, but Morrison and our young friend here do not know what it is like. The Soviet contribution toward your training will be to provide you with up to eighty seconds of free fall.”

“Eighty seconds?” Chris and Serge gasped together.

“Yes,” Boronoff smiled. “Wonderful, isn’t it? I’ll tell you what we’ve done. We’ve taken over a very deep coal mine, made it deeper still, and we drop you down the shaft. No, you needn’t worry. You won’t crash into the bottom. Instead you will be shot up to the surface again—and then fall back once more.”

“How—how deep is this mine?” Morrey asked with a gulp.

“Oh, about six miles,” the scientist answered coolly. “What will actually happen will be this. You will be sealed inside a capsule at the pithead. Then you will drop a distance of some five miles, taking about forty seconds to cover that distance. During the sixth mile a force of five ‘g’ will be applied to the capsule, bringing it to a halt just before reaching the bottom. This force will be maintained, shooting you up again to the five mile point. Then you will continue under the momentum gained as far as the surface before you begin to fall back again. This process can be repeated as often as you wish.”

“Like going up and down on a gigantic elevator,” Morrey remarked.

“More or less,” the professor agreed. “Now if we take the cycle as starting at the bottom of the mine, you will be under an acceleration of five ‘g’ for eight seconds, then you will be weightless for a further forty seconds, while you shoot level with the surface. You will then fall back again for another forty seconds before being slowed down again. So, you see, you will be in free fall for a total of eighty seconds, and under five ‘g’ for sixteen seconds during each cycle.”

“How is the capsule slowed down and then shot up again?” was Serge’s question to his compatriot.

“I am not at liberty to reveal details, except to say that it is done by compressed air,” the professor replied. “We are very proud of the whole installation, which has cost many millions of rubles.”

“Has anyone tried it out yet?” Chris wanted to know. “No. You will be the first humans to experience it. Of course it has been tested very thoroughly with animals and has functioned

perfectly.” Morrey put the question all of them wanted to ask.

“When will we have a ride in your elevator?”

Boronoff looked at the quartet keenly with the suspicion of a twinkle in his eyes.

“Tomorrow,” he said, “and it will be in your heavy space suits, too.”



Next Morning Tony confessed to Chris that he was scared at the prospect of what lay immediately ahead, but Chris was able to reassure him somewhat with a light-hearted account of his own experiences in free fall. He told Tony, and with this Serge agreed, that once you are used to it, it is quite an exhilarating sensation. Nevertheless the boy's heart was beating painfully when Whiskers came to tell them all was ready for them to go.

A drive of some five miles brought them to the pithead of the mine. It was difficult to realize that a few years ago, before the universal use of atomic energy as the main source of power, this had been a mining area. Gone were the dirty streets and small houses of the sort that Chris could vaguely remember seeing in the coalfields of Britain. Only the tall latticework of the pithead remained as a reminder of the past.

The Russian, British and American scientists had already been at the mine for some hours, and the British and American delegations had been briefed by their local colleagues.

Amid a bustle of excitement Chris and the others were led to a barn-like building in which they found their heavy space suits. These had been flown out from England. Though they

had seen them before, and had actually been inside them, they had not worn the suits for any length of time and had certainly performed no exercises in them.

“Why are we going to wear those now?” Tony asked Chris in a whisper. “I can’t walk in mine.”

“Don’t worry about that, son,” his friend replied. “Falling in the capsule and coasting along in the rocket it will be as light as a feather. In free fall nothing has any weight. You’ll see.”

Tony couldn’t possibly imagine how that would be, but if Chris said it was so, then so it must be. Amid the flurry of preparations the three young men were calmest of all. Just before it was time to don their suits, Professor Boronoff gave the quartet a final briefing. Gone was his former jocular manner. Now he was all brisk efficiency as he gave his instructions.

“When you are in your suits, you will be taken to the pithead and assisted onto your contour couches in the capsule. Various connections will be made to you so that your reactions can be recorded. There is also a television camera installed. When everything is ready the capsule will be released and allowed to fall.

“Now here is the important part of your instructions. After about forty seconds you will suddenly come under a force of five ‘g’ to slow you down. Whatever else you may have been doing, it is essential that you should all be on your couches when the force is applied. Otherwise, in these heavy suits, you will be fatally crushed. A warning light will flash in the capsule ten seconds before the force is encountered. That should give you time to return to your couches if you have left them. Now is that quite clear?”

The three astronauts nodded silently, but Tony gave no sign.

“Very good,” Boronoff went on. “For the first few falls you may remain on your couches if you wish. The boy must certainly stay on his. After that we shall arrange various tasks

for you to do while falling, but whatever happens, you must get back to the couches when the warning light goes on. Have you any questions?"

"What difference will we find between falling down and shooting up?" Morrey asked.

"I doubt whether you will detect any difference," the professor answered. "After your initial descent of forty seconds under free fall, we anticipate the cycle will be sixteen seconds under 'g,' then eighty seconds' weightlessness while you shoot up and fall back again, followed by the five 'g' again. If anything goes wrong you can ring the alarm and the capsule will be halted when it is next at the surface."

A team helped each of them into their suits. The helmets were not to be used at this stage. Then they were each placed on a hand truck and wheeled out to the pithead like so many pieces of heavy luggage. The jocular remarks exchanged between them on the journey were a clue to the nervous tension they felt. Carefully they were lifted from the trucks alongside the cylindrical capsule in which they were to fall.

Chris and the others looked at the shining cylinder curiously. It was about eight feet in diameter and ten feet tall. Through the open door they could see the contour couches placed in two pairs one above the other. As they were lifted through the door onto their couches they could see the large red bulb which would light up when the deceleration was about to start. Morrey and Serge occupied the top pair of couches, with Chris and Tony underneath. Like the suits, each couch had been tailored to fit its particular occupant. A ride in any other would be very uncomfortable.

Without any ceremony the door clanged to and the four friends lay waiting for things to start. Experimentally Morrey tried to raise his arm, but found it to be a considerable effort. The loudspeaker blared forth that the warning light was to be switched on for test purposes and that as soon as it was extinguished the capsule would be released to make its long

fall. It seemed incredible that below them as they waited lay a shaft stretching six miles into the depths of the Earth.

Now the red light was shining. But in a second it would go out and they would plunge headlong into the depths. Tony tried hard to conceal his fears, and he forced a brave smile as Chris managed to turn his head toward him. Without the helmets the quartet could converse freely, and they laughed and joked as they waited for the light to go out.

That's it! Hardly had they noticed that the warning was no longer shining when they suddenly felt incredibly light. Had they been without space suits or standing upright they would have felt their stomachs lift as in a swiftly descending elevator. Now they felt no personal discomfort, only a strange lack of support from their couches. In spite of himself Tony held his breath and gripped a handle at the side when he felt his couch fall away beneath him. No longer did their arms and legs feel heavy, and the three older ones made experimental movements with their limbs.

"Stay where you are," called Chris, and almost as he spoke the red light flashed on. They all sank back into the molded forms beneath them. Suddenly, as if they had been dealt a crushing blow, they were jammed down hard on the couches by terrific pressure. It was now that they realized the value of their training in the centrifuge, for even Tony, the least experienced of them all, kept quite calm during this uncomfortable period.

As if by magic they were suddenly free again. They must now be on the upward journey toward the surface. Tony sat up experimentally, and in doing so he floated up from his couch and collided gently with the one above.

"Look," he called out excitedly to the others, "I'm floating!"

With a push against the side of the couch the boy shot away and hit the wall of the capsule. Watched by the older ones, whose actions were more restrained, Tony careened about the little compartment having a great time. His excited

laugh rang out as he tried various tricks. Chris, Serge and Morrey, too, found the experience exhilarating, and the boy's excitement became infectious.

"Look out!" Morrey shouted suddenly, for the red light had just gone on.

The three older ones made for their couches, but Tony seemed not to have heard.

"Tony!" yelled Chris in alarm. The boy turned toward them with fear dawning on his face. Awkwardly he tried to— for his couch, but shot past it to the other wall. Again he pushed himself away desperately, but this only made matters worse. With the seconds ticking away, the lad was still trying to make for the couch, but now there was panic in his efforts. In another instant the deceleration would start, and he would be crushed hard against the capsule floor.

With a wild lunge Chris reached out for the frightened boy as he floated past again. He succeeded in catching hold of his leg, but in doing so he himself was propelled away from the couch while Serge and Morrey looked on helplessly. With a push against the wall Chris propelled the two of them back toward the couches as the light went off. Praying silently, he held onto Tony and then he received a blow which sent his senses reeling. Terrible pains came from his back which was across one of the protrusions of his couch. It was as if his spine were being snapped in two. It was impossible even to turn his head to see what had happened to the boy. Then blackness descended on him and he felt no more pain.

The next thing Chris remembered was gazing up into the face of Wing Commander Greatrex. Whiskers was bending over him anxiously, and for a moment the young man couldn't recall what had happened. Then it all came back.

"Tony all right?" he asked.

Now the officer's face became a little less strained.

"Oh, he's fit enough. How are you?"

Chris tried to raise himself from the bed in which he was

lying, but a sharp pain in his back caused him to gasp and fall back again. What's happened to me? he wondered, suddenly frightened by the sharp sensation of pain. Will it keep me from going on the trip? He was about to voice his fears to his friend when two white-coated strangers came to the bedside.

"We will have to examine you," one of them said with a slight accent. He nodded his head. It wouldn't be long now before he knew the worst.

He need not have worried so much. After an exhaustive examination the doctors pronounced that no bones were broken. The muscles seemed badly strained, but there was nothing that massage and radiation could not put right. It was with a tremendous feeling of relief that Chris heard the verdict. He didn't mind what treatment he had to undergo as long as he could carry on.

An hour later he almost changed his mind. The burly masseur to whose tender care he had been committed could speak no English. Fortunately Chris's Russian was now fairly good, but the man seemed intent on doing his job, no matter what protests came from the patient. But at least Chris could move about, though painfully, at the end of the Russian's ministrations. Professor Boronoff came to see him shortly afterward.

"I congratulate you. You could have fared much worse," the scientist said after inquiring how Chris felt. "I have had a report from Smyslov and Kant about what happened. The boy's very alarmed and upset that you have been injured. I think he will be particularly cautious in future. Perhaps you will see him when you feel like it?"

"Of course. You know, I think we are more to blame than he. To be in free fall for the first time is a very strange and unsettling experience. Perhaps he should have been tethered loosely to his couch for the first few runs. Send him in right away if you like," said Chris.

Five minutes later a very subdued Tony came tiptoeing

into the room. His eyes were large and shining.

Hastily Chris assured the boy, who seemed unable to speak, that little damage had been done, and that in a couple of days he'd be joining them in the capsule once more. Tony managed to stammer out something that was intended to convey how sorry he was, but Chris brushed it aside with a smile.

"Tell me, Tony," he asked, "why didn't you get back to the couch when the light went on?"

"I—I just didn't want to," stammered the lad. "I felt I wanted to keep floating forever."

"And when you came to your senses you panicked?"

"I guess so," Tony answered miserably. "It was awful just sailing past the couch and not being able to stop!"

"That's why these exercises have been arranged," Chris reassured him, "so that you can learn to control your movements when weightless. Now that you've had this experience, I'm sure you'll follow instructions in the future."

"Yes, Chris. I promise I will."

"All right. Run along. If you see the others tell them to come in."

Within two days, Chris had rejoined his companions in the capsule. His back was nearly well again, and what pain he still felt he managed to conceal. On their first fall he could see that Tony and Morrey had made great progress in mastering this strange condition. Serge, of course, was already familiar with it from his previous voyage. He declared that it was like riding a bicycle or learning to swim—once you had become used to free fall, you never forgot it.

Now that the team was complete once more, they were able to get on with new exercises, and even practiced eating and drinking from the plastic tubes in which all liquid must be kept. Never again did Tony cause his companions any anxiety. He became very expert in judging his weightless

movements, and frequently he was back on his couch some seconds before the others.

At last the training with the Russians came to an end. All of the crew felt that the experience would be invaluable to them on the rocket flight. They thanked the Russian scientists sincerely, and in turn were praised for their adaptability under such unnatural conditions. Professor Boronoff was his old jovial self again as he said goodbye to the four friends. He promised them a deeper and better hole to fall down the next time they visited the Soviet training center. Within just a few hours, the lights of London Airport were stretching below them.

More runs on the centrifuge, thirty-six-hour spells in confined isolation, hot and cold chambers—all these the crew endured during their final training period. At last Squadron Leader Lambert pronounced that they were all as fit as could be for the lunar journey. The next step would be for them to rehearse the construction of the base in which they would try and survive on the hostile surface of the Moon.

By general agreement of the governments concerned, the launching of the rocket was to be made from the great British-Australian rocket range on the edge of the south Australian desert.

It was with mounting excitement that the three young men and the boy received their new instructions from Sir George Benson. The time for the great flight was rapidly drawing near. Everything was nearly ready, both men and rocket. The final preparations were already under way, for the scientist's order had been explicit.

“Tomorrow you fly to Woomera!”



To Chris it was almost like coming home. When he'd first known it, Woomera had been a dusty little town of white bungalows nestling amid thousands of young trees planted to attract moisture. Now, like the trees, it had grown considerably in size, for it was the most important rocket research center in the British Commonwealth.

At the airport, as he'd expected and hoped, his friends the Gillanders family were waiting. Chris felt his face flush uncomfortably when he saw that Betty was with her mother and father. This straight~limbed, athletic young woman was his particular friend—though the friendship was purely platonic, he hastened to explain to his companions. There was nothing Very platonic about the kiss she insisted on giving him, and now even Chris's ears were a brilliant scarlet.

Morrey had met and stayed with the Gillanders family before, but Serge and Tony stood aside a little awkwardly until they were introduced. This time, since there were four members of the crew, an entire bungalow had been allocated to them to live in until the launching took place.

That evening there was a festive party at the Gillanders' home. Sir George, Whiskers, the American scientist, Dr. Rosenberg, and a few local friends were there. Chris and his companions joined in the fun; even Serge visibly relaxed as

the evening wore on. Everyone tried to avoid thinking of the hazards facing the three young men and the boy. Occasionally, however, there were strange little silences, showing that thoughts of the dangerous future were present in the minds of them all.

It was to break one such embarrassing silence that Wing Commander Greatrex jumped in with an idea.

“Look,” he called to everyone’s relief, “we must christen Chris and company and drink a toast to them. I suggest we call them the Four Musketeers. Let’s drink to the health and safe return of the Four Musketeers.”

The title and the toast was accepted enthusiastically by them all. A little later Chris explained quietly to Tony that the title was taken, with a little adaptation, from a famous novel by Alexandre Dumas, in which the heroes went through many adventures together. Their motto had been: “All for one, and one for all,” and no better watchword could there be for the little team which was soon to attempt so much.

Before they said goodnight to their hosts, Chris and his friends learned from Mr. Gillanders, who was Sir George Benson’s deputy, that next day they could go out to the launching site and see the giant rocket that was to carry them into space. If it didn’t interfere with final work on the rockets, they might be able to climb inside and explore the cabin in which they would be making their journey between two worlds.

Tony was the first of the crew to be up and about next morning. Morrey, who hadn’t slept too well, hurled pillows, slippers, and good-natured abuse at the cheery youngster. In return the boy caught the American’s bare foot and within seconds there was nothing to be seen except odd arms and legs protruding from a heaving mass of bedclothes on the floor alongside Morrey’s bunk. The commotion speedily roused Chris and Serge, who vainly endeavored to sort out the ever-shifting pile of blankets and bodies.

“Hey, what’s going on here?”

The enormous moustache and sleepy face of Whiskers appeared around the bedroom door. The next instant the gallant officer found himself engulfed in the general melee. Eventually the five laughing, panting combatants sorted themselves out amid the wild confusion of the crew’s bedroom. Decorum had, however, been restored by the time they all trooped into the canteen for a hearty breakfast.

Two jeeps took the little party, which had now been joined by Sir George and Mr. Gillanders, out to the operation area. This was a huge enclosure about seven miles from Woomera. It was entirely surrounded by a wire fence, relic of former days when space-project security was vital. Now there were few guards at the gate when the two vehicles passed inside. It was still some distance to the firing apron, but already the eager eyes of the crew had picked out a huge latticework of steel—the service gantry, that surrounded the rocket. As they sped toward it they could see at last the sight that made their four hearts leap—the towering shape that glistened like silver in the bright sunlight. It was the rocket! Their rocket!

A gasp or a whistle came from each of the four young men, for as they drew nearer the monstrous proportions of the projectile became more apparent. This was a rocket far bigger than anything any of them had seen before almost twice the size of “Columbus” in which Chris had made his last journey.

“One hundred and fifty-two feet high and twelve feet in diameter,” declared Mr. Gillanders proudly to his astonished companions.

“Wow!” exclaimed Morrey. “Will it ever get off the ground?”

“You needn’t worry about that,” laughed Benson. “Since Russian, British and American scientists have been able to work together, we’ve evolved a fuel far more powerful and reliable than anything we’ve used separately. We’ve come a long way since your Lunik rockets, Serge.”

“Has it got a name?” the shrill voice of Tony piped up.

“Not yet, but it will have before you’re launched,” Sir George assured them.

With a screech of brakes the two jeeps slithered to a halt near the towering monster. They all jumped down, and Chris and his companions gazed up at the rocket with awe.

“Come on. Don’t you want a closer look?” called Mr. Gillanders.

“Sure. You lead the way, sir,” the strangely subdued Morrey answered.

The big Australian led them to the vast steel structure of the gantry. Everywhere crowds of men were busy working on the giant rocket. There were platforms at different levels of the gantry, and each had its busy team. Piles of apparatus were strewn about, and every few minutes a load would be taken up to one of the platforms in the elevator which served all levels. As they walked forward a number of the white-overalled men stopped to call a greeting. Several of them called to Serge in his own language; many of them were American, while Chris recognized some of his British friends, too.

“Yes, it’s an international team all right,” Sir George said proudly, “and everyone’s making a fine contribution.”

Before they went to the elevator the little party walked beneath the gantry right up to the rocket itself. With its four huge fins, it was tremendously impressive. At the moment it rested on a steel cradle on the thick concrete firing apron. Below was a deep pit which would be filled with water before the launching took place. Mr. Gillanders explained that this would absorb some of the immense heat of the searing flame when the motors were started up. Otherwise, during the few seconds the rocket was stationary before lifting itself up on the start of its journey, all the surrounding installation would be reduced to ashes. Reverently each of the crew touched the shining metal casing. Who can say what thoughts were passing through each mind as they gazed silently at one of

the most complicated pieces of engineering the world had ever known?

The elevator had to make two journeys to take them all to the first platform. It was only about twenty feet from the ground, and through an open section of the casing they were able to peer inside the rocket.

“Down there is the combustion chamber of the first stage,” Mr. Gillanders informed them. “As you know, there are four stages of the rocket for the outward flight.”

Through the opening they could see the peculiar bell-shaped steel chamber where the gases would be burnt with such immense energy. As these gases escaped through the nozzle near the ground, their great thrust would lift the giant slowly from its resting place ever faster into the heavens above. The whole interior of the rocket casing was filled with an intricate mass of pipes, pumps and valves. Above were the vast tanks which would contain the fuel and oxygen.

“What you see here is the first stage of the rocket,” Sir George explained. “It will fire for one hundred and twenty seconds, by which time it will have lifted the whole projectile to a height of about forty miles and built its speed up to fifteen hundred miles an hour. At that point, as soon as the fuel is exhausted, it will break away and fall back to Earth. Then the second stage that’s it just above there—will take over until it, too, is burnt out.”

Chris could see that Tony, who had been gazing at the projectile in silent wonderment, was puzzled.

“Why does the rocket have to break up into parts?” he asked.

“Because it’s best to get rid of useless weight as soon as possible,” his friend explained, delighted at the intelligent interest the boy was showing. “It’s better than having one big rocket, for then all the dead weight, such as empty fuel tanks, would have to be carried all the way. This method saves quite a lot of fuel.”

Higher and higher they went. Sir George or Mr. Gillanders pointed out the various features of the rocket. Sometimes the four spoke to the men at work; sometimes they peered inside a gaping hole in the casing.

“Now this is the part you should be interested in,” Mr. Gillanders called to the crew as he led the way still higher. “This part of the projectile will take you the whole way.”

As they stepped onto the platform Chris looked intently around and upward. They were still some fifty feet from the nose of the rocket. And all this would be landed on the Moon! Why, it was almost as large as poor old “Columbus” had been before take-off—as big as all his previous rocket’s stages together. Of course there were four people to be landed this time, and they were to stay on that inhospitable world for as long as possible. On this voyage there would be much equipment to be carried, for they had to construct the first base on the Moon.

Sir George Benson had now taken up the description of what they were seeing.

“All the landing part of the vehicle will separate at a given height and speed. It is very important that this be carried out accurately. Even an error of a few miles per hour would upset our calculations, and could be disastrous. Thanks to our Russian friends and their Luniks, however, we have no fears on this point. A retro-rocket will be fired to ensure an easy landing. The rest of the fuselage houses the cabin, oxygen tank, stores, and the two-stage rocket to get you back.”

It was this top part of the monster on which most of the men were working. That much work had still to be done was obvious, but no one who watched these quiet, efficient men could have any doubt but that it was being done quickly and well. Here, under the bright Australian sun, some of the finest technicians and scientists of three great nations were working together, united in a common endeavor. In a very short time their labors would come to an end, and upon them would depend the lives of three young men and a boy—

and Man's first attempt to establish an outpost for himself in a new environment.

The cabin, quite naturally, was the focal point of interest for the crew. At the request of Mr. Gillanders some half-dozen men, who were installing the various instruments, climbed out to let Chris and his friends enter. For the first time they gazed about the small compartment in which they would make their tremendous journey. As the contour couches had not yet been fitted, there was a fair amount of room to move about. Various dials, screens, and electrical apparatus were already in place, but much more was to follow. Indeed, the cabin was beginning to look like the cockpit of an airliner.

"Will we ever be able to master all these gadgets?" Morrey asked himself in a moment of panic.

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"Now your final training really begins," Sir George Benson was saying to the four. With Mr. Gillanders, Wing Commander Greatrex, and several of the Woomera scientists, the little group was gathered in a small lecture room attached to the control building of the Rocket Research Establishment.

"You have been prepared to the best of our ability for the physical conditions you will meet. For weeks now you have spent the whole of the time together, so you should be psychologically prepared also. Now comes the time when you must learn what you are to do on the lunar surface, and the tasks you will have to perform.

"As you know, your primary objective is to establish the first permanent base on the Moon—Man's spearhead in the conquest of other worlds. You will also gather as much information as you can about local conditions, paying particular attention to anything relating to the domes. At intervals you will receive supplies of oxygen, food and water by means of freight rockets. Chris, here, will decide the length of your stay. We should like it to be for at least a

month so that you can report on one complete lunar cycle. However, you can take off again for Earth sooner if Chris thinks it advisable.”

“Will other people come to the Moon soon?” Serge asked.

“Not on this occasion,” the director replied. “When you blast off, your base will be evacuated but left intact. It will be used for the next expedition which will be sent after your own results have been analyzed. It is possible that this later expedition will establish a permanent base, with its members being replaced at regular intervals. However, much will depend on how you four manage.”

“What are we to do now, then?” asked Chris.

“Your time until blast-off—about two weeks—will be occupied with practicing the construction of the base, working out a routine for your exploration, and the plans for the return flight.”

“So the great day has been fixed?” The question was Morrey’s.

“Practically. Can’t tell you to a day either way, but it will be about the eighteenth.”

“Two weeks from tomorrow! Well that’s not long, anyway,” the young American observed with forced casualness.

“If you don’t mind, we’ll come back to the original purpose of this little gathering,” Sir George said with a smile, “and I’ll ask Mr. Simpson, here, to start off.”

“Well—er—gentlemen,” Simpson began, hardly knowing how to address the four members of the crew, “your first task after landing on the lunar surface will be to survey the immediate area. Mr. Godfrey and Mr. Smyslov are, I know, familiar with its main features. But for the purpose of constructing your living quarters it will be necessary to select a craterlet about twenty feet in diameter, and the deeper the better. Any permanent base on the Moon will have to be underground to afford protection against radiation,

meteorites, and extremes of temperature, but this will not be possible for you. Instead you will use the small crater as the foundation for a plastic dome which you will erect in sections. This dome can be made airtight, and will be strong enough to allow an internal pressure of about half an atmosphere. In other words you will be able to live and move about in it without wearing your space suits.”

“That is important if you are to remain any length of time,” Sir George put in. “Your base will, of course, have an airlock which will permit you to enter and leave with a minimum loss of oxygen.”

“Tell me,” Chris asked, “will there be much difficulty in putting up this ‘home away from home’?”

“That’s one of the things you’re going to practice,” Mr. Simpson assured them. “We shall build a nice little crater out in the desert for you and show you how to erect your dome. You’ll be able to put it up and take it down again till you can do it in your sleep.”

“Of course that isn’t all you’ll be doing this next fortnight,” Benson interposed. “I’m afraid you’re in for some pretty stiff briefing on the use of certain instruments you’ll be taking and the exploration program.”

“Does this include Tony?” Chris wanted to know.

“No. I don’t think Tony need attend the briefing sessions, but he’ll have to help with the erection of the base. Guess you can amuse yourself while these characters are busy, eh, lad?”

“Yes, sir. Of course, sir,” Tony grinned. “Er—can I go to the workshops when I’m not wanted?”

“As long as you don’t get into mischief,” Sir George said. “Now you can relax, but you will report back here at two o’clock for the first session.”

“Oh, by the way,” Benson added as the crew headed toward the door, “I’ve had a signal from Sir Leo Frayling himself. He’s thought up a name for the rocket. Want to know what it is?”

Chris and his friends turned back eagerly toward the director, curiosity reflected in all their faces.

“I’ll tell you then,” Sir George smiled. “Your rocket is to be named after the great mythical winged horse that carried his riders across the heavens. Pegasus.”



“**W**hew! How many more times do we have to put up this contraption?” grumbled Morrey Kant.

The rocket crew, under the keen eyes of Mr. Simpson and two assistants, had built and dismantled the plastic dome for the sixth time. Each time the structure had been completed, compressed air had been pumped inside to test the sealing. Now not only could Chris and his friends complete the structure in half the original time, but they were also able to make it airtight. Even Morrey had to admit that this increased efficiency was sufficient reward for the constant repetition, since their lives might well depend on how swiftly and carefully they were able to erect the base.

“Come on, my friends. Just once more,” ordered the merciless Simpson.

With certain vague mutterings Morrey joined his companions in fitting together again the parts of what would soon be their lunar home. Again Mr. Simpson, after tests, pronounced it airtight, and expressed himself satisfied that one, at least, of their tasks would be performed efficiently. The erection of a radio mast had been a fairly simple operation.

Interspersed between sessions with Simpson, the three

older members of the crew had attended many briefings by scientists of the three nations. Much of what they would have to do was of a highly technical nature, so Tony's absence was perhaps preferable. While his companions were preoccupied with their scientific instruction, the lad haunted the many workshops of the great research center. He found everything completely fascinating. All the men liked this youngster who was soon to go on such a momentous voyage, and they taught him a great deal. Soon he was soldering, welding and generally working with the best of them. Word went around that Tony had a gift for using his hands, and the boy received every encouragement from the skilled mechanics and technicians who were working on the final preparation of Pegasus.

So busy were the older members of the crew with their briefings that they saw little of their young companion except at mealtimes and at night. When they asked him what he'd been doing he just smiled and said he'd been "messaging around." He assured Chris that he'd not been getting into trouble of any kind, and with that the leader had to be content.

It wasn't all work and no play for the crew. The Gillanders family went out of its way to make the off-duty time of the Musketeers as happy as possible. Betty and her mother arranged parties, barbecues, horse rides and numerous other diversions to keep them occupied, for they knew what a period of strain these passing days could be.

Sometimes Chris and Betty had a few minutes alone. The young man always felt uncomfortable and awkward, yet whenever he was with her, his heart beat just a little faster than usual. Betty was prettier than ever. Perhaps, when this great adventure was over, he'd try and find out if she liked him as much as he liked her.

Whiskers was a great comfort to the crew. Whenever they were feeling tired or showing signs of strain, the breezy Wing Commander would cheer them up. His fund of stories seemed inexhaustible, and he had a gift for raising their

spirits. Sir George Benson and Mr. Gillanders were able to spend very little time with their four young friends, for work on Pegasus was proceeding at a frantic pace, and they had to give their constant attention to the countless details connected with it. The days fled past until one morning Sir George gave them all a piece of news that sent a chill down their spines. Sir Leo Frayling would arrive next day!

It seemed uncanny, but from the moment the Chief Scientist's plane touched down the atmosphere at the Research Establishment changed. No longer was there that light-hearted, carefree banter between the men of different nationalities engaged on the tremendous project. Instead each man seemed to shrink into his own shell, chilled by the presence of their whip-tongued boss. Gone were the laughter, the practical jokes, the comradeship. Now everyone was serious and preoccupied, concerned only that the work he did would not evoke the biting invective of Frayling.

Though they did not see him for some hours after his arrival, the crew, too, felt the presence of Sir Leo. Tony was immediately stopped from visiting the workshops, and the briefings of the other three became even more intense. Whiskers alone battled valiantly against the general depression, but even he knew that an order from Frayling could send him on the first plane back to England.

It was with a shiver that Chris and his companions answered the dreaded summons. Sir Leo gazed at them coldly, inspecting them like so many specimens for some moments before he spoke.

"I am informed that your training and instruction are virtually complete," he said sharply, "though I shall wish to form my own opinion on that point. The utmost discipline must be observed from now on, for I will allow nothing to jeopardize the success of this project. Launching will take place next Thursday at fourteen hundred hours, just over ninety-two hours from now. I have already started the 'count-down.'"

Chris, Morrey and Serge all knew what this meant. The launching of any rocket, particularly a tremendous one like Pegasus, was a complicated affair, and an elaborate procedure had been worked out. Many final jobs and tests on the giant projectile had to be done strictly on schedule. Each had to be completed by a certain point in the count-down until finally, some four hours before zero, the fueling would be started. At zero minus one hour the fueling would be completed and the four members of the crew assisted into their heavy space suits. Right down to the last few seconds it had all been carefully planned, and now everyone at Woomera had become slaves to a relentless clock! Already the hours had started to tick away!

Sir Leo broke into their thoughts.

“I wish to see Godfrey now. The rest of you may go.” Silently the other three left Chris to face the Chief Scientist, and thankfully joined Whiskers outside.

“Since much of the responsibility for the crew is yours, are you completely satisfied with them?” Sir Leo asked sharply.

“Yes, I think we shall be all right,” Chris replied.

“Think? Think?” the other stormed. “That is not good enough. You must be absolutely certain. More than three hundred million dollars is involved in this project!”

Chris felt himself flushing angrily at the biting sarcasm in the other’s voice. He controlled himself, but thought, “Why, oh why did it have to be a man like Frayling who was running the job? Why not someone like Uncle George, who could inspire the utmost co-operation?”

“The crew will be satisfactory,” he forced himself to say evenly.

“Very well, then. And what about the subject of the other experiment?” demanded the scientist. “Have you any comments on his behavior pattern to date?”

“Tony has turned out to be a very likable boy. He gets on well with the three of us and with the personnel of the

establishment also. He's stood up to his training very well, as you probably know already, and he's been no trouble at all. I shall be very surprised if there's any change in his behavior, and I sincerely hope he's cured."

"That we shall see. But remember—this experiment is not to be allowed in any way to interfere with our main objective. You have your instructions. I shall expect them to be carried out to the letter."

"Yes, Sir Leo," Chris answered meekly.

"You can go now," the scientist said distantly, and his attention immediately switched to a pile of reports on his table. With relief Chris made his exit.

So far there had been little time for any of the crew to visit the control room—the nerve center of the whole operation. Having a couple of free hours that evening—social activities were taboo now the count-down had started—Chris asked if they might all visit this fabulous chamber. Benson agreed, and he and Mr. Gillanders escorted them, together with the Wing Commander.

The room, a long, windowless one, was brilliantly lighted. It was situated about half a mile from the firing pad where Pegasus stood basking in floodlight. Thick concrete walls would protect the dozens of scientists inside should there be an accident at the launching. Along the whole of one wall was a mass of dials, gauges, radar screens, and a host of other complicated instruments. In the center of the room was something which looked like a table with a sloping top. It was a mass of switches and red and green lights. From this console would go out the impulse that would cause the silver giant out on the firing apron to spring to life and go roaring angrily up into the vast blue dome above. At zero minus six hours, eight A.M. on Thursday morning—all the little signal lights on the console would be red. Then as each part of the rocket received its final check, a red light would go out and a green one alongside would flash on. As the critical moment came nearer, more and more lights would change to green

until at last, ten minutes before zero, no more red ones would be left. Everyone would wait with growing tension as the last moments hurried past. At the precise hour the large red switch would be pulled by Sir Leo Frayling and half a mile away three men and a boy would start a fantastic journey—or be obliterated in a blinding flash.

The two scientists walked slowly along the room with the crew and Whiskers, explaining the various pieces of apparatus and introducing them to the men at work. Tony followed behind, silent and wide-eyed. He was fascinated by the vast complexity of this amazing room. Only one of the numerous dials did he understand. It was the largest of them all, and it was right in the center of the room, hanging from the ceiling very much like the huge clocks in railway stations. Everyone in the room could see it plainly, and it seemed to dominate all the other instruments that abounded. It was indeed a clock—the master clock of the establishment—from which hundreds of slave clocks took their time. A long red finger moving steadily around the dial showed the seconds slipping past. Everything done in the control room, every test and preparation out on the firing apron, every activity at the tracking stations spread out for hundreds of miles in the desert were subject to the relentless march of those creeping fingers.

Below the round case of the master clock hung another fascinating instrument. It was geared to the clock above, but its row of bold black figures indicated the hours, minutes and seconds to zero—to the time when Pegasus would leap into the skies carrying its four passengers to destruction or glory. Even as Tony watched, the figures were constantly changing. Now it was ninety hours, fifteen minutes and thirteen seconds to the blast-off. Twelve seconds, eleven, ten, nine, eight! With a strange feeling in his stomach the boy stood rooted to the spot, his eyes glued to the fateful indicator.

“Come along, Tony.”

It was Whiskers, ever observant, who jerked the boy out of his trancelike state. Mustn't let any of the crew get too

introspective now! Greatrex knew that in these last few days and hours his task would become increasingly difficult, but he was determined that, if it was in his power to ensure it, the crew would enter that rocket in a calm and carefree state of mind.

Now that the launching time had been definitely fixed everything was moving at an increased tempo. There was a sense of urgency, of mounting tension, with that awful clock driving everyone relentlessly on. The Four Musketeers were the center of a whirl of activity—medical examinations, last-minute instructions, sessions in their space suits, visits to their cabin. For a few uncomfortable hours Serge developed a temperature, but to everyone's relief it was normal next day.

Sir Leo Frayling seemed tireless. He was in all places at once—in the control room criticizing some unfortunate scientist, on one of the gantry platforms berating a technician, in his office giving curt orders to Benson, Boronoff and Rosenberg. The Chief Scientist even visited a few of the nearer tracking stations which he reached by helicopter.

The day before the launching dawned. Wing Commander Greatrex wakened his four protégés quite early. He'd been watching them carefully for the last few days and he sensed the strain they felt. He, too, had been caught up in the general unrest—another victim of that great, sinister clock. But it was his job to look after the welfare of his four young friends, so he fought strenuously to calm his own jangled nerves.

“Come on, boys,” Whiskers called with almost natural gaiety. “Let's all have some exercise before breakfast.”

Morrey and Chris, who hadn't slept well, groaned protestingly, but Serge and Tony silently obeyed. There followed a vigorous half hour, at the end of which there were five perspiring bodies and five more cheerful minds.

The morning followed its usual course, including more

than an hour of poring over the latest photographs of the Moon taken by satellites just a few score miles above the surface. Chris and his two older companions were quite familiar with the lunar geography, but Tony looked at the pictures of the innumerable craters and towering peaks with amazement. Soon, if all went well, he would be walking in this nightmare landscape that Chris and Serge had described to him so often. Soon he would experience that strangely exhilarating feeling of lightness caused by the weak gravitational pull of the Moon.

When they paid their usual Visit to Pegasus, the four of them found a swarm of men busily loading stores into the main cargo hold just below their cabin. It was essential that they should know just where everything was, so some hours were spent watching the careful stowing away of the plastic dome, the innumerable oxygen cylinders, flasks of water, tubes of food, and numerous instruments. Already each of the crew was familiar with the operation of the radios. There were small sets built into each space helmet for communication between themselves while in the airless lunar vacuum. There was the set in the rocket for communication with Earth during flight. Finally there was another set which was powered by solar batteries drawing energy from the light of the sun. This would be the one they would install in their base once it was erected. They would use this set as much as possible for their frequent contact with Control.

Wednesday evening came and the crew returned to Woomera. There was nothing more for them to do but wait for the next twenty hours to go by. The medical men had given them strict orders to go to bed early and have a good night's rest. To ensure this they would each be given a sedative at eight o'clock. Without it there was no chance that they would sleep, for as the time got shorter, their thoughts raced faster. Their nerves were stretched taut, and in that condition it would take only the slightest irritation to cause a major upset.

Whiskers was working frantically to keep Chris and his friends as happy as possible. Mrs. Gillanders and Betty helped out by arranging a party at their bungalow. All the crew's friends were there. Many of them were young people, and before long they were all dancing to the music of a phonograph. Betty, of course, had most of the dances with Chris, but she spent several of them with Tony, trying to teach him to dance. At first he was shy and awkward, but Betty was patient and he soon picked up some of the steps. Other girls enticed the lad to his feet and as the evening progressed he enjoyed it more and more.

The time to break up the party came all too soon. Reluctantly Sir George Benson insisted that the festivities must end, and that the crew must return to their own quarters. In a flash everyone became serious, for they knew the dangers these three young men and the boy would have to face next day. To avoid an anticlimax, Sir George went to thank the host and hostess and shepherd the crew toward the door. It was then that he found that Chris was missing—and Betty, too. Puzzled, the scientist opened the door and looked out of the bungalow into the starlit night outside. Quickly he came back inside and shut the door carefully.

“We'd better wait a moment,” he said mysteriously. Then, a few seconds later, with an altogether unnecessary rattling of the knob, he opened the door again, and strangely enough there were Chris and Betty standing suspiciously far apart. With many clasps of the hand and wishes for good luck from their friends, the crew allowed themselves to be steered away by Benson and Whiskers.

As they walked silently to their bungalow each of them was busy with his own thoughts. It had been a lovely evening, but what would tomorrow bring?



Thursday dawned fine and clear—for those who had time to notice. All night long work had proceeded on the final preparation of Pegasus. The last of the stores had been stowed, the instruments had all been double checked, the valves and pumps had been tried out, the radios had been tested. Contact had been made with all the tracking stations on the Australian continent, as well as many others all over the world. It was of the utmost importance that the exact path and speed of the rocket be worked out as early as possible so that any necessary correcting action could be taken. An elaborate computer, installed in a room of its own at Control, would work out the flight path from the data fed to it from the reports of tracking stations. Within a very short time the computer would also indicate any change required to bring Pegasus back onto the prearranged trajectory.

After they had left the Gillanders' party, Sir George and his deputy had gone straight to work, and now that morning had come they were tired. Yet they, and all the weary-eyed men still swarming over the rocket and in the control room, had no thought of rest. Not one would think of going off duty until Pegasus and its passengers had been safely launched.

An all-Russian crew would soon be fueling the rocket, pumping into the vast empty tanks hundreds of tons of the

amazingly powerful liquid that their scientists had invented. This was difficult and dangerous owing to the nature of the fluid, but the Russians had perfected the technique in launching their many Sputnik and Lunik rockets.

Back in Woomera Chris and the other three had slept like logs—as the doctors had intended. Poor old Whiskers had not been so lucky. There were no helpful sedatives for him. Instead the Wing Commander had spent a sleepless night which had not been helped by running out of cigarettes at 3 A.M. Several times he had crept quietly into the crew's bedroom and peered silently into the four bunks where Chris and his friends slumbered heavily. They were to be allowed to sleep, if possible, till nine o'clock, and Whiskers intended to follow his instructions to the letter.

Promptly at the appointed hour the Wing Commander, carefully shaved but showing signs of his vigil, stepped briskly into the bedroom.

“Wake up, fellows,” he called breezily, but none of them stirred.

“Come on, come on,” he shouted, shaking them each in turn.

Chris was the first to open his eyes. He groaned as he looked up at the bristling moustache, then quickly shut his eyes again and screwed them up tightly.

“Hey! Aren't you going on the Moon trip?” the injured Wing Commander demanded.

Chris's eyes opened again and he sat up sharply.

“Gosh! It's today, isn't it?” he said, and a little of the color left his face. In a second he had recovered and was helping the officer to pull the bedclothes off the others. As they came awake he reminded them that the great day had come. Morrey let out an Indian war whoop, Serge nodded, and Tony looked appealingly into Chris's eyes.

“Come on, Tony,” he called gaily, not giving the lads fears time to crystallize. “Come on, all of you. Operation Scissors!”

At Chris's words the three young men hurled themselves on the unfortunate officer and after a furious struggle succeeded in pinning him to the ground. Meanwhile Tony, grinning delightedly, had produced a pair of scissors and with two quick snips had cut off huge chunks from each end of Greatrex's facial adornment.

With the victim roaring like a bull, Tony made off with his prize. While he was making his getaway Chris and the others held the Wing Commander down. For a second the eyes of Chris and the officer met. Did a message flash between them?

At a signal from their leader, the three young men released poor old Whiskers. His face was a study. Without a word he scrambled to his feet and staggered toward a mirror. He looked into it mournfully. The work of years ruined in a moment! He felt naked. He could scarcely recognize himself. Tenderly he stroked the remains of what had been his proudest possession. What some men are called on to sacrifice for their friends!

"Thought we'd like to take at least part of you along with us," Morrey grinned. "You know—a mascot."

"It will grow again, my friend," said Serge.

The shorn Whiskers turned around disconsolately. "I'll never face the others," he said slowly.

"Sorry, Whiskers," Chris whispered. Then aloud: "Why, it's a great improvement. We can see what your face really looks like now. Not bad at all, is it, fellows?"

There were murmurs of agreement from Morrey and Serge. Greatrex looked around.

"Where's that young imp gone?" he shouted.

"Oh—er—he's taken our talisman to safety till you cool off," Chris laughed.

"Well, I can't do anything to you now," Greatrex said with mock severity, "but I'll flay the four of you alive when you get

back. And just you bring my moustache back safely too.”

Tony reappeared with a wide grin. Greatrex continued his dire threats as he sat on one of the bunks while the crew dressed. When they were ready he drew a deep breath and led them out to breakfast.

Just outside the bungalow they bumped into Sir George Benson who was just coming to join them. He wished them all a cheerful “good morning.” Then suddenly he caught sight of the officer, who had been trying to conceal himself behind the others.

“Good heavens, Whiskers!” he exclaimed. “What’s happened?”

“What’s happened? Better ask these young hooligans,” Greatrex answered, his face flushed with embarrassment.

“We are taking our friend’s moustache with us to bring us good luck,” Serge explained. “I am sure it will do so.”

Sir George Benson’s face was a study in self-control. His features were working in the effort to remain serious, and poor Greatrex’s discomfiture became even greater.

“Well, I’ve heard of monkeys’ paws, rabbits’ feet and dried toads,” said the scientist, “but I’ve never heard of a ginger moustache before. Still—I’ve no doubt it will be very effective. Meanwhile, you’d all better get something to eat.”

Somehow, the gay chatter during breakfast seemed a little unnatural. Sir George and the Wing Commander noticed the quick, jerky conversation, the uproarious laughter at the slightest pretext, and the poor appetite of all the crew. More than once they exchanged glances of concern, for they knew the symptoms only too well. Better keep them occupied or perhaps someone’s nerve would crack before the launching!

“There’s a battery of photographers outside,” Benson informed Chris and his friends when the meal was over. It was nearly eleven o’clock before the cameramen had finished. Then followed the final medical examination. As Benson had expected, the report was that each of the crew

was in a high state of tension, with rapid pulse and respiration, and a tendency to perspire. Whiskers had already noticed the beads of moisture on the foreheads of the crew.

“Any chance of seeing Betty?” Chris inquired with studied casualness.

“Sorry, not a chance,” apologized Sir George. “Sir Leo’s orders, you know.”

The little frown of annoyance that passed over Chris’s face gave him an idea. He excused himself and left the others in the charge of Whiskers, who knew that the most crucial time of all had now come. It seemed that his usually inexhaustible fund of stories had dried up, and he thought desperately of something to say to divert the crew. Half-heartedly Whiskers suggested a session of pushups, but the crew merely ignored what he’d said. From the twitching of the faces, the spasmodic conversation, he knew that the threatened storm would soon break.

The tension was eased a little by the arrival of a messenger. Wing Commander Greatrex was ordered to take the crew to Sir Leo Frayling’s office at once. For the first time Whiskers was relieved to go and see the sharp-tongued Chief Scientist. What Frayling wanted with Chris and his friends he couldn’t guess. Neither could the young men, and for a moment it was touch and go as to whether they would obey or not, but Greatrex led the way, and reluctantly the others followed.

Tony’s reaction to the strain of waiting had been somewhat different from the others. Enclosed inside a stony shell of silence, he rarely spoke, and Whiskers wondered what was going on in the youngster’s head. For the first time since he could remember, Tony felt like crying. Something kept choking up inside him, and he knew that if he didn’t keep silent he’d burst into tears. It was only the fear of letting Chris down that helped the boy to keep a stiff upper lip.

As they trooped into Sir Leo’s office, they saw Sir George

was also there. Frayling looked pale, and his skin seemed tight and shiny. Yet from his cold, incisive phrases no one would have guessed that he, too, had been up all night.

“Benson thinks I should see you once more before the launching,” he began. “I can’t see why. You have all had precise instructions”—here he glanced meaningly at Chris—“and I don’t propose wasting time. Is there anything you want to know?”

Each of the young men felt the old irritation with this strange man. In a few hours they would embark on the most perilous undertaking yet attempted by Man. And there was not a word of encouragement, not a single good wish from this inhuman machine. Anger had now replaced irritation. Chris felt the blood rush to his face, and he could see the stern, set features of Morrey and Serge. Why, oh why, must it be this detestable man who was in charge of the attempt to establish Moon Base One?

No. They would not ask Frayling anything. They would perform their tasks without any favors from him. To the devil with Frayling! Let them get out of this stifling office and Sir Leo could go hang himself.

“Nothing to say? Then good-bye,” rasped the Chief Scientist.

Without a word, for he didn’t trust himself to speak, Chris led his crew from the room. He was boiling with anger and never noticed the smile of satisfaction on the face of wily Uncle George.

Their emotions burst once they were safely outside, and each gave vent to the pent-up wrath he felt. For once Chris did not rebuke Tony when he used some of the choicest expressions of the back streets of Birmingham about the man they had just left. Even Whiskers joined in the general tirade against Frayling, and they were still arguing an hour later when Benson rejoined them.

Doing his best to calm the young men, who no longer seemed plagued with nerves, Sir George asked if they wanted

the services of the padre while there was still time. Instantly Chris became calmer. He'd always had a little religious service before his previous adventures, and he'd found it a great help. A little self-consciously he explained this to his companions, and asked if any of them would like to join him. To his pleased surprise even Serge agreed.

The service was simple and short, but very sincere and moving. Each of the older members of the crew felt better for it, and even the boy was impressed. They felt much more cheerful and relaxed, and Whiskers once more was the subject of a great deal of banter.

Meanwhile the fingers of the Control Room clock had been moving on steadily. It was now almost 1 P.M.—little more than an hour before the launching was due. Whiskers asked the crew if they would like some refreshment, but none of them felt hungry. Ten minutes later they were led into the room where their heavy space suits were kept. A group of technicians was waiting to help them put them on. With a cheerful gesture to his companions, Chris started to remove his outer clothing. The great adventure had begun.

Out on the launching pad the fueling had been completed. All the last-minute jobs had been done. Scattered over half the globe the men in the tracking stations were waiting at their radios. The giant bowl of the Jodrell Bank telescope was turned toward that part of the horizon over which Pegasus would rise. Frayling, tight-lipped and remote, sat at the central console in the Control Room. All over the vast establishment men were waiting—waiting for the four to appear. There was a strange lack of conversation everywhere.

With the good wishes of their dressers echoing in their ears, Chris and his companions were wheeled out of the building. There were the usual jocular remarks as, accompanied by Sir George and Whiskers, the four trolleys were trundled toward the vast rocket. When they arrived at the base, willing hands lifted each of the crew into the elevator which carried them up to the entrance to their cabin. Here more men, Russians, Americans, Britons and

Australians, installed them on the couches. It was a tight squeeze and a difficult job, but at last the four adventurers were in position.

Now the helmets had to be fixed and the radios switched on. They would have to wear their full suits while under acceleration, for the temperature inside the compartment would rise, owing to atmospheric friction. Once they were in free fall, the crew could move about and remove their helmets as they wished. Sir George, Mr. Gillanders, Whiskers and others squeezed into the cabin in turn to wish the voyagers "good luck." Benson gave the order for their helmets to be fixed and then spoke to each of them over their radios.

One by one the men who had been assisting them scrambled out through the hatch onto the gantry platform. Sir George was the last to leave, but in the end, with an encouraging pat for each, he, too, climbed outside. With some difficulty all four turned their heads toward the little circle leading to the outside world—the world which in a few brief minutes they would be leaving. With a final wave Benson slipped aside and the door of the hatch swung to.

In spite of themselves the clang of the steel gave them a queer feeling. Somehow it had a sound of chilly finality. They were sealed up for the fateful journey; there was no longer a chance of escape. How long would it be before they set eyes on other human beings again? Indeed, would he ever see Uncle George and Whiskers again, Chris wondered, but he hastily pushed these morbid thoughts out of his mind. As leader, it was his duty to be cheerful and to keep up the morale of the others.

"Everybody all right?" he called through his radio.

"Yes." "Yes." "Yes."

The answers from his companions came a little uncertainly. Oh well, they must snap out of it. No gloom or despondency now. They must all be calm and cheerful while the last minutes ticked away. It was a great relief when the

speakers in their helmets crackled and the voice of Sir George Benson was heard.

“Hello, Chris, Morrey, Serge, Tony! Are you hearing me? I’m standing on the ground at the foot of the gantry. You’re all safely tucked away now,” it said.

“We’re O.K.,” the crew chorused back, each trying to put conviction in his voice.

“How long?” It was Chris who voiced the question for them all.

“Approximately eighteen minutes,” the voice of Benson informed them, and then it went on: “We’re moving the gantry away now.”

“Won’t be long now,” Tony whispered in a rather cracked voice. Chris and the others knew how long eighteen minutes can seem.

“Everybody comfortable?” Chris asked. Confidently they assured him they were.

It was strange to look through the transparent front of the helmet and see the lips of the fellow next to you moving while his voice sounded in your ear. Of course those in the top couches couldn’t see the two below and vice versa.

“I’m back in Control now,” Benson’s voice said suddenly. “Eleven minutes to go.”

It was impossible to see how Tony was taking things, for only a small part of the face could be seen. No use asking him if he was all right. That would only make matters worse, so Chris tried to keep up a light conversation with the boy.

“Where have you put our lucky charm?” he asked.

“I’ve got it in an envelope in a pocket of my tunic,” Tony told him. “Shall I divide it up between us?”

“Good idea. When we can move about in free fall, you can do it then. Do you fellows want to listen in on the count-down?”

There was an affirmative chorus from the other three.

“All right. I heard,” Sir George came in. “Didn’t know whether or not you would. There are about nine and a half minutes to go. I’ll connect you.”

There was a slight click in their helmets as the connection was made.

“Everyone in Control is on their toes,” Benson’s voice informed them. “Whiskers is standing here beside me. No one recognized him at first, thanks to your activities. We can’t agree—”

“Nine minutes,” came a fresh voice.

“—whether it’s an improvement or not. Rosenberg likes it, but Billy Gillanders says that the more of his face that’s hidden the better looking he is.”

And so the seemingly empty chatter went on, but everyone knew it was a symptom of the mounting tension as zero hour approached. Whiskers took over the microphone for a time and repeated the blood-curdling threats of what he’d do to them if they didn’t bring his moustache back safe and sound.

“Four minutes.”

Gosh, how the time was flying! Was that a whimper Chris heard from Tony? He couldn’t ask him, in case the boy lost his self-control. Would his desire not to break down in front of his friends be strong enough to sustain him in the next few critical minutes? Chris himself felt his heart thumping painfully as he waited for the next minute to slip by.

“Three minutes.”

The conversation had dried up from both ends. Neither the crew nor those in Control could think of anything to say. The silence was very strained and brittle. Would anyone crack?

“Two minutes.”

With a determined effort Chris broke the silence. “How

long shall we be accelerating?” he asked.

“About six minutes,” Sir George answered instantly, glad of this opportunity to speak again. “You see, we could boost you up to the correct speed in three-quarters of a minute, but it would take thirty ‘g’ and in spite of your suits and couches, you’d be flatter than pancakes. On the other hand we could use about three ‘g,’ but this would take nine minutes and would waste a lot of fuel. We’ve had to choose the happy medium, so you’ll get five ‘g’ for just under six minutes.”

“One minute.”

Again the silence fell. There didn’t seem any point in saying anything. Better just wait. Chris turned his head to look at Tony. Even the restricted vision through the helmet front showed that the lad was on the point of cracking up. His face was working pitifully, and his eyes looked full of appeal. Any second now, Chris knew, his nerve would crack—a very infectious complaint. Though he had a queasy feeling in the pit of his own stomach, he mustn’t let the boy break down.

“Thirty seconds.” The impersonal voice from Control came through with startling clarity.

“Now, everyone,” Chris forced himself to say cheerfully, “let’s have the motto of the Musketeers. Remember it, Tony?”

The four voices, all a little shaky, united in a chorus.

“One for all, and all for one.”

“Twenty seconds,” interrupted Control.

Desperately Chris strove to keep his own nerve and to help his companions.

“I want us all to join in the count-down of the last ten seconds,” he called. “And I want to hear you all. Right?”

There were murmurs of assent, followed by a brief pause until the fateful voice of Control sounded once more. Then it came.

“Ten seconds.”

“Ten seconds,” echoed the four voices of the crew, after which they joined in.

“Nine.”

“Eight.”

Who was that whose voice was suspiciously shaky?

“Seven.”

“Six.”

“Five.”

It didn't sound like Tony.

“Four.”

“Three.”

Suddenly Chris realized it was his own voice! This would never do.

“Two.”

“One.”

Help us all, please God, Chris prayed.

“ F I R E ! ”



Nothing happened.

What had gone wrong? Had the rocket failed to ignite? Had they been through all this for nothing? Was—ahh!

The rocket ignited. Each of the crew felt his couch heave beneath him, and the next second they were pinned down by the terrific thrust of Pegasus as it gathered speed.

“Ten seconds.” Control was now counting the time after zero. At least it would help them to know how much longer they’d have to endure this discomfort.

“Twenty seconds.”

The pressure was terrific. It was impossible to move a muscle. Even the flesh on their faces seemed to be stretched toward the back of their heads. They were all grateful now for the preparation in the centrifuge which had accustomed them to this.

“Thirty seconds.”

They must be well up now. The earth would be falling away many thousands of feet below. There was nothing they could do but wait—and wait.

“Hello, Chris.” The welcome voice of Sir George Benson sounded in the young man’s helmet. “You’ve had a perfect

take-off and Pegasus is dead on course. Everything's fine so far."

Well, that was a relief, anyhow. If only they could stick it out until the acceleration was over! None of the crew could speak while they were pinned down by the thrust of the giant rocket motor. Periodically Benson informed them of their progress. The slight momentary slackening of the thrust indicated that the first stage of the projectile had completed its job and had been jettisoned.

If the minutes before take-off had seemed to fly on wings, now they crawled with leaden feet.

"Two minutes."

Only a third of the time gone! On none of their runs in the centrifuge had they been pinned down as long as this, for now they were traveling at a higher speed than even that huge machine could ever achieve. There was nothing that Control could do about it. The crew just had to lie there and sweat it out. It required all their concentrated efforts to keep on breathing. Had they not been inhaling pure oxygen their short, shallow respirations would have been insufficient to keep them alive.

"Five minutes."

Every one of them had seemed an eternity, but the end would not be long in coming now. How had the others fared? It was impossible for Chris to tell. Had any of them passed out? He couldn't even turn his head to look at his young companion. Only when they were released from this crushing pressure would he be able to communicate with them.

"You'll be in free fall in about thirty seconds," Sir George's voice informed them. "All of you please report as soon as you are able. Chris, will you let us know the general position?"

The young leader was still unable to answer, but it was good to know that the period of their discomfort would soon be over. Then his first action would be, of course, to see how Tony had come through.

Whew! As if by magic, the pressure had gone. Chris could move again-and talk.

“I’m all right,” he called. “How are you others?”

The voices of Morrey and Serge answered him, but Tony was silent. Fumbling hastily with the straps that held him down, Chris released himself from the couch and leaned over toward his young companion. In his anxiety he’d forgotten to control his movements, and he found himself bumping against the roof of the cabin. With a gentle push he propelled himself toward the boy’s still figure. Then he steadied himself on Tony’s couch and peered through the boy’s helmet. His eyes were closed, but he was breathing.

“We’re all right,” Chris reported to Control, “but Tony seems to have passed out.”

“Remove his helmet and see if there’s any bleeding,” Benson’s voice ordered.

Chris worked at the fastenings and soon had the helmet off. Tony looked pale, but thank goodness there was no blood coming from his mouth, nose or ears. He reported this back to Sir George.

“Leave him alone, then. He’ll come out of it soon,” the scientist said.

Now that his immediate anxiety about the boy was partly allayed, Chris turned his attention to his other companions, but first he removed his own helmet and breathed deeply of the free air in the cabin. Serge and Morrey both had their headgear off and were busy releasing themselves. Pushing himself toward them, Chris was greeted with questions about the unconscious Tony. Then all three floated up to look at him once more.

The boy was still out, but his color was coming back, so the other three went ahead with their allotted tasks. Chris switched on the rocket’s main radio, and cut out those in the four helmets. Then he reported that they were all well except for Tony, but he looked as if he would recover fairly soon.

Frayling's voice now sounded over the loudspeaker. He informed Chris and his friends that Pegasus was passing through the Van Allen layer, that region of intense radiation discovered years ago by the first Earth satellites. The significance was not lost on Chris, and involuntarily he glanced at the silent figure of Tony. Perhaps it was as well that the boy was unconscious, for though Chris found it hard to believe that radiation like this might kill or cure him, he couldn't be quite sure.

Both Serge and Chris soon accustomed themselves to their strange weightless condition, but in spite of the training with the Russians Morrey found things more difficult. At one moment he would be floundering about like an aerial ballet dancer on the end of an invisible wire; at the next he would be bumping sharply into the walls or ceiling of the cabin. His amused companions offered him much good-natured advice.

"Where am I?"

Tony's voice startled the crew and attracted their immediate attention. Chris was the first to sail over to the boy, who was staring about in bewilderment.

"How do you feel, Tony?" he asked. "You passed out while we were accelerating. It's all over now and we're in free fall."

"I—I'm all right," the boy said, a little uncertainly. "Sorry I fainted."

Then he noticed the grotesque gyrations of Morrey, who was still trying to get to Tony's couch. The boy's face cleared and his eyes lit up.

"Can I try moving, too?" he asked.

Chris and Serge quickly unfastened his straps and he pushed off experimentally. For the next ten minutes all worries were forgotten as the Four Musketeers careened crazily about the cabin. It was strangely intoxicating to float about as they sped at eighteen thousand miles an hour toward the mysteries of the Moon.

Benson's voice, coming rather sharply from the

loudspeaker, called a halt to the performance. He reminded the crew that they had certain duties to perform, and if it wasn't troubling them too much, Control would be obliged if they could start transmitting readings from the various instruments. Rather shamefacedly Chris called his crew to order and they set about their tasks. There wasn't much for Tony to do, so while the others were occupied he explored the cabin. Chris had told him that one of his jobs would be to look after their food and drink. None of them were hungry yet, but soon he would have to issue their rations. What would he give them for their first meal in space?

Most of the food on the diet sheet was specially prepared to give the maximum of essential requirements with a minimum of bulk and weight. As a result there were no steaks or apple pies. Instead the food was wrapped in neat little silver foil packages and wasn't very interesting to eat. It was very much like a variety of pressed meat cubes, though not so tasty. For a special treat there was a small quantity of chocolate—of which Tony was very fond.

All liquids were in tubes and had to be squeezed out into the mouth. It would be impossible to drink in the ordinary way, for in a weightless state free liquids would escape as small globules and float all over the cabin.

As he looked into the tightly packed food compartment Tony felt a strong desire for a bar of chocolate. Like the others, he hadn't eaten much dinner before takeoff, so a bar of chocolate would be very welcome now. He took one, unwrapped it, and chewed happily. A second one tasted just as good. How funny it was to see the bits of paper floating about. He'd have to collect them or Chris would know he'd been raiding the supplies. It was quite a job, for they kept eluding him, but in the end he grabbed them all and stuffed them into a pocket.

The most peculiar thing he noticed as he moved about was that there seemed to be no such thing as "up" or "down." When he stood on what he knew was the ceiling of the cabin it felt no different than when he stood on the floor. Though

he was upside down there was no rush of blood to his head. It looked as if the other three were the wrong way up, not he. He'd never experienced anything like it before.

Chris and the other two had been far too busy to pay attention to Tony's capers. They were sending continuous reports to Control of the temperatures inside and outside the rocket, readings of the radiation level, and a record of the pressure of space through which they were passing.

Usually it was Sir George Benson's voice that answered them; occasionally Mr. Gillanders was heard, and once Frayling spoke.

There was a wide-angle lens in the tip of the rocket. This threw an image of the scene outside onto a glass screen. When they could spare time to do so, the crew gazed in wonder at the picture it revealed. The sky was like black velvet studded with immense shining jewels that swam majestically across the screen. To anyone who hadn't before seen the heavens from beyond Earth's dusty atmosphere the scene was breathtaking. Even Chris and Serge, who were no strangers to this sight, were immensely moved by the thought of Man's audacity in venturing out into this vast Unknown.

As they watched, the Moon's disc crossed the edge of the screen. With tremendous clarity they could see the rugged surface with its tumbled mass of mountains and craters—that wild landscape in which they would try to make their home. Serge called Tony to come and see the world they were flying toward.

The boy studied it silently, evidently impressed and perhaps a little frightened at what he saw. His friends pointed out to him the various features of the lunar surface, and told him their names. Due to the slow spin of the rocket, the Moon soon passed off the screen, but not before Tony had observed that Pegasus was not headed toward it.

"That's because the Old Man just won't stay still," Morrey explained. "The Moon is moving pretty fast on its orbit

around the Earth. We have to meet it on its way.”

“In other words, our rocket must be aimed not at where the Moon is when we were launched, but where it will be in two days’ time when we reach it,” was Serge’s contribution.

“Like aiming a slingshot in front of anybody you want to hit if they’re running?” Tony asked.

“That’s it,” Chris smiled, “except that you shouldn’t shoot slingshots at people.”

It was impossible to tell from conditions inside the cabin that Pegasus was speeding on his journey at such a great speed. The older members of the crew explained to Tony that from the moment the last stage of the rocket had finished firing and they had entered free fall, Pegasus would actually be slowing down under the ever-weakening pull of the Earth. Before coming to rest, however, they would reach a point where the gravity of the Moon began to have effect. From then on they would be drawn at ever-increasing speed toward their destination.

By now they had all settled down to a routine. Chris, Morrey and Serge had regular reports to make over the radio. Tony would assist one or the other of them in turn, though most of what they were doing was completely unintelligible to him. How he wished he was as clever as they! Perhaps if he’d not hated school so much, he might one day have been a scientist!

Someone had to be on duty during the whole of the rocket flight, so Tony and Serge took the first spell on their couches. As a precaution against floating around the cabin in their sleep, they fastened the safety straps, then tried to get what sleep they could while Chris and Morrey continued their work.

Because of the smallness of the compartment, the movements of the two on duty, and the frequent messages from the loudspeaker, neither the boy nor the Russian slept well. Tony struggled for ages to sleep before he dozed at last. How long he had slept he didn’t know, but when he woke

again Chris was lying on the couch beside him, having been relieved by Serge.

His leader was not asleep, so Tony turned to speak to him, only to find Chris looking at him intently.

“Have you been helping yourself to the chocolate?” Chris asked in a low voice which the others wouldn’t hear. Tony’s first reaction, an automatic one, was to deny it, but even he could see how futile such an evasion would be under the circumstances.

“Yes, I’ve had some,” he said a trifle defiantly. “It doesn’t matter, does it?”

“I’m afraid it does matter,” Chris answered seriously. “You see, Tony, we’ve all got to discipline ourselves. Our diet has been worked out carefully, and we mustn’t play havoc with it. Just because you like chocolate doesn’t mean that you are at liberty to help yourself whenever you feel like it. Other people like chocolate as well as you and are entitled to their share.”

“I’ve only been eating part of my own share,” the boy said defensively.

“And when your share has gone it will be very difficult for the rest of us to eat ours and see you go without. No, Tony, it won’t do. It mustn’t happen again,” said Chris sternly.

“All right, but I don’t see it’s anything to make a fuss about,” the boy said resentfully, and then relapsed into a sullen silence. Chris, unwilling to pursue the subject any further just then, tried to sleep. After a while Tony released his straps and floated off around the cabin.

The young leader was worried. This discovery that Tony had taken some chocolate without asking the others was rather upsetting. It might only be a little thing in itself, but did it mean that there would be trouble ahead with the boy?

Hour after hour passed by. As each one was ticked off, Pegasus drew nearer and nearer to Earth’s satellite. Frequently, now, the lunar disc passed across the glass

screen, and each time it seemed to be looming larger. All the main features were clearly visible, and Chris recognized many familiar objects. He pointed but the great crater called Plato. It was inside this vast circle, roughly sixty miles in diameter, that both he and Serge had landed in their rockets two years before, and it was on its relatively flat surface that they would soon set foot again.

Some little distance away from Plato was an area of the Moon that looked different from any other. It was quite black in contrast to the light ashy color that seemed almost universal elsewhere. This, said Chris gravely, was the area blasted by the atomic rockets from Earth when they destroyed the strange domes that had suddenly appeared on the lunar surface. The area, Chris told them—and he'd been on the fringe—was the scene of utter devastation. All the sharp little peaks that are common on the Moon, all the innumerable craterlets, had vanished, blasted by the tremendous impact. The surface for miles around was like a vast sea of black glass where dust and rocks had been fused by the great heat.

Lying some miles from this man-made scar, and protected by its circle of mountains, the interior of Plato looked relatively inviting, at least as much as anyplace could on that barren world. Within that crater they would set up their base and establish an initial foothold beyond the confines of Earth.

Hour after hour the crew worked like the well-trained team they were. Constant reports to Control, observations, instruments checks and attention to their oxygen supplies kept them occupied. Not once did Chris experience the feelings of boredom and confinement that had plagued him before. Traveling in company had wiped these out. The gay courage of his friends was a relief and a help to him. Just that one little incident with Tony and the chocolate, now almost forgotten, had marred the pleasure and excitement of the journey.



You will land in six hours' time."

Sir George Benson, who had spent twenty-four of the last thirty-six hours on duty, spoke into the microphone. He was giving the crew a report on their latest position, worked out by the computer from ground observations and information direct from the rocket.

The scientists face showed signs of the tremendous strain he'd felt ever since Pegasus had risen ponderously from the launching pad. Not until the rocket had landed safely would he feel able to relax. Occasionally he glanced at Sir Leo Frayling who, seated at his table, was studying the constant stream of reports from all parts of the Control Room. Though he, too, had been in Control almost the entire time since take-off, Sir Leo looked relatively fresh.

The landing maneuver would be difficult. It would call for the utmost co-operation between crew and Control. If they were to land safely inside the chosen crater there was no room for errors. Now that Pegasus had come within the Moon's gravity, a retro-rocket would be fired to arrest its fall. If the retro-rocket was not fired for a sufficiently long period, they would all crash to destruction on the inhospitable surface below. If it was fired for too long a period, Pegasus would shoot back again into the Heavens, and they would be

lost in the vastness of space.

Then there were the lateral rockets to be fired. These were small rockets placed in a ring around Pegasus. When fired they would alter the course of the projectile. By carefully calculated bursts they could be employed to steer the craft toward its objective. But here again, too much or too little could be disastrous.

The lunar disc almost filled the observation screen, for Pegasus was now little more than thirty thousand miles away. Morrey and Tony were full of wonder at the fantastic landscape opening out before them—wonder and perhaps apprehension. Chris and Serge had seen it all before, and they knew just how cruel that fantastic world could be. In a few hours they would all be at its mercy.

“Turn Pegasus now.”

The order came to the crew over the radio and it meant that the landing operation had already started. By firing a small rocket near the nose, the huge projectile would be turned slowly until its base was pointing to the Moon and its nose was headed out to space. It would continue its fall toward Earth’s satellite in this position. Then the giant motor would roar into life, but this time its tremendous thrust would be against the direction they were traveling. Pegasus would slow down to a mere five hundred miles an hour when the final stage of the landing began.

“Get onto your couches.”

Quickly the crew put on their helmets. There was no fear of overheating when approaching the airless Moon, but if they made a hard landing the rocket casing might fracture and the oxygen in the cabin escape. Before floating to his couch Chris flicked over a switch beneath the observation screen. This brought into use a lens at the tail end of the rocket, and the Moon came into view once more.

“All safely fastened?” Chris asked as he adjusted his own straps. Back through the small loudspeaker in his helmet came the affirmative replies.

“Right,” came back the voice of Uncle George, “we’re switching on—now.”

Instantly the crew were pinned down into their couches once more. The force was not so strong as it had been during their take-off, but it was still enough to be uncomfortable. They were glad when it was over.

“You can get up now.”

Gratefully they unstrapped themselves and found they could float again. By common consent they made for the glass screen. The huge disc filled it all. In fact they could only see part of the lunar surface, and they spent the next few minutes identifying the most prominent features. After a time Chris pressed another switch and Tony saw that some marks had appeared on the screen. They were in the form of a cross intersecting at the center. Each arm of the cross was graduated, and the boy guessed rightly that this was to help in aiming the rocket toward its target.

Each of the crew now went to action stations. Chris kept a close watch on the screen and reported to Control the exact position of the cross on the lunar surface. Serge and Morrey were on opposite sides of the cabin, each before a panel of firing buttons for the lateral rockets. Tony felt very proud that he was assigned to report to Control readings from an altimeter giving the distance of Pegasus from the Moon.

In Control the team around the computer fed into it the information received from Chris and Tony. After the briefest interval the machine would indicate which lateral rocket must be fired and for how long. Sir George Benson transmitted these instructions to Serge or Morrey, who pressed one or more of the firing buttons. There was mounting excitement both in the cabin and in Control when Chris announced that Plato, growing larger every second, was now squarely in the center of his sights. It was now only a question of holding Pegasus steady and of firing the retro-rocket for the required time. This would be done by an impulse from Earth which would automatically control the

motor.

“Back on your couches.”

Quickly they carried out the order and awaited further developments. With Pegasus still traveling at several hundred miles an hour it required quite a kick from the motor to kill its speed. The sharp jerk and sudden pressure they felt indicated to Chris and his friends that they were almost there, and Tony held his breath waiting for the crash of the landing.

Any second now!

Wait for it! !

T H U D ! ! !

They were down. Pegasus had landed. The four members of the crew let out a whistle of relief. Even as they began to chatter excitedly, the rocket gave a sickening lurch. Involuntarily, gasps of alarm came from Chris and his friends, and were plainly heard down in Control.

“What’s the matter? What’s happened?” Benson’s tense voice demanded. “It’s—it’s all right,” Chris called back shakily. “We must have landed on some uneven ground. We’re tilting over at about thirty degrees.”

“Then be careful how you move about,” the scientist’s voice said, “in case you are still not firmly settled. We can’t afford an angle of many more degrees.”

They all knew what he meant. If Pegasus were leaning over too far it would be impossible for it to take off when the time came to return to Earth, and the crew would be prisoners on the Moon. Gingerly Chris released his straps, telling the others to stay where they were.

Twisting off the couch, he jumped lightly to the floor. No longer was it possible to float, but the weak lunar gravity made his fall ridiculously slow. For a moment he stood still on the sloping floor and looked around the cabin. There was no damage immediately visible, but a closer inspection

would have to be made later. The great thing now was to find out if the casing had been cracked by the impact with the surface, so Chris made his way carefully over to the pressure gauge.

The needle of this instrument showed the pressure of the atmosphere inside the cabin. If the casing had been fractured their precious oxygen would be escaping into the vacuum outside and the pressure would fall. Anxiously Chris fixed his eyes on the telltale needle and watched it for what seemed an age.

No. It didn't seem to be moving, and he reported the good news to his friends and to Control.

"Godfrey," Sir Leo Frayling's voice crackled, "you are to go outside alone. The others are to remain on their couches until you have ascertained if there is likely to be any further movement. Report immediately what you find."

"Very good," Chris replied.

He stretched up and pulled over a switch, and immediately the pressure needle began to fall. This didn't alarm the young leader, for it meant that the oxygen in the cabin was being pumped out and stored in a tank so that little would escape when he opened the hatch. Quickly he seized an extra cylinder of oxygen from its clips and fastened it on his back. On their couches the other three, grotesque in their helmets, lay waiting patiently for instructions from their leader.

When the needle had fallen to the proper level, Chris switched off the pump. It would have taken too much power from their batteries to pump out all the oxygen, so some of the precious gas must be lost every time the hatch was opened. Watched by the other three, Chris moved over carefully and began to manipulate the door fastenings. Although pressure inside the cabin was very low, that outside was lower, and it required quite an effort to pull open the hatch. At last it swung inward and all eyes were turned eagerly to look out onto the Moon.

They could see nothing. There was a blinding glare outside, and although the cabin was brightly lit, their eyes could not face the dazzling world beyond. With a tug at a small lever on the side of his helmet, Chris caused a colored visor to slide over the eyepiece. Now he could look outside and see the weird lunar scene. As gently as possible he climbed through the hatch and paused before he jumped.

In a rough circle from the base of Pegasus the ground was bare brown rock scarred by the flame from the motor. From this circle the lunar dust had been blown clear by the rocket blast. Though from a distance the floor of Plato had appeared flat, it was in fact a mass of tiny craters varying in diameter from less than one foot to many yards. Far away Chris could see a range of jagged mountains forming the crater's rim—mountains far steeper and more fearsome than any he'd seen on Earth. But he had no time now to stand gazing at the strange, dead world. He must quickly find out what had happened to Pegasus, and if the rocket was in danger.

The hatch through which Chris was peering was twenty-five feet from the rocky floor. Without further hesitation he jumped down. As he expected, he landed quite gently, with no more force than if he'd jumped from four or five feet on Earth. He turned to look at the towering projectile and saw that the base was resting partly on the raised edge of a craterlet, and partly inside it. As the edge was three feet higher than the interior, Pegasus looked like a miniature tower of Pisa.

As carefully as he could, Chris examined the position of the base, actually crawling underneath the rocket just inside the crater wall. It seemed that it was firm enough, and that there would be no further tilting. Perhaps they might chip away some of the rock later and bring Pegasus into a more vertical position. He informed his companions and Control of the situation and, with relief, heard the order to proceed.

"Release yourselves and jump down one at a time," Chris radioed to the other three. "I want to see if the rocket casing moves at all."

With excited cries, Tony, Morrey and Serge prepared to disembark. It was the boy who first appeared at the hatch, and he hesitated when he looked at the distance down.

“Come on, it’s easy,” Chris radioed back to him. With a gulp Tony jumped. It seemed ages before he touched the ground, but his leader was there to steady him. While Serge and Morrey were following, the boy looked around in wonder, overawed by the nightmare landscape around them. Now all four stood on the rocky surface at the foot of great leaning Pegasus. Here they were, the first humans to try and set up a home—temporary though it might be outside our Planet. They were Mankind’s spearhead in the exploration of the Universe. All four seemed aware of the terrific task ahead. Spontaneously they clasped each other’s hands—four lonely living creatures on a vast dead world. For a time no one spoke. It was a solemn moment.

“Come on. To work.”

Chris’s voice broke the eerie spell. It was essential that they should set up their base as quickly as possible, for they couldn’t remain in their space suits indefinitely. Under the crisp directions of their young leader the crew opened the hold of the rocket and began to unload the sections of the plastic dome. Periodically Chris examined the position of Pegasus, but the projectile seemed firmly settled, showing no signs of disturbance during the unloading.

“Now we must find a suitable crater to erect the dome inside,” Chris said, once the sections had been unshipped. They set off to explore the area around the rocket which had been blasted clear of dust. It was difficult to get used to the fantastic distances they found they could leap, and Tony really enjoyed himself jumping about.

Before long they found a suitable crater. It was not far from the rocket and was clear of dust. Now their practice in constructing the base showed its value. They set to work with a will but it was some hours before the plastic dome and its airlock were completed. Then followed the testing of its

sealing. Several cylinders of oxygen, now only one-sixth of their weight on Earth, were taken inside the dome, together with a pressure gauge. As Chris released the valves of two of the cylinders, the crew watched the gauge eagerly.

Slowly the needle started to move and when it had reached a certain point the valves were closed. Now followed an anxious time as they watched to see if the pressure fell. It did very slowly, showing that somewhere the oxygen was escaping. Carefully they checked every inch of jointing. By releasing colored smoke from a small pressure vessel they had brought for this purpose they were able to find the points where the smoke was being sucked out by the vacuum outside. These places were covered with the sealing compound which had been provided, and eventually the pressure gauge was reasonably steady.

Still no one thought of rest, though Tony sometimes seemed to tire. Various instruments were carried from Pegasus to the dome. Equipment and stores were transferred. Then the whole dome was covered with a white plastic sheet to reduce the heat and glare from the merciless sun. There was still much to do, but Chris decided that progress warranted a rest. He led the crew back to Pegasus, where they climbed into the cabin by the handholds up the side. The door was sealed and oxygen released. With relief the crew removed their helmets and flung themselves onto their couches. Chris switched on the radio and called up Control.

Sir George's voice answered.

"Pegasus calling Control. Pegasus calling Control," Chris said formally, for he knew his historic words were being recorded. "Expedition leader reporting. Moon Base One is now established."



So man, in the persons of three young men and a boy, had established an outpost on Earth's satellite!

The news was received with tremendous relief and enthusiasm in Control. Staid scientists, normally unemotional, cheered wildly. Two of them even performed an impromptu war dance in celebration. Benson, Whiskers and the other friends of the crew shook hands all around, slapped each other on the back and silently murmured prayers of thanks. Only Frayling seemed unmoved. When the first excitement had died away Sir George slipped quietly out of the building and stood alone in the cool Australian night. Shining brightly in the indigo sky, the Moon looked down serenely. The scientist gazed up at it intently for a long, long time. There, on that wild inhospitable globe, were four human beings, and among them a young man who was almost like a son to him—Chris Godfrey.

. . .

There was so much work to be done, so much information to transmit, that Chris, in spite of utter fatigue, lay sleepless on his couch, planning the next moves. The others had dropped off quickly, but he, with all his responsibilities as leader, found sleep elusive. It was only by a deliberate effort that he forced his active mind to relax. More than two hours

went by before he, too, fell asleep at last.

So much to do. So very much to do. The thought must have been on the young leader's mind even during sleep, for he was the first to awake and sit up on his couch. His watch told him that he had slept for six hours. He roused the others and while the three older ones busied themselves with observations and reports, Tony drew their rations from the stores. Tubes of liquid, slabs of concentrated food—and bars of chocolate.

As he took the chocolate the boy recalled the unhappy little incident with his leader some time before. He frowned as the memory of it came to him. What harm had he done, anyway? Chris shouldn't have bawled him out like that. Well, just to show he'd some spirit left, he'd darn well have another bar of chocolate right now. With a swift glance around the cabin to make sure that the others were too busy to notice, he took an extra bar, quickly unwrapped it and bit into it. As he chewed he felt better. This would show he wasn't scared.

As soon as the crew had eaten they prepared to leave the cabin and visit their base. Putting on their helmets, they switched on the pumps to suck out and store the oxygen. Then the hatch was opened and they jumped out onto the surface. The sun still shone fiercely, and Chris knew that but for the insulation of their space suits they would die in the boiling temperature. Morrey pointed out that the shadow of Pegasus was getting longer and that they were more than halfway through the long lunar day. In about ninety-six hours darkness would fall, bringing with it a numbing cold which would last for two earthly weeks. They must be snug inside their base if they were to survive, and they still had much to do.

Hour after hour, as the sun poured down from the black sky overhead, Chris and the others toiled on. By the time their leader decided they should sleep again the crew had erected the radio mast, connected the set, and installed the solar batteries. To Tony's disgust and annoyance, Chris made him spend the best part of the day carrying stores from the

rocket to their base. Several times he felt like sulking on his couch but affection and respect for his leader compelled him to carry on.

“We’ll sleep in the base,” Chris decided as they finished their spell of work. “We’ll spend our first night in our new home.”

The others responded enthusiastically. It would be good to escape from the confinement of the cabin walls and rest in different surroundings. They rigged up their folding beds and in the shade of the sheeted dome they settled down to sleep. This time it was Tony who was restless. Somehow the boy felt irritable and unhappy. The first thrill of adventure seemed to be wearing off as a result of the constant work and discipline. If it was going to be like this all the time on the Moon, the sooner they went back to Earth the better.

When the little colony woke up some eight hours later, they saw that the sun was much lower in the sky and shadows of crater rims and mountains had crept farther across the surface. The temperature drop caused by the shadows was amazing. Out in the sunlight the thermometer showed the temperature to be near that of boiling water. But when the instrument was moved a few feet, into the shade of some projecting rock, the temperature shot down to many degrees below zero.

Exploration of the immediate area of the Moon could now begin. An early task would be to discover some really flat surface upon which supply rockets could be landed. If such a place could be found they would have to erect three radio beacons around it. These would guide an approaching rocket toward the landing ground and would assist it in making a correct landing. Each beacon would be equipped with solar and storage batteries, so that sunlight could be turned into power and some of it reserved for use during the long lunar night.

That day, the crew encountered the Moon dust for the first time. So far they hadn’t ventured far from Pegasus and their

base, but now they went a little farther afield. It was Chris who pointed out the peculiar behavior of the dust, which seemed to be dancing about in the sunlight. As soon as a shadow was cast on it, the particles would come to rest. The motion, Chris explained, was caused by the intense radiation from the Sun, which was falling on the dust without any atmosphere to act as a screen. Occasionally one of the party would stumble when he stepped into a tiny crater that had been completely filled by dust. It was almost impossible to find more than a few square yards that were not covered with these little depressions. Only after quite a long search did they find a suitable landing area for the supply rockets. It was the floor of a crater about fifty yards in diameter and relatively smooth, free of the usual craterlets.

“This will do,” declared Chris to the others over the radio. “Tony and Morrey, will you go back to Pegasus and start bringing the gear? Serge and I will mark out the spots for the three beacons.”

Morrey agreed cheerfully, but Tony followed in a sullen silence, and Chris noted with a little uneasiness that the boy had not been himself for the last few hours. Perhaps it was just a reaction after the sustained excitement and strain of the last few days. Or perhaps it was something more.

The installation of the beacons occupied the rest of that working session. It would be incorrect to describe it as a working “day,” for on the Moon light and darkness do not follow each other as they do on Earth. From the beginning of time Man has been accustomed to a complete cycle of day and night every twenty-four hours, and the rhythm of his life has always been governed by this period. With lunar light and darkness lasting fourteen times as long as on Earth, the clock or his own body must tell him when it is time to rest. Polar explorers, thought Chris, must have a similar experience.

Work done, the crew retired to their base to eat and rest. Though they were no longer in a weightless condition, they still drank their liquids from plastic tubes and ate the

uninteresting concentrated food. How nice it would be, Morrey sighed, if they could light a fire and grill a steak. There was, of course, no possibility of having a fire on this airless world unless they lit one inside their base at a terrific cost to their supply of vital oxygen.

Chris, as he lay on his bed, was troubled. For a long time he lay looking up at the plastic dome above his head. What was happening to Tony? Were their strange surroundings affecting him? The boy had completely changed during the last few hours. No longer was he the cheerful, grinning lad he'd first known. Now he seemed sullen and silent, and Chris felt that soon he would be rebellious, too. The young leader was aware that both Morrey and Serge had also noticed the change in Tony, though they hadn't said anything. Indeed, with all conversation limited to their common radios, they couldn't communicate with Chris without the boy hearing. Even inside the base, when they removed their helmets and breathed free oxygen, they were in such close proximity it was impossible to talk privately. He must find some excuse soon to be alone with Tony in the rocket or in the base so that he could ask the boy what was upsetting him.

In view of the approaching lunar night, it had been decided in planning the operation that once the essential tasks had been completed, the remaining hours of daylight should be used to explore as much as possible of the surrounding area. Further work on the base could be left till after darkness fell. Now the main task was to move farther afield toward the crater's edge.

One direction above all others drew Chris. That was toward the mountain rim shielding them from the desert of black glass where the atomic bombs had destroyed the sinister domes of Pico. Sooner or later, he and the others would have to venture into this dread area to see if they could discover more about these ominous structures which had once threatened Earth and its inhabitants. He shuddered as he remembered the narrow squeak he and Serge had had when escaping from the area two years before. So far, luckily,

he'd seen no sign of the evil creeping mist that had surrounded the domes, and seemed to guard them like a vaporous sentinel from another world. At the first sign of the mist they were to do two things—obtain a sample in an airtight container if they could, and retreat to Pegasus where they would have to sit it out until the mist had gone. If the worst happened, Control would start up the rocket motors and bring them immediately back to Earth and safety.

As a precautionary measure Chris decided that two of them would explore, while the other two remained in contact at the base. They would share these duties in turn, and Serge and he would make the first exploration. The others agreed willingly—or at least seemed to do so. With Morrey wishing them good luck, Serge and he set out.

Before devoting themselves to the exploration proper, there was one spot both Serge and Chris wanted to find. It was the place where they had first met—in very different circumstances from their present comradeship. These two young men both felt a strange compulsion to visit again the scene of their bitter enmity, where disaster had so nearly overtaken them, and where both they and their rulers on Earth had learned that only co-operation would save them from the perils of the Unknown. Perhaps, subconsciously, they felt that a pilgrimage to the place of their first encounter would somehow expiate the former division between them.

It would be rather difficult to find the place again. They had scarcely had time before to familiarize themselves with any particular features of their surroundings—a scene of innumerable craters and endless dust. One thing, however, would clearly indicate the place they sought. It would be the wreckage of old Columbus, the rocket which had brought Chris for the first time to this dreary world. Eagerly scanning to right and left, the two young men bounded forward like a pair of kangaroos.

Serge saw it first! They had been making their strange progress for a bare ten minutes when the Russian caught the glint of shining metal, far over to the right. It could only be

Columbus, so they changed direction and made toward the reflection of the sun's sloping rays that came from several miles away.

They were now out of sight of their base and of Pegasus, so it seemed strange to Chris and Serge to hear Morrey's voice in their ears.

"Hope you're enjoying yourselves, you two. It's pretty dull here. Tony's really got the blues, haven't you, Tone? Better let him go out on the next trip or else he won't be fit to live with."

Chris heard the boy's snort. He was really getting worried about Tony now, for Morrey and Serge had both noticed the change in him. He had an uncomfortable feeling that there was trouble ahead, but there was little he could do at the moment except have that private talk with the boy, and he decided to arrange it as soon as he returned.

"Cheer up, Tony," Chris called back with forced lightheartedness, "you can certainly explore when Serge and I get back."

Chris's attention was diverted from the problem of Tony by the sight of his old vehicle. Now it was just a few hundred yards away, and it brought a queer lump into his throat to see it there, lonely and forlorn, just as he'd left it two years ago. Soon they could see the gaping hole in the casing that had ended Columbus's life—the hole that Serge had put there in an insane attempt to prevent Chris's return to Earth.

"Come on. We'll have a look at it more closely another time," Chris called briskly after a few minutes. It was fortunate that they both turned away and pressed resolutely on, for had Chris entered his old quarters he would have had a shock.

The cabin was filled with gray mist, writhing and twisting as if it were alive!



Because the Moon has no magnetic field, the explorers could not use compasses as they would on Earth. Instead they had special instruments which took their directions from the three beacons they had erected around the landing ground. Wherever they went they could pinpoint the direction of the landing ground from the waves radiated by the beacons.

Chris and Serge had brought their specially designed camera. As they went along they took dozens of exposures which would eventually be used for making an accurate map of the area. Serge was amazed at the profusion of craters in all directions, for the Russian's previous visit to Earth's satellite had been a short one. Moreover, he'd been confined in a minitank—a small tracked vehicle in which he had made only a short journey. The two young men discussed eagerly the two main theories about the origin of the craters, that they were caused by the impact of meteors, or that they were the remains of frozen lava bubbles.

Chris was surprised and delighted to see frequent traces of his old footsteps in the layer of dust. Though they had been made so long ago there was no wind or rain on this dead world to wipe them out. They were a great help in leading the two young men toward the crater's edge, and after a few

hours they reached the foot of the towering mountains that stood between them and the devastated area beyond.

“We’ve gone far enough for now,” Chris said, and the two explorers sat on a small hillock to rest and talk. Both Morrey and Tony, though they were some miles away in the base, joined in the conversation, and Tony seemed to have recovered his good humor somewhat.

“We’re going to look for a place to set up a supply depot,” Chris told them, “and perhaps we might also look for an easy way up the rim.”

So far the expedition, though exciting, had been without incident. Chris and Serge had both been absorbed by the strangeness of their surroundings and giving a description of it to their companions in the base. Neither of the young men noticed a faint wisp of something which had followed them ever since they had left the vicinity of the remains of the Columbus. Had they seen it they would have been intensely alarmed by its behavior, for a natural mist, even if it could exist on this airless world, certainly would not be able to move in this almost complete vacuum. The sinister gray wisp seemed to be stalking the two humans like a stealthy beast following its prey.

By the time Chris had decided they should return to base, they had found what appeared to be an easier way up the jagged mountainside. Some calamity in the past, possibly a glancing meteor, had sheared off the mountaintop and left—by lunar standards—a moderate slope of loose rock and scree up to the rim. Perhaps, in their turn, Morrey and Tony might find a suitable place for storing a supply of oxygen bottles not too far away from this promising route toward the next stage of their exploration. Guided by their instruments, Serge and Chris made their way in a fairly straight line back to base.

It was a relief to remove their space suits and to relax in the comparative freedom inside the dome. Though it was not very appetizing, Serge and Chris welcomed the food and drink the others had waiting for them. Something must be

done, they decided, to allow the explorers to take refreshment without returning to base each time. Otherwise the range of their journeys would be severely limited. Perhaps a combination of the Russian minitank and the Western space suit methods of exploration would be the answer. Chris gave a detailed report of the last few hours to Control.

For Chris it was a real pleasure to see Tony so much more cheerful. He had no doubt that Morrey had done a great deal to dispel the boy's ill-humor. Perhaps, too, the excitement of his own forthcoming trip had helped the boy to overcome the sullen resentment he'd seemed to show. And maybe his strange illness was responding to the rays.

After the brief rest, insisted upon by their leader, the fresh pair of explorers set out from the base. Each of them carried a number of oxygen bottles which they hoped to leave in some place near the mountain path. On Chris's instructions Morrey and Tony were to return to base as quickly as possible, for the long lunar day was nearly over and the lengthening shadows made the scene around them unfamiliar and hostile. To save time he suggested they follow his and Serge's tracks, only leaving them if something of particular interest caught their attention.

Chris listened in to the light-hearted conversation between Morrey and the boy with a great deal of relief. He'd have hated to be forced to give Tony a bad report. Perhaps, after all, it wouldn't be necessary to have that private talk with him. Anyhow, the pair of them would be back in four or five hours, and he'd see how things were then.

It was while Chris was making one of his routine reports to Earth that Serge and he had a scare. There was a loud "plop" and a case containing tubes of drinking fluid shattered. While they were looking to try and find the cause of this mysterious phenomenon they began to gasp for breath. A quick glance at the pressure gauge showed that the needle was falling rapidly. That could only mean one thing. Oxygen was escaping from the dome and—they had only

minutes to live!

Two anxious pairs of eyes sought for the place where their life-giving gas was escaping. Serge bent down and opened the valve of an oxygen cylinder to boost up the pressure, but this was only an emergency measure, for their supplies would soon be exhausted. Should they don their space suits or should they continue to look for the hole? There wasn't much time to lose. Chris was just deciding that they must put on their suits when he saw it! In the wall of the dome, several feet above the broken case, was a small hole half an inch in diameter.

He knew at once what had happened. A meteor had struck them, making a hole in the plastic casing and smashing the box of drinks. Quickly he turned to the emergency kit and drew out something like a tire patch. He clapped it over the hole and the danger was over. The patch was adhesive, but the internal pressure also helped to hold it in place. With relief the two young men saw that the gauge was returning to normal and their breathing was rapidly becoming easier. It had been an uncomfortable few moments, and it was likely to happen again at any time. Without the protection of an atmosphere the Moon is continually being bombarded with fragments of all sizes from outer space. It would be unsafe, Chris decided, for them all to be asleep together. A meteorite might strike their shelter and rob them of their air while they slept. Someone must always be available to slap on a patch within a few seconds. Of course, a meteorite might strike one of them, but the chances of that were slight and it was a risk all of them would have to take.

Tony and Morrey returned on time, having completed their task. By the time they reached base the sun was already behind some of the jagged peaks of the distant mountains. In a very short time it would disappear and the long night would begin. Yet it would not be very dark on the Moon, for up in the jet-black sky a huge disc would be shining—Earth. Far more sunlight is reflected by Earth than by the Moon, for the vast oceans act as mirrors covering three-fifths of the

globe. But if the lunar night would be by no means dark, it would be intensely cold. The dust and rocks would radiate back into empty space the heat they had received during the day. Chris and his friends would no longer be in danger of being burnt by the sun-scorched rocks. Now only their suits would protect them from the sub-zero cold. The base would no longer be protected from the blinding solar glare, but would be insulated against the arctic temperature.

A new routine was started by the explorers. With surface journeys restricted to a few hundred yards, they concentrated on improving the base. By many hours of labor and with only hand tools, they managed to chip away much of the rock inside the base and lowered the floor some thirty inches. This gave them much more room to move about in and to accommodate instruments and stores. A permanent base, Chris explained, would be completely below the surface. This would give complete protection against meteorites and would ensure that the temperature inside would remain fairly stable and not subject to the wide fluctuations of day and night. But that would be the task of a larger team which would follow them at a later date.

The next important task was to prepare for the landing of a supply rocket. With their oxygen being steadily consumed, in spite of its partial regeneration by chemicals, it was essential that a new supply be available if they were to remain on the Moon for the period planned. Two rockets carrying more of the gas, together with food and electric batteries, would be dispatched from Earth twenty-four hours apart. In mounting excitement the crew cleared a few minor ridges from the landing ground and checked over the three guidance beacons. All was set for the operation, and they looked forward eagerly to these "messengers" from home.

Sir Leo Frayling's precise voice informed Chris and his friends of the dispatch of the first rocket. The scientist also gave them the exact time it would go into orbit around the Moon before coming under the influence of the landing beacons. Automatic equipment installed in the projectile

would complete the landing maneuver and set down the rocket precisely as a plane is landed without the help of the pilot. Before the second rocket arrived certain adjustments would have to be made to the three beacons to make sure that it did not land too close to its predecessor.

Long before it could possibly be visible, the crew began to scan the dark sky eagerly for the moving point of light which would herald the approach of the projectile from Earth. Tony's sharp eyes were the first to pick up the shining speck as it moved across the star field. He directed the others to it excitedly, and they all watched it intently for some time. There was something tremendously heartening in the coming of this rocket from home. Chris recalled the eagerness with which he had watched for the postman on his early birthdays. This messenger from Earth was every bit as welcome.

Promptly on schedule the freighter rocket turned into orbit and passed a few hundred miles above their heads. The next time it appeared the beacons would control its approach, and sure enough when it came—much lower the projectile began falling toward them. It was almost uncanny to see the flame from the motor leap out as if it had been switched on by someone inside. Longer or shorter grew the flame as the speed of the descent altered. Little side jets from auxiliary rockets could also be seen as if a hidden pilot were steering the projectile into position. Yet all this was done automatically by the mechanism responding to the beams from the beacons. With incredible exactitude the rocket touched down, its landing far gentler than that of Pegasus. Instantly the flames at the base died out, and there it stood, glinting in the pale earthlight, waiting patiently for its new masters.

As a precaution the crew knew they must not approach the rocket for another fifteen minutes. This was to make sure that there was no fuel leak which might lead to an explosion, and to give the casing time to cool from the searing flame. It was one of the longest quarter hours that any of them could

remember, standing there looking at this welcome visitor from distant friends. At last Chris gave the all clear and they raced each other in giant leaps to the waiting projectile.

Morrey reached it first, and when the others joined him they all performed a grotesque dance of welcome around its base, while talking excitedly together over their radios. Then Serge pointed to the panel in the side painted white. In red letters on it was the word "Press." Reaching up, the Russian pushed as directed, and halfway up the side a larger panel slid open, leaving an inviting opening into the interior. First Chris, then Tony, Morrey and Serge sprang easily up to the aperture and scrambled inside.

The supply rocket was very different from Pegasus. It was not nearly so large—for it was not to return—and there was no cabin with comfortable couches. Nor was there the mass of instruments and dials as in their own compartment. Instead, most of the space was given over to cargo, except for that housing the wonderful mechanism which had set the rocket down so carefully.

Right ahead of the crew, staring at them as they entered the hold, was a large white card carrying the message "Greetings from Woomera." Underneath were sprawled the signatures of dozens of their friends, headed by Sir George Benson, Mr. Gillanders and Wing Commander Greatrex. On the floor of the compartment was fastened a container which looked mysterious and inviting. They scrambled to open the lid, and there inside was a sight that reminded them of Christmas or Thanksgiving.

There were a number of gaily wrapped packages embedded in the foam rubber packing, and each bore the name of one of them. It was the hardest work in the world for Chris to persuade his companions to postpone opening their presents until they were back in the base. Excited speculations about the contents of the packages dominated their conversation. Serious work was out of the question until the presents had been opened, so Chris agreed that they should carry their prizes back to base at once.

As soon as they were safely sealed inside their lunar home they whipped off their suits and fell upon the intriguing packages. It is surprising how even simple gifts were wildly exciting to the crew, and each displayed proudly to the others his candy, cakes and cans of fruit. There was an envelope addressed to Chris, and the young leader's face went scarlet as he recognized the writing. In spite of the good-humored encouragement of the others he refused to open it there and then. In turn each of the crew spoke to Control and expressed thanks for the pleasant surprises. It was Control which suggested that if the four had finished examining their gifts, there was much work to do. The second rocket was speeding on its way and well before it arrived the beacons had to be adjusted and the first one unloaded.

Reluctantly leaving their presents for future consumption, the crew donned their suits and went back to the rocket. This time they examined the rest of the stores. The bulk of the projectile's cargo was cylinders of oxygen which they unshipped and transported to a spot near the base. Each of them was able to carry what on Earth would be a fantastic load, so the job was soon done and they retired once more into the base. Before he left, however, Morrey visited each of the three beacons and altered their beams so that the second rocket would land some little distance away from its predecessor.

It was several hours before the excitement of the successful landing of the rocket died down sufficiently for any of the four friends to think of sleep. How good it was to chew candy and gum—prohibited in Pegasus because of the imperative need for economy of weight and volume. A very precious prize was a supply of canned food—meat, pies and fruit pudding—so enjoyable after the tasteless space diet. A small electric stove, complete with pots and pans, was fussed over like a new toy. With difficulty Chris persuaded his friends to relax while he himself took the first anti-meteor watch.

Morrey's was the last spell of duty before it was time for

the crew to rise and go about its tasks. For some time before he woke up his friends the young American busied himself with the electric stove. As a result of his efforts he was able to present the explorers with a mug of coffee as they opened their eyes. Although the gravity was very low, it was sufficient to hold the steaming liquid together, so the four friends had their first real drink since leaving Earth.

By now the second rocket was approaching. Each of the crew hoped secretly that it would contain more pleasant surprises, and they looked forward to its arrival with almost as much excitement as the first. The competition to catch the earliest sight of it was keen, and they stared up into the dark heavens straining for a sign. This time it was Serge who called out first. Sure enough, their welcome visitor was almost at their doorstep.

So much confidence had Chris and his friends in the automatic landing procedure that they paid little attention to the sequence of events till suddenly Morrey's radio sounded the alarm.

"Gosh," he called, "it's going to crash!"

They had all been following the familiar maneuver, watching the side rockets jockeying the parent into position. The big motor had started up to check the speed of fall, its flame growing and shrinking at the dictates of the mechanism inside. Then the flame had shrunk to quite small proportions, and it had stayed like that. Every second the watchers expected it to leap out fiercely once more, for the rocket was falling toward them faster and faster. Surely this fast approach was intentional, wasn't it? The rocket's designers knew what they were doing. Were they just trying out a new technique? If so, it was a very daring one.

At Morrey's cry they realized that this was no new technique, but that the rocket bringing their vital supplies was out of control and falling swiftly toward the Moon's surface. Dumb with dismay and completely helpless, the crew could only wait for the approaching catastrophe.

Fortunately Chris had the good sense to order his companions to lie flat on the ground. Hardly had they done so when there was a blinding flash. The rocket had struck!

Badly shaken, the four friends lay still for some seconds. Then, quivering, they cautiously raised their heads, and it was a heartbreaking sight they saw. Instead of a tall, proud rocket resting after its journey across space, there was nothing but a scattered litter of twisted metal. Even the first rocket was lying flattened by the blast. As they came to their feet bits of metal, hurled upward by the explosion, were still falling.

Silently they surveyed the scene of devastation. It was hard to realize that so much damage could be done in so short a time. One grain of comfort only could they gather from this tragic mishap. They had already unloaded all the supplies from the first rocket. Had they not done so, then their position would indeed have been serious. With only half their requirements received, drastic changes might well have to be made in their plans. Control would have to be informed and would decide whether a replacement would be attempted, or whether they would have to return to Earth earlier than intended Chris led his disconsolate team back to base.

Control already knew of the disaster, but was unable to account for it. Something must have gone wrong with the complicated guidance equipment. If Godfrey could salvage any of the parts which were painted blue and bring them back to Earth, it might help to solve the mystery and avoid future failures. It was not possible to launch another rocket in time to supply the expedition before their stock of oxygen was exhausted. The utmost economy in its use must be exercised, and a report on the quantity consumed must be made every six hours. Any loss caused by meteor damage must be noted, and Control would amend all plans accordingly.

In contrast to their elation a few hours before, the crew now felt very depressed. Not only did the accident to the

second rocket mean a severe curtailment of their activities, it also meant a return to strict rationing when they had been looking forward to a time of plenty. It also brought home to them very forcibly that space travel is a risky business and, while luck had been with them so far, they still had the return journey to Earth in front of them.

Many hours were spent in turning over the bits of wreckage. Occasionally one of them would come across a piece of the blue-painted guidance mechanism, and this was brought back to base and carefully packed for transporting to Earth. In order to clear the landing ground for future expeditions, the crew labored hard to move away the debris. It was heartbreaking work, but it occupied many hours of their time and so shortened the long wait for sunrise.

Quite suddenly it came. Over the far-distant peaks the white-hot disc of the sun appeared. Another lunar day had started.



With the coming of a new day, all was bustle and industry at Moon Base One. There were long radio consultations with Control. The expedition was now to concentrate on obtaining as much information as possible about the physical conditions of their surroundings. Toward the end of their stay a journey could be made beyond the rim of Plato to see if anything new could be discovered about the composition of the mysterious domes, and if possible how they had been erected-and by whom. The reconnaissance would have to be brief, and after it the crew would return to base, seal it off for their successors, and embark in Pegasus for the journey home.

As the sun rose higher and shadows became shorter, Chris and his friends pursued their tasks diligently. Innumerable rock samples were collected from a wide area. Countless photographs were taken, covering practically the whole of the vast crater floor. They even managed to excavate a pit almost fifteen feet deep to find out what lay immediately below the lunar surface. This knowledge would prove of the utmost importance in planning for a larger expedition to follow. Temperatures at different levels in the pit were taken and samples of the material excavated were preserved. All this data was stored in Pegasus so that it would be ready when the time came to take off.

By and large, everyone performed his difficult tasks with unflinching cheerfulness. Only Tony seemed a little quiet at times. Chris watched him carefully, fearful lest the unwelcome symptoms of illness or unrest might appear again. As the sun rose higher Tony seemed to find it more difficult to whip up interest in the scientific tasks of his companions. Very often he would perform his own more menial jobs in silence, ignoring the good-humored banter of the others. Frequently the boy felt impatient to return to Earth, and the restrictions on their supplies, brought about by the disaster, were becoming more irksome.

When all the local jobs were done and it was time to venture into the dreaded region beyond the mountains, Chris felt a terrible indecision. Should he insist on Tony's remaining at the base—they would be away for two days—or should he take the boy with them? If he came in his present sullen mood might he not become a liability to the others in the face of the unknown danger? He would probably be unresponsive and unreliable in a sudden emergency. On the other hand, if Tony were left alone at the base wouldn't the loneliness make him worse? Perhaps his disease might even flare up. It was out of the question for one of the others to remain behind with him, so Chris had to choose between two evils.

Because of the need for secrecy, he couldn't consult Morrey and Serge, but he thought that both of them looked at him strangely whenever Tony's bad temper showed. Then he thought of Sir Leo Frayling's peremptory instructions—he must keep the boy under his constant personal supervision, and let nothing jeopardize the success of their venture. With an inward sigh Chris decided that, for good or ill, Tony must come with them on perhaps the most risky part of the entire expedition.

Chris was determined on one thing, however—a heart-to-heart talk with the boy. He knew the theory that the intense radiation to which they were now subject from the newly risen sun might, as a side effect, be the cause of the boy's

behavior. He wanted to find out what was troubling Tony. He felt certain that neither the radiation, nor the low gravity, nor his disease had anything to do with his young friend's moodiness. Sending Serge and Morrey to collect some Geiger counters from Pegasus, Chris spoke to the boy, whom he had asked to stay behind in the base.

"What's come over you, Tony?" Chris asked, looking at the other keenly. "We're not using the radio, so the other two can't hear us. What's been troubling you lately?"

The boy flushed and stared down in sullen silence.

"Come on, out with it. You're not happy, are you? Feeling fed up and want to get home? Or aren't you feeling too well?"

Still Tony wouldn't speak, but now his face hardened as if in resentment at Chris's friendly questions. Try as he would, Chris was unable to get anything from the boy except surly monosyllables until at last he, himself, was in danger of losing his temper. However, he kept a tight grip on himself.

"I hope you'll come to your senses soon and tell me what's bothering you," Chris concluded shortly. "If you feel ill, for heaven's sake say so."

With the return of Morrey and Serge, the final preparations for their exploration of the mysterious domes began in earnest. Oxygen bottles were made ready, instruments prepared, and a tube of liquid was clipped inside each helmet. This latter would be the only sustenance they would be able to take until they could remove their helmets when back in the base. After arranging for the rotation watch, the crew settled down to sleep.

Tony was given the spell. As the others settled down the boy began his watch glumly. He was now heartily fed up with life on the Moon and the restrictions it imposed. It was all very well for the other three. They had interesting work to do, but all he seemed to be doing was fetching and carrying for them. He'd be glad when they were safely on the way back. As he looked at the sleeping faces of his companions his resentment grew.

Sleep over, the astronauts had a hearty meal which they ate in a state of some excitement. Then they strapped on their loads, reported to Control and finally fixed their helmets. Led by Chris, they passed through the air lock one by one and stood in the brilliant light outside. As they sealed off the base they looked at the strange little building with affection. After all, it was their home!

Following the now familiar track they started off in good heart, Chris and Tony leading, with Morrey and Serge a dozen yards behind. They made good progress, for they had already explored and photographed most of the area thoroughly. Although all four could talk together over their radios, Chris insisted that they change their marching companions at regular intervals. He had Tony in mind when he decided on this, since he wanted to keep the boy from becoming bored and restless. Several hours later they came on the cache of full oxygen bottles near the foot of the ascent to the rim. Chris decided to rest there and gather strength for the exacting task ahead. By now they were all starting to feel a little hungry, but all they could do was to twist their heads inside their helmets and suck at the tube clipped on one side. This helped for a time, but perhaps because he knew it was impossible to get, Tony's desire for food soon returned with redoubled force. Chris had to speak to him quite sharply to stop him from emptying the tube of liquid.

After resting and dozing for three hours the young leader roused the others. Each loaded himself up with full oxygen bottles from the dump, discarding any used or partly used ones. Then the ascent began, with Tony trailing behind unwillingly.

At intervals on the way up they paused to detect any increase in radiation, but it was only just before they reached the topmost ridge that their instruments gave them Warning of a rise. Fortunately their space suits had been designed to protect them as much as possible from the hazards of radiation. With fast-beating hearts the little party pressed on to scale the last few feet separating them from whatever

lay on the other side.

Though he'd seen it before—the only human to do so—Chris stood still beside his friends as they gazed at the scene below. As far as the eye could see across the airless scene, the rocky surface had been blasted and melted by intense heat. Now it had set in strange, vicious shapes like a jungle of black glass. At intervals sharp and cruel ridges projected up from the smooth floor, each knife edge capable of cutting a hole in the toughest space suit.

Now the warning light of the Geiger counter was flashing on and off with the utmost rapidity, for even after a lapse of more than three years the area was still highly radioactive. Some few miles away had occurred the greatest atomic explosion ever set off by Man. It had been necessary in order to destroy the artificial structures which were bombarding the Earth with deadly rays.

With a cheerfulness that he was far from feeling, Chris encouraged his friends to begin the descent. The climb up the inside of the rim had been fairly easy, but the descent outside was difficult in the extreme. Many times one or another of them slipped on the glazed surface, and had it not been for the low gravity, serious injury would have been inevitable. Gradually, laboriously, the four made their way down to the fearsome plain below. Then, taking a bearing from the signals still being sent out by the beacons, the explorers set off for the region where the alien beings had been operating.

All of them were tense. Trying to discover the secrets of the mysterious domes and of the intelligence that had erected them meant risking the effects of heavy radiation and possible attack by the deadly mist from another world. The full responsibility of leadership now fell on Chris, and he felt its weight heavily. On him depended the safety of his friends, and he was strung up tautly by the awareness of that.

Now the explorers were no longer leaping along in their former carefree manner. With Chris leading, they made their

Way forward cautiously in single file, Tony following immediately behind his leader. Many times the boy wanted to implore them all to turn back, but he knew that the other three were grimly determined to carry on until they had completed their mission—or until further progress was impossible. Only the fear of loneliness and his inability to find his way alone back to base prevented Tony from turning tail and scurrying away from the awesome area they were now crossing.

Before they had gone very far Chris was immensely cheered by two things. Readings on the instruments he was carrying showed that there had been a considerable reduction in the radiation since he had last been in the area, two years before. Also—possibly because of this, or possibly because of better protection—he was not feeling the strange effects that had so nearly proved fatal on his former visit. He had warned the others of the deadly results of radioactivity, and had given strict instructions for the first one who felt any effects to report to the others. Constant questioning as they went along seemed to show that none of them was being affected.

This was not quite true of Tony. The boy did sometimes feel a little strange, quite apart from his natural fears of the dangers ahead. He was too scared to admit this, preferring to wait and see if any of the others were feeling the same thing. Perhaps, after all, this sense of pressure in his head was his imagination, due not to radiation but to intense anxiety.

So far neither Chris nor the others had seen anything alarming. Gradually their nervousness began to subside and the radio cross-talk became more lively. It was Morrey who first saw something strange. Ahead of them a brilliant point of light was shining.

Now all their caution returned, but they moved resolutely forward toward this new objective. As they came closer they could see that whatever it was that was sending out the light was quite small. Before they were within a quarter mile of it Chris had a pretty good idea what it was. His guess was that

it was a fragment of the mysterious domes which had been shattered by that mighty explosion.

He was right. A piece of strange material, several feet square, lay on the blackened surface. The light it gave out seemed too bright for it to be merely reflected, even though the sun was illuminating everything far more brilliantly than it does on Earth. It was difficult, even through their specially screened visors, to look at the fragment directly. Led by Chris, they went close up to the piece of metal and stood blinking down at it.

Over his radio the young leader explained that on his previous visit he'd found a much smaller piece and had managed to take it back to Earth. Examination had shown that it was an element unknown to Man—certainly not found on our planet. It was far heavier and tougher than any earthly material; it had a luminosity of its own and was highly radioactive. At his invitation they tried to lift the fragment, and though it was only about one inch in thickness they were unable to move it even with the help of the low gravity. Giving up, the explorers looked down at it with awe. Here was tangible evidence of the work of unknown beings from somewhere in space. Before moving off they photographed the fragment from all angles.

Quieted somewhat by this discovery, they set off again. Before long they saw several more pieces of varying sizes, though the first was by far the largest.

After a rest and refreshment Chris took stock of the oxygen supplies. He decided that they could only go forward for another two hours. Then they must get back as quickly as possible to Moon Base One. Chris had badly wanted to get as near to the site of the domes as possible. They had been clustered near to Pico, that isolated little mountain which had jutted up from the lunar plain. Telescope and satellite photographs had shown that Pico had been blasted away in the general cataclysm, but where it had been there must surely be more evidence of the alien creatures.

More warily now they pressed on, with the number of shining fragments increasing slightly as they moved nearer the center of the explosion.

What made him do it, Serge never knew. He was walking twenty-five yards behind the others, having stopped to look once more at a tiny piece of dome. For some reason he turned around and looked behind him. The cry that rose to his lips was strangled before he could utter it. Only the choking noise he made sounded over the radio. It was enough to attract the attention of the others. As one they stopped and turned around too.

Some hundred yards away was a solid wall of thick, gray mist. It blotted out the way they had come, and was creeping steadily toward them. This was no ordinary mist. Chris and Serge had seen this horror before. All four were frozen to the spot as the unnatural fog advanced upon them. Even on Earth, where mists are common, the whirling and twisting of this gray vapor would have been strange. Here on this airless world it was incredible and malevolent. For generations astronomers had noted inexplicable patches of mist on various parts of the Moon, but its true nature had never been revealed. Was it the physical manifestation of forces from some unknown world? The four friends found themselves shivering with horror as they contemplated the question.

With a tremendous effort of will, Chris tried to collect his thoughts and still his beating heart. What should they do? Race forward and try to elude this creeping menace or plunge back into it and try to return to their base?

Any further exploration of the area was out of the question. Now it was Chris's duty to try and save the lives of his companions, and return to Earth with the results of the expedition. Forward lay death from suffocation when their oxygen ran out. Backward stretched the hideous evil mist and almost certain destruction.

These alternatives were flashing through the young man's mind with the speed of lightning. The other three, he knew,

were still paralyzed with fear, their gasps of panic sounding clearly over the radio. He must decide quickly or the opportunity for decision would vanish forever. With a silent prayer he made his choice.



They must go back!

Ahead lay certain death. Behind there was still a slim chance they might be able to break through the mist. They must steel themselves to plunge directly into its very heart. If only they could penetrate to the other side, they might race it back to safety. But could he persuade the others to follow his lead?

Crisply he told them of the alternatives before them and why he'd chosen to challenge the mist.

"Serge and I have encountered it before," he said. "Our protection is better now, so we're going through. We'll hold hands to maintain contact. All ready?"

The three older ones linked up, but Tony still seemed frozen with fear.

"Come on," Chris called urgently, but still the boy didn't move.

"Grab him, Morrey," the leader ordered, and the American caught the youngest member of the expedition by the arm.

"Don't want to be left behind, do you?" Morrey called. Chris reached for Tony's other wrist and they were ready.

The mist was less than fifty yards away, its awful writhing

seeming to increase as it came. Would they succeed in resisting its loathsome power or would they be the first of its human victims? With sharp intakes of breath they prepared to meet their enemy, each holding the hand of a companion. On the left of the line was Morrey. Then came Tony and Chris, with Serge on the right, for they were determined to succeed or fail together.

“All together. Let’s have our motto,” Chris called in ringing tones, and four voices were raised in unison.

“All for one and one for all.”

With a united spring the little line jumped forward; then again and again. Their fourth leap took them into the mist. At once they lost all sense of direction. The fog swirled about them like an army of angry demons, and Tony gave a little whimper of alarm.

“Hold tight,” Chris called. “Off we go again.”

Gripping each other even more strongly, the quartet jumped forward again. Unable to see the ground, Morrey and Serge stumbled as they landed, but they were quickly on their feet and ready for the next leap.

“We must try and keep our line as straight as we can,” Serge called, “then we won’t go around in circles.”

“If we stop every fifth jump, can you check our direction, Morrey?” Chris asked.

“Sure, but I’ll have to let go of Tony’s hand to bring the compass up close to my helmet,” the American answered as cheerfully as he could. Thank God the compass beamed on the beacons was still working. If they could keep on taking their direction from that at least they’d be sure of getting nearer to safety.

“Right. We’ll try it out. Tony, will you call out the count off our jumps?” Chris asked, anxious to give the boy something to do.

“Right,” the boy’s voice came back a little shakily. “Shall I

start now?”

“Fire away.”

The first five jumps were taken successfully, with just an occasional stumble by one or another of the party. After Tony’s voice had called out five, the boy felt Morrey release his hand while he tried to read the compass.

“O.K., but slightly left,” the American’s voice came back shortly.

Tony stretched out his hand to join up again, but felt nothing. He turned his head, but the mist seemed to be getting thicker and he couldn’t see Morrey. A wave of panic swept over the boy.

“He’s gone!” he called in a frightened voice.

“Who’s gone? I’m right here,” Morrey called back. “Where the blazes are you?”

Although only a few feet separated them, there were a few bad moments until Morrey blundered into the rest of the party once more. Tony gripped him more tightly than ever.

“We can’t keep doing that,” Chris’s voice said. “When we stop next time, slide your hand up Morrey’s arm, Tony, and keep it on his shoulder while he takes the bearing.”

This worked better, and for a time they made a somewhat zigzag way forward. However, during the last few jumps the boy’s voice sounded a little queer. Now instead of calling the count his scared voice sounded in the others’ helmets.

“Chris, I—I feel funny. I think I’m going to faint.”

Now he came to think of it, the leader himself felt a singing in his ears, and he knew just what it was. With an effort he mastered his alarm. Tony must be kept going at all costs.

“Get a grip on yourself, Tony,” Chris said with forced sharpness. “I expect that none of us is feeling too good. You mustn’t give in or we’ll all be lost.”

“I’ll try,” the boy’s voice came back uncertainly, and the others added their words of encouragement to him.

The mist was now thicker than ever. It seemed to be drawing itself together in an effort to stop their progress. Knots of vapor, looking almost solid, would suddenly collect in front of them as if to bar their way. Morrey had the utmost difficulty in reading the compass even when it was held right against the visor of his helmet.

On they went, the strain growing greater every minute. Chris felt the singing in his head getting louder. He knew this was caused by their swirling gray enemy. Although the space suits were stronger and more heavily protected than the one he’d worn on his previous encounter, the sheer concentration of the mist was having its effect. Unless they broke through very soon their senses would cease to function and all would be over.

How much longer could they keep going? Tony had now ceased counting and each of his jumps was weaker than the one before, Chris and Morrey were doing their best to help him along, but their strength, too, was failing. Inside their helmets sweat was rolling down their faces, but Chris refused to despair. He knew that if his courage failed the others would succumb too.

This knowledge seemed to give him a new surge of strength, and he urged his companions on. Tony was now barely conscious and it was a terrific effort to drag him along, so Chris insisted that Serge take Morrey’s place to help the boy. Jumping was abandoned. Their progress was reduced to a painful stagger. Had Tony been his earthly weight they could not have managed. Yet, somehow, they kept on, and not once did anyone suggest leaving him behind.

Suddenly, it was all over. When their last ounce of strength seemed gone, when their senses were slipping away, they stumbled into clear sunlight!

At first they could not believe it, the mist had ended so abruptly. Automatically they continued a few more paces

before they realized they had broken through. Then, sobbing with exhaustion and relief, they collapsed on the glassy floor. The other two heard Chris murmur a little prayer of thanks.

Their respite was brief. The young leader called them sharply to their feet, for a quick look back had shown that the angry twisting vapor was creeping toward them once more. In near panic they staggered along crazily until a further glance behind showed that the mist was farther away.

“Keep it up,” panted Chris. “We’ll get a bit farther ahead, and then we’ll have a rest.”

When the explorers had put about a quarter of a mile between them and their enemy, they called a halt. Thankfully they laid the unconscious boy down and sat for a few precious moments gathering strength. Their heads were much clearer now that they had escaped from the clutches of the mist. Perhaps Tony, too, would soon revive. Unfortunately there was little they could do for him while he was sealed inside his suit except to increase slightly his oxygen supply.

“Come on,” Chris called, “it’s getting nearer.”

True enough, the twisting gray mass had edged forward to within less than a couple of hundred yards from where they were taking their brief respite. Reluctantly, wearily, the three young men struggled to their feet and lifted the still inert figure of their young companion. Between them, Serge and Morrey carried Tony as they set off to put more distance between themselves and their pursuer.

So it went on. Carrying the boy between them, they kept moving as fast as they could across the glassy plain with its hard, sharp ledges. Every so often they would place Tony down carefully and take another rest. But whenever they stayed for more than a few minutes, the mist would draw steadily nearer and they would be forced to press on.

Now Chris had another anxiety—their oxygen! The dials showed that the cylinders were very low. Floundering about in the mist and hauling Tony along had used up far more

oxygen than had been anticipated. Unless they could reach the dump within the rim of Plato before their supply became exhausted, they would all die under this baking sun.

At last the mountains came into view. Unfortunately they were approaching a different section from the relatively easy one over which they had climbed from the protection of Plato. Could they make the ascent here or would they have to use precious oxygen in finding an easier place? Chris was evaluating their position anxiously when a groan sounded over his radio. His momentary alarm changed to relief, for the sound had come from Tony, who had been laid on the ground while the decision was being made. The boy was recovering and, as the others knelt around him, they saw his eyes open and heard him ask what had happened.

Giving him a few minutes' respite, Chris explained rapidly that they had managed to keep ahead of the pursuing mist but that their oxygen supply was low and they would be hard-pressed to reach the dump before it gave out. Tony had now struggled to his feet and was looking about, still in a daze. Occasionally he would throw a frightened look at the distant swirling mass of gray, but Chris was relieved to see the lad didn't panic.

"We'd better try and get up here," the leader announced. "No use wasting oxygen looking around. It might be an hour before we could find a better place. Then we'd have very little gas left to make the climb. Come on."

Silently they followed him, for they knew it was their only chance. Better gasp out their last breaths attempting to climb to safety than to fall prey to the creeping horror behind them. It was difficult going, but they stuck to it with grim determination. On Chris's orders they cut down conversation to a minimum to concentrate on the job and conserve oxygen. The situation was rapidly becoming critical. Morrey reported his gauge was almost on "empty" and none of the others had much more.

Up and up they struggled, higher and higher they hauled

themselves painfully. Only sheer determination kept them going. Then, just as Morrey told them that oxygen had ceased to flow into his helmet, they reached the top. Down below, sheltered by its encircling peaks, stretched good old Plato, looking like a paradise by comparison with the blasted region they had left behind.

"We'll—make it," gasped Chris, but Morrey had now sunk down onto the rocks, the last of his oxygen gone. Desperately the two older members of the crew prepared to carry their fallen companion, but he waved them away.

"Leave me," they heard him whisper, but Chris and Serge ignored him. As they picked him up, Morrey sagged, and before they had stumbled down many feet they felt his body go limp.

"You—go—ahead," Chris managed to say to Tony. "Wait at the—dump."

Unable to help in any way, the boy did as he was ordered. While his friends—half sliding, half falling—made their way down with the unconscious Morrey, he set off as fast as he could down the mountainside and soon disappeared from sight.

Both Serge and Chris wanted to rest desperately. Never had either of them felt so completely exhausted. Yet they dare not stop for even a single second. All the time their friend's life, supported now only by the residual gas in his helmet, was slipping away. They must not, they dare not rest. How much longer his own oxygen would last Chris did not know. Every second he expected the faint little hiss made by the gas entering his helmet to stop. Miraculously it held out. How about Serge? How much longer could the Russian carry on? Another couple of minutes would bring them stumbling down onto the crater floor.

But it was not to be. With a bare dozen yards to go Serge staggered and fell, his oxygen finished. For some moments the stoical Russian had known that his cylinder was empty, yet he'd carried on without a word, though he realized that

he had but little time left. Now he could carry on no longer. His head was swimming and his strength was slipping away.

Chris looked at the fallen Serge, and for the first time he felt the icy fingers of despair clutching at his heart. Here were his two companions, his dear friends, his comrades in danger, unconscious and dying on this dead and empty world. Why not fling himself down and join them? What was the use of struggling any more?

Then he thought of Tony. What had happened to the boy? Better if they had kept together and died together. At least they would have each other's company. Now the poor kid would be hopelessly lost and alone, left to wander and die without the sight of another human being. He—he must try to find him.

Blindly Chris staggered down those last fateful yards. It tore at his heart to leave his friends to die alone, but his duty was to the youngest member of their team. He would try and find him so that they could face the end together. Suddenly he realized the hissing in his own helmet had stopped. His oxygen, too, was finished. Unless he found Tony very soon it would be too late. Trying to hold each breath until his lungs were nearly bursting, Chris hurried on along the foot of the mountain. It was no use. The boy was nowhere in sight.

“Please, God, may the end not be too bad for him,” was the young leader's last thought before he, too, sank down into oblivion.

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Meanwhile Tony had left his friends to make their way down the mountain more slowly. Though he was feeling much better, his knees were still shaky as he made the best possible speed in the descent. Fear was the strongest motive that hurried him along. He didn't want to die yet—not on that eerie planet. If only he could reach the oxygen dump he would be safe at least for some time! Perhaps he would be able to get back to Pegasus and—who knows?—perhaps he might even manage to launch the rocket to carry him back to

Earth.

Before long the boy was sobbing in his anxiety to find the dump. Had he turned the right way? He knew it was situated at the foot of the mountain rim, but at what point had they crossed over? Should he have turned left or right? Too late to turn back now. Although he had more oxygen left than any of the others—he'd been carried many miles—he knew he hadn't enough to retrace his steps and try in the other direction. So he must go on.

Tony almost fainted with relief. In the distance he was sure he'd caught the glint of the marker they'd left to show the position of the dump. Surely it couldn't be anything else. There was nothing else shining on this side of the mountains. All the dome fragments had been on the other side. Then this was—it must be—the precious gas. He leaped ahead as fast as he could go, half weeping, half laughing in growing hope.

He was right. It was the store of oxygen.

"I've found it, I've found it," he called back excitedly to his distant companions.

Nothing but a chilly silence met this exciting news.

"Can you hear me, Chris? Can you hear me? I've reached the dump."

But there was still no response. So Chris and Serge and Morrey were all dead and he was alone on a world that was dead too! He began to whimper with despair as he fumbled feverishly to fit a new gas cylinder. Then his cowardly, selfish urge to return at once to the safety of the base gave way to a strange new sense of duty. He remained motionless for what seemed a long time but was really only a few seconds, debating the matter within himself. Then he reached his decision. He must go back to see if there was any hope for his friends!

With practiced efficiency Tony finished clipping on his own new bottle of oxygen, then slung three more on his back and set off, not toward Pegasus, but toward where his friends

lay on the scorching lunar ground.



Chris opened his eyes. He realized that for some minutes he'd been breathing life-giving oxygen. By some miracle fresh gas was streaming into his helmet, and he filled his lungs gratefully. How had it happened? He sat up and looked around, but there was no one in sight. Then an idea came into his head. He moistened his lips and spoke.

“Are you there, Tony? Can you hear me?”

Instantly the boy's voice came back. It was very shaky with relief.

“Oh, Chris. Thank God you're all right. I thought I was too late.”

“No, I'm fine. Tony, you've—you've saved my life. But where are you?” Chris asked.

“I've just found Serge and Morrey and I'm giving them new cylinders.”

“Good. I'll get along as quickly as I can. Do you know anything about artificial respiration, Tony?”

The boy had to confess that he didn't, so Chris gave him instructions as clearly as possible. Morrey was to lie face downward and the boy was to place a long piece of rock about six inches high under his chest. Then Tony was to

press his back at the level of the lower ribs, after which he must roll Morrey onto his side to allow his one lung to expand. Working on one lung only is often more effective than operating on both. The boy understood and began seeking a suitable rock. Serge was still out. Chris was confident he would pull through on his own, but the American had been unconscious much longer and would need help if he were ever to breathe again. As fast as his returning strength would allow, Chris hurried back toward his stricken friends. The boy reported that he'd started artificial respiration on Morrey, but it didn't seem much use.

"Whatever you do, keep on," his leader ordered. "We mustn't give up for hours. I'll take over as soon as I arrive."

Chris never thought he'd traveled so far looking for Tony, but perhaps it was acute anxiety for his friends that made the distance seem longer. After what seemed an age he spotted them, with Tony still working over one of the prostrate figures.

"Good boy," Chris said with relief. "Let me take over."

The change was effected smoothly, and Tony was very grateful, for he was almost exhausted by his fruitless efforts.

"Have a look at Serge," Chris requested in between the movements of his efforts. The boy bent over the Russian and after watching closely for half a minute or so, was able to tell his leader that Serge was showing definite signs of recovery. Unhappily Chris wasn't able to report the same of Morrey. An hour slipped by and still the leader, relieved occasionally by his young companion, worked desperately on the American without getting any indication that he was responding. Chris tried to recall accounts he'd heard of long periods of artificial respiration which had eventually been successful. He told Tony of some he could remember, but it was to cheer himself up as much as to encourage the boy.

It was a great thrill when Serge sat up and looked around. The Russian's gratitude to Tony was mixed with concern for Morrey when Chris told him what had happened. As soon as

he was able, Serge insisted on helping with the work on Morrey.

By now the three conscious explorers were beginning to feel weak from lack of food. None of them, of course, had eaten since they left the base, and the liquid in their helmets was a poor substitute for a good meal. Yet they dare not let up for an instant in their efforts to revive Morrey. It was out of the question to try and move him, so they would simply have to endure their hunger till Morrey recovered or until Chris gave the word to abandon their efforts.

Now that there were three of them, they were able to relieve each other frequently. It was while Serge was taking a spell that Chris gave a yell.

“I think we’re winning,” he called excitedly over the radio. Tony joined him in looking closely through the American’s helmet. Sure enough, there were faint signs that Morrey was beginning to breathe again. With renewed hope they continued their efforts until at last there was no doubt about it. They had snatched their friend from death.

It was still some time before Morrey opened his eyes. He was far too weak to sit up or even talk, but at least they could now move him nearer to their base. Gently Chris and Serge picked him up and set off. Often they put him down to rest, and he smiled his thanks. It sometimes seemed as though their terrible ordeal would never end, but at last the Pegasus could be seen glinting in the distance—and never was a sight more welcome.

What about the base? Would the dome be intact after their long absence? Luck would be just too cruel if they found their temporary home damaged by meteorites. None of them felt they would have the will or the energy to make the necessary repairs. On Chris’s instructions Tony went on ahead to examine the base, and to the leader’s unutterable relief the boy reported that it seemed all right.

At last Chris and Serge, with Morrey supported between them, staggered up to the base. Wearily they struggled and at

last managed to get the helpless American through the air lock. A quick look at the pressure gauge showed there had been a loss of oxygen, but this was mostly due to normal wastage. In seconds Serge had opened an oxygen valve, and when the pressure was at the required level Chris swiftly removed Morrey's helmet.

Of course the crew's first duty on returning to the base should have been to report to Control, but so concerned were they all about their American friend that it was more than half an hour later before Chris turned to the radio. It was good to hear the voices from Earth again. Mr. Gillanders was on duty, but he was soon joined by Benson and Frayling. A long exchange followed in which a full account was given of all that had happened. Chris paid a glowing tribute to the boy who had saved all their lives.

Meanwhile the subject of this praise was sitting rather gloomily on one side. There was little that Tony could now do to help, and he felt rather left out of things as his two older friends busied themselves about the base. While the strain and excitement of their perilous adventure had lasted, the boy had been lively enough, but now he seemed to be sinking back into his former sullen mood. Several times Chris eyed him with concern, and both he and Serge tried to cheer him up.

Sir Leo Frayling's instructions were precise. As soon as Morrey was sufficiently recovered they were to close down Moon Base One and return to Pegasus for the take-off. It would be fatal to the American if he had to undergo the strain of acceleration in his present condition, but the return must not be delayed any longer than was necessary. Owing to the mishap to the second supply rocket, rations were running low and once more they would have to be strictly controlled.

This didn't suit Tony. When he was hungry, he wanted to eat, and didn't think they should have to limit themselves, considering all they had gone through. In vain Chris tried to explain their position, but the boy remained unconvinced. Chris even offered him a share of his rations, but Serge, who

was grateful to the boy for saving his life, was now losing patience with him and angrily protested against this suggestion. It was dropped.

Preoccupied with Tony and Morrey, Chris had to leave much of the remaining scientific work to their Russian companion. For the most part Tony watched the others in gloomy silence, which again raised all the young leader's fears about the possible effects of radiation on him. Fortunately Morrey was growing stronger every hour, and was now able to sit up on his couch and eat normally. He was now able, he said, to stand up to the blast-off, but Chris insisted on another twenty-four hours' delay.

It was Control which reminded the crew of the importance of the three guidance beacons which they had erected to assist the supply rockets. The whole take-off operation was dependent upon the radio beams from the beacons, for the initial guidance of Pegasus. Just as the great rocket had been carefully nursed onto its outward course by signals from Control, so its homeward journey would depend on all three radio beacons. If any of them failed to function correctly the odds were that the projectile would speed off its course and be lost in the depths of space.

To give the boy something to do, and to try and rouse him from the sullen silence in which he spent most of the time, Chris asked Tony to go with Serge on a visit to the beacons. The Russian merely had to check them over, for they were designed to operate automatically. Tony refused to go, and the leader felt a wave of anger rise within him at this open mutiny. What was he to do? He knew, of course, that Frayling's solution would have been very simple and drastic. If the boy refused to help the expedition, he must be drugged and made harmless. Chris was reluctant to do that, but this resistance to his authority was serious. Fortunately it wasn't likely to affect Morrey and Serge, but they would be watching to see how he handled the situation.

Then an idea occurred to him. But first he would try sweet reasonableness, so he spoke frankly and kindly to the boy,

asking him what was the matter and pointing out how essential it was that each of them should do his part to help the others.

“Oh yes,” Chris concluded, “I know we all owe our lives to you, Tony, and we shall never forget that, but that doesn’t excuse your present conduct. Now, for the last time, will you go with Serge or will you tell me what’s biting you?”

Chris knew that Morrey and Serge were watching intently. Would this strange boy do as he was told, or would he keep up his defiance? If only he would say what the matter was, perhaps something could be done about it, but this moody silence was getting them nowhere.

“No,” Tony said doggedly. “I’m not going.”

Well, that was that! Chris’s eyes glinted like blue steel in the sun and his jaw was firmly set.

“Very well,” he said. “Now I’ll tell you what we’re going to do. We’re going to evacuate this base and operate from Pegasus. We should be doing that in a few hours in any case. You will stay here in the base until we’re ready to take off, or until you come to your senses. If you want to be bad tempered and difficult, then we’ll have to leave you alone. Come on, Serge, give me a lift with Morrey.”

Though the American protested that he could manage alone, Chris and Serge helped him on with his helmet before putting on their own. Then the Russian led the way out through the air lock, with Morrey close behind. Chris was left alone with Tony, and for a minute he looked intently at the boy in the hope that he might change his mind. But no, the boy remained stubbornly silent. With a quick movement, before Tony realized what was happening, Chris seized his helmet and was out of the air lock with it.

Never was a prison more secure. Tony was sealed inside the base more safely than if he’d been behind a dozen locked doors, for instant death lay waiting if he ventured outside. The radio in the base was still working, so that he could let Chris know if his attitude changed, and was willing to obey

orders. Otherwise, the leader decided, there would be no communication between them.

Gently his two companions helped Morrey across the intervening space and up into the cabin of Pegasus. How much nearer home they seemed in this vehicle that would soon carry them back to their friends! In a few hours they hoped to seal the hatch for the last time and submit themselves to the invisible fingers of the radio beacons which would guide them on the homeward path.

“Go and check those beacons,” Chris said to Serge. “I’ll look after Morrey while you’re away.”

In spite of protests the American was made to relax on the contour couch while Chris busied himself about the cabin. There was much to do in preparation for the return journey, and with Morrey out of action, the others would have to work doubly hard. “And that young fool is making matters more difficult,” Chris thought. “Has the radiation affected him after all? Is his disease worse, or is it just bad temper?”

Serge must be at the beacons by now. Oh, well, that job wouldn’t take him long and he’d soon be back to help with the work in the rocket. Wonder what young Tony was doing? Would his isolation make the boy see sense though if radiation was the cause of his lack of co-operation, there was little they could expect from him.

“Chris! Chris! Can you hear?”

Serge’s voice, full of alarm, sounded over the radio. Quickly the leader called back to ask what was the matter. Morrey raised himself anxiously from the couch and listened intently for the reply.

“One of the beacons is damaged,” the Russian informed them. “It must have been caused when the supply rocket crashed.”

There was silence in the cabin for a few minutes after this shattering piece of news. It was essential for all three beacons to function properly if they were to make a

successful take-off. If the damage to the beacon was serious, it might mean—Chris wouldn't let himself think what it might mean.

“I'll come along at once,” he called to Serge. “Meanwhile find out all you can.”

“Anything I can do?” asked Morrey.

Chris thought for a moment. This was indeed a crisis, and if they couldn't take off there'd be no point in any of them sparing themselves, so he gave his friend a few easy jobs to do while he went to join Serge and learn the worst.

Anxiously Chris made his way over the lunar surface to the landing ground they had so laboriously prepared. In the bright sunlight he could see the figure of Serge near one of the beacons. From a distance there seemed nothing wrong, but as he got nearer he could see his companion looking gloomily at part of the apparatus.

“What is it, Serge?” he asked.

In reply the Russian held up the end of a severed cable, and the extent of the disaster was plain. Just as in a human body the spinal cord is a vital nerve, so in this beacon was the main cable connecting the solar and chemical batteries to a number of complicated pieces of transmitting apparatus. By one chance in perhaps a million, a piece of flying metal from the exploding rocket had struck the beacon and cut this critical link. Both the two young men examining the disaster knew that it wasn't just a simple matter of joining together two broken ends. Owing to the very weak current from the batteries, there had to be a perfect contact with the transmitters, and this would be almost impossible now that there was a break.

Morrey's voice came over the radio asking for details of the damage, and Chris explained clearly what had happened and how serious it was. All they could do was to join the broken ends together and hope for the best. Serge volunteered to return to Pegasus for a spare piece of cable, and while he was away Chris checked over the rest of the

beacon.

Except for the broken cable, everything seemed all right. Then he again examined the break. It seemed ironical that, surrounded by the most wonderful apparatus that Man could devise, their return to Earth might be prevented by a simple broken wire.

To the worried leader it seemed an age before Serge returned with a piece of cable. Then the two young men set about the almost hopeless task of making the repair. First the insulation had to be stripped off each end of the broken wire—a difficult task with their gloved hands. Then the length of spare cable had to be connected up by twisting an end around each of the broken ones. Finally the insulation tape had to be wound over the whole joint. It took almost two hours to do the job.

Both young men were sweating inside their helmets when at last the task was completed. Now it only remained to throw over the operating switch to see whether or not they had succeeded. Grimly Chris flicked over the switch and waited.

They had failed. Apart from an occasional crackle the beacon remained dead. The connection was not good enough. It would not help to guide them onto their homeward course. Their labor had been wasted.

“We’ll go back to Pegasus and see if Control has anything to suggest,” Chris said tersely. He and Serge made their disconsolate way back to the rocket. Morrey was waiting for them and insisted that they eat something while they made contact with Earth. Sir George Benson took the news very gravely, and consulted his colleagues.

“The only satisfactory method of repair is a soldered joint,” he informed them a little later, “and you have no equipment to make one.”

“I doubt whether I could do it if we had,” Chris confessed. “I’ve never done one in my life.”

Both Serge and Morrey had to admit that they, too, would be hopeless at the job, neither ever having had the need to learn. How bitterly they regretted that though their science was of the highest order, in simple mechanical jobs they were completely inexperienced. There was only one thing to do, Chris decided—to try the twisted wire joint again. If that failed a second time, they must choose between remaining on the Moon or blasting off into empty space. To remain would mean certain death, for a relief rocket with more oxygen couldn't possibly be dispatched before their present supply was used up. To take off in Pegasus meant almost equally certain destruction without the help of the third beacon.

"Come on, let's have another try at it," Chris said grimly. Anything was better than inactivity. Again he and Serge donned their helmets and set out, but with very little hope. Still, it was the only thing left for them to do. Carefully they removed the insulation tape they had so recently put on. Then, with great effort, they untwisted the wire ends and scraped them clean. Once more they twisted them together as tightly as they could and then replaced the insulation.

Both their hearts were thumping as Chris hesitated before switching on. In the next second or so they would know whether they could ever rejoin their friends, or whether they must all be condemned to one of the other dreadful alternatives. With a sharp intake of breath, Chris closed the switch.



Nothing happened.

Though it was no more than they expected, this was a cruel blow to Chris and Serge. Morrey gathered the situation at once, and a gloomy silence fell on all three. The leader and his companion could only return to Pegasus, where the three of them would decide what they would do next.

“Isn’t there any chance at all that Control might snatch us up?” Morrey asked.

“I’ll ask,” said Chris quietly, and he turned to the radio. “Is there any chance at all that you could control our flight path?” he asked.

The radio crackled before they heard the reply in the voice of the Chief Scientist himself.

“We cannot give you any help at all until you are at least ten thousand miles above the lunar surface,” Frayling said unemotionally. “Then we can only turn you through seven degrees. Your own lateral rockets will not be powerful enough to have much effect at the speed you will be going. Yet if you have a lower velocity you will not escape the Moon’s gravitational field.”

“Won’t seven degrees be enough?”

“It is highly improbable. The beams from the beacons would have ensured your arriving in our sphere of influence on a course of within two or three degrees. Without their help you may leave the Moon at any angle, possibly even moving in a circle and crashing back onto the surface.”

“But there is a very slight chance we may make it?” Chris persisted.

“Improbable. Most improbable,” Sir Leo answered, and if the crew had not known how unemotional the Chief Scientist was, they would have sworn he didn’t care.

“So that’s it, then,” Chris said to his two companions after he’d switched off the radio. “I suppose you’ll agree to blast-off?”

The others nodded grimly. Better this, even if they only had a chance in a million, than stay behind, do nothing, and have no chance at all of survival.

“Right. We’ll continue our work,” the leader said as calmly as he could.

Then it was that the loudspeaker crackled again. They paused expectantly, waiting to hear what Control had to say. A voice sounded. It wasn’t Control. It was the voice of Tony.

“Chris,” the boy’s voice said. “I think I can repair the cable. Will you let me try it?”

The three listeners in the cabin were momentarily staggered. In the worry and anxiety of their terrible situation they had forgotten about the fourth member of the crew. Now his words came as a shock, for of course Tony had been able to hear all the radio conversations that had taken place. He’d heard about the damage to the beacon, had followed the unsuccessful efforts at repair, and had learned that Control couldn’t help. Strangely enough, instead of getting hysterical and alarmed about his almost certain death, Tony was somehow exhilarated. He felt sure that with his intense interest in mechanics, and all the experience he’d had tinkering with various gadgets, he could succeed where his

clever friends had failed.

“Tony,” Chris replied a little hoarsely. “What do you mean?”

“I—I’ve heard everything, Chris. About the cable, I mean. I think I can repair it. Can I have a try?”

“How can you repair it?” Chris asked a little sharply. Was this just a bad joke?

“When I used to go into the workshops before we took off I used to do soldering and welding,” Tony explained earnestly. “I used to like it very much and Mr. Gillanders said I was very good at it. Let me have a try, Chris.”

It seemed that this was a new Tony that was speaking. Gone was the gloomy, sullen boy they had known since their return to base. Here was the keen, bright boy they’d known on Earth. Radiation?—my foot, thought Chris.

“Do you really think you can do it, Tony?” the leader asked. He wasn’t really very hopeful, but anything was worth trying. In any case, it was good to have the boy his old self again.

“Won’t know till I try, will I?” the cheerful voice said.

“Come right over to Pegasus, Tony,” Chris called.

“Can’t. You’ve taken my helmet,” the boy pointed out.

The three older members of the crew glanced at each other uncomfortably.

“So I have. I’ll be over with it right away,” the leader said. He was about to add “and no tricks!” but fortunately refrained.

“Tell Control about this,” Chris said, “while I go and fetch him over.”

In a few minutes he was down on the surface leaping in the direction of the base. Would he find Tony as changed as his voice seemed to indicate? It had gone very hard with Chris when he’d had to take such harsh measures with the

boy, but his duty had been to maintain his authority and responsibility for the expedition. How tragic it all seemed now that the venture was likely to end in disaster—or was it? For some reason he couldn't explain, Tony's words had given him new hope. Would the boy be able to accomplish what he, Serge, and Morrey, with all their scientific training, had failed to do? If not—well, the end would not be so hard if they were united once more.

Chris quickly scrambled through the air lock and went inside the base, where Tony stood waiting awkwardly. As if by mutual agreement neither mentioned the unpleasantness of the past.

“Hello, Tony,” Chris said, as if nothing had happened. “Do you really think you can repair the cable?”

“I'll have a good try,” the boy said, relieved that there were to be no recriminations.

“What will you do?”

“From what I could hear on the radio it seems that to make a good enough connection, the broken ends must be fused together,” the boy said. “That's why all the important wiring in the rocket is soldered. They told me that in the workshop.”

“But we haven't anything to solder with,” Chris pointed out. “Or to fuse the metal with.”

“What about the Sun?” the boy grinned. “It's hot enough outside, isn't it?”

“Yes, but not hot enough to melt copper,” the leader reminded him.

“What about a burning glass?” Tony asked mischievously. “Hadn't you thought of that?”

“No, but it's a fine idea, Tony. If we could rig up a lens we might be able to do it. Come on, let's get back to Pegasus.”

The boy donned his helmet happily and followed his friend outside. Very soon they were springing up to the cabin

door, where they joined the others. Chris told them about Tony's brain wave, and they agreed it sounded feasible.

"Control is very excited about it," Morrey told them. "I should imagine they're all hopping about like mad. Except the big chief, of course."

"What can we use as a lens?" asked the practical Serge.

"We'll have to use the faces of some of these gauges," Chris said. "Now let's have a look and see which would be best."

Carefully they looked at each of the many dials on the cabin walls, and at last picked one in which—to give a magnified reading—the glass had been thickened at the center. Regardless of the damage to the instrument, they began to prise the glass off feverishly and at last succeeded. Yes, it should make a good enough lens.

All four of the crew were shivering under the tension. Would this last desperate attempt to repair the damage succeed? Or would they fail as crushingly as before? Within a very short time now they would know. This time Morrey declared himself fit enough to accompany the others, and in spite of Chris's protests, he insisted on going.

"You take charge, Tony," Chris's voice told the boy as they reached the damaged beacon.

The boy looked at the break which Serge and Chris pointed out. First came the tedious business of unwinding the insulation tape and untwisting the ineffective junction wire. This done, Tony bent over and examined the break. As a result of the efforts of Chris and Serge the ends of each side of the break would not meet. Twisting had crinkled and shortened them. If the joint was to have the maximum chance of being effective, it was essential that the two original ends of the break should be brought together. If an additional piece of cable had to be inserted to bridge the gap, its chances of success were very much reduced. Assisted by the others, Tony began the task of straightening the wire, but it was a heartbreaking job. Try as they would they couldn't

remove all the ripples, and the two ends remained obstinately a quarter of an inch apart.

A quarter of an inch between death and safety!

Suddenly an exclamation came from the boy.

“What blockheads we are! Why don’t we try softening the wire?”

Chris and the others looked at him. Without explaining, Tony took the lens and carefully focused it on one of the broken ends. Then he moved the glass so that the point of intense light traveled up and down the wire. Pushing the lens into Serge's hands, the boy quickly seized the heated end with his gloved hands and pulled.

There was no doubt about it. The crinkles were less pronounced. They repeated the process many times until at last the two ends were straight. Tony seized them both and pulled. They touched! Excitedly the four friends danced about in glee. The first hurdle was over.

After a short rest they began the most important part of the task. With Chris and Serge holding the two ends together, Tony focused the lens on the break. That the heat from that fierce sun would melt the cable they had no doubt, but it might also melt it away. Then all their work would have been wasted, so Tony watched the wire intently.

“It’s melting,” he breathed at last.

Immediately he moved the spot of light, telling his two assistants not to move even a fraction of an inch. Several times he did this, while sweat poured out of Chris and Serge with the strain.

“All right. Let go,” Tony called at last. They looked—and miraculously the two ends held together. Before he let them celebrate, the boy twisted around and concentrated the light on the other side of the cable. At last he straightened his aching body. The break had been repaired! The wire was holding!

“Steady now,” Chris called. “Wait for it.”

“Let it cool first,” Tony commanded urgently.

The next few minutes seemed like a hundred years, but at last the boy whispered: “Switch on!”

They all heard Chris’s sharp intake of breath as he hesitated. Then he raised his hand and pulled over the switch.

It worked! It worked! It worked!

Delirious with relief, the four friends hugged each other, laughing hysterically. Spontaneously the other three seized Tony and hoisted him on their shoulders. They were saved! They could get back to Earth! Then, weak from reaction, they went back and flung themselves on their couches inside Pegasus.

Chris was the first to pull himself together, as befitted the leader of the expedition. Switching on the radio, he gave an excited account of Tony’s achievement to Control. In turn the voices of their friends, full of emotion, came back, and for a time the exchanges bore no resemblance to what one would expect from famous scientists. Even the cold voice of Sir Leo Frayling failed to suppress them, and it was indeed fortunate that the Chief Scientist was unable to see the rude gestures the crew made at the loudspeaker as he was talking.

All was now excitement aboard Pegasus as the final preparations for the blast-off went ahead. First the three beacons were checked and double-checked to confirm that they were working perfectly. Then a number of instruments were left in the base for the use of those who would follow. The crew even left gifts and written messages behind for the men who would succeed them as inhabitants on this strange planet. It was with, perhaps, just a faint trace of regret that the four friends finally sealed the plastic dome which had been their home—and Man’s first habitation beyond the Earth.

Long and detailed messages were constantly flashed

between Control and the rocket. The exact launching time had been worked out by the giant computer a quarter of a million miles away. Fuel tanks were examined, oxygen supply tested, and at last everything was ready. Excitement was growing among Chris and his friends. Reason told them that a launching from the Moon was every bit as hazardous as it had been when they left Earth. But for some reason none of them felt the slightest fear. Perhaps it was because of the colossal dangers they had already undergone. Perhaps the knowledge that they were going home overshadowed all other emotions.

Chris had to insist on strict discipline when the time came for them to strap themselves onto their couches. Though they would undergo a short period of acute discomfort, their spirits were high and they laughed and joked together as though they were intoxicated. Morrey, now almost completely fit, insisted on using his somewhat untuneful voice to render the latest American popular songs. At times it was difficult to hear the loudspeaker. But who cared? They were like a party of schoolboys on the last day of the semester.

“The launching will be in ten minutes.”

The icy voice of Sir Leo failed to dampen their spirits, and only the quick action of Chris in switching off the microphone prevented a most disrespectful reply from Tony.

If the count-down on Earth had been a period of almost unbearable tension, the present one was full of hilarity. In the dying seconds before the huge motor roared into life, high-pitched laughter and voices almost drowned the voice of Control. When the fateful order came to “Fire,” the four friends raised their voices in a continuous cheer. They kept this up until, quite suddenly, silence descended on the cabin. Pegasus was rapidly accelerating and pinning them helplessly onto their couches.

Though this period was exceedingly uncomfortable, they bore it cheerfully. It didn’t take nearly so long to escape from

the Moon's gravity as it had from the pull of Earth, and soon the four companions were able to release themselves and perform light-hearted gyrations about the cabin.

They would not have been so gay had they been able to foresee the next few hours, for a great, unknown hazard lay ahead. Lurking in space, directly in the path of the homeward bound rocket, was a vast mysterious phenomenon that had puzzled the Earth's scientists since its discovery in 1959.



As in Pegasus, excitement was mounting in the Woomera Control.

All the crew's friends were on duty, and would stay on until the landing. Sir Leo, though annoyed that all his plans had not worked out, was still satisfied that an enormous amount of scientific data had been obtained.

The little township of Woomera, in which the crew had so many friends, was preparing to celebrate their return in true Australian fashion. The whole world was keyed up to give them a heroes' welcome.

Now that Pegasus was safely on course, no one doubted the safe return of the four young men. That they had survived so many perils on Earth's satellite and were now coasting home seemed to be sufficient guarantee that their epic journey would have a happy ending.

When Sir Leo was not at the microphone the exchanges between Control and the gallant crew of the approaching rocket were jocular and gay. Whiskers took every opportunity to chat with Chris and his friends. As he kept telling them, all was now "in the bag." Chris was inclined to be a bit more cautious, but the confidence of everyone else was infectious.

“We’re working out just where and when you’ll land,” Whiskers was saying into the microphone. “The girls plan to have a real feast waiting for you, and we want to know whether it will be breakfast, lunch, or dinner.”

“Whatever meal it is,” Chris was saying, “we all want a great juicy steak, don’t we, you—”

The radio went silent. Whiskers and several others waited for it to come back to life. But it didn’t. A puzzled look came on the Wing Commander’s face. He was about to call over to Sir George and ask if the radio had broken down, when consternation broke out in Control. Several of the scientists at instruments all along the vast console had suddenly sprung to their feet in dismay. Others rushed up to stare anxiously at the various dials. They, too, were staggered at what they saw. Sir George Benson’s face drained of all color as he interpreted the information.

PEGASUS HAD COMPLETELY VANISHED!

There was no doubt about it. Radio and radar had suddenly ceased. Optical observations had ended. The rocket no longer existed. Yet the whole thing was impossible. Even if disaster had overtaken the projectile, radar echoes from its fragments should still have been received.

Sir Leo Frayling’s voice, no longer as cold as ice, was already calling up other tracking stations all over the globe. It was the same everywhere. Without exception they reported that Pegasus and its passengers had been completely obliterated!

It seemed hardly believable. How could a projectile weighing many tons, and functioning perfectly, suddenly disappear? One moment it had been giving out radio signals and a strong radar echo. The next—nothing! Had it been struck by a meteor? Had it suddenly exploded? In either case the radar would have told the story. But this complete obliteration was utterly incredible. It was against the laws of Nature for matter to disappear in this way.

The scientists in Control looked at each other in stunned

silence. None of them had ever experienced anything like this before. Here apparently was a completely new phenomenon. Shocked at the inexplicable disaster, they felt helpless.

Sir George Benson wrung his hands. There appeared nothing he or anyone else could do now. Chris and the others had been wiped out as if they had never existed.

Feeling faint, Sir George decided he must at all costs get out into the open air. His friend, Wing Commander Greatrex, sensed his distress and followed him from the building. The two men stood looking silently up into the sky that had just produced such an appalling catastrophe. Would Man ever understand the Universe, the scientist pondered, when he was surrounded on all sides by so many mysteries? It seemed that for each problem solved many more presented themselves. Perhaps only God would ever know all the answers.

As he and Greatrex stood beneath the Australian sky, something began to work at the back of the scientist's mind. For some reason he recalled an unsolved problem of many years' standing. He remembered vividly the year 1959. He'd been visiting the famous radio—astronomy station at Jodrell Bank. One of the young scientists was studying and recording the radio signals from the Russian satellite, Sputnik III. This remarkable instrument was still transmitting strongly after orbiting the Earth for more than a year. A needle traced a wavering line, representing the varying strength of the signals, on a moving roll of paper. Suddenly the needle stopped moving, and the line remained straight.

The conclusion by all those present on duty at the time was that the satellite's aerial had fallen off, or it had been struck by a meteor and destroyed. While they were still debating what had happened, the signals, after a lapse of about twenty minutes, started coming through again as strongly as ever. But the mystery deepened in the autumn of that year at an international conference of radio astronomers

held in Paris. When the scientists compared notes about the transmissions of Sputnik III, they discovered that other stations had recorded a similar cessation of signals for twenty minutes. The most staggering fact, however, was that the stations which had lost the signals were mostly in Europe. Receiving stations in other parts of the world had continued to record the signals without any interruption at all.

There was only one conclusion that the scientists could draw. Something had come between the satellite and the European stations, blotting out its transmissions to the receivers below. It couldn't have been because the satellite had entered a belt of high-energy particles, for then no Earthly station would have received it. The only possible explanation was that this "something" had suddenly positioned itself over Europe, and had then moved off. What it could possibly be no one had even dared to guess.

As he remembered the details of the incident, Sir George's body jerked as if he'd been shot. Was the mysterious phenomenon that had just occurred connected with the inexplicable event of 1959? If so, did the two things have anything to do with the sinister gray mist which the crew had encountered on the Moon? Were they the work of alien beings, who had invaded our satellite, and were now operating in space quite close to the Earth? At this terrifying thought Sir George dashed back into Control, leaving an astonished and speechless Whiskers outside.

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Pegasus gave a slight shudder; then the crew was plunged into complete darkness! The microphone went dead; the television and radar screens blacked out.

"What's happened?" Serge's voice called out, but no one was able to say. It was as if they had all suddenly become blind, so intense was the blackness inside that small cabin. As they floated about they collided with each other, and the lack of gravity added to the terror of the situation. It was all

very amusing to float about the cabin when you could see where you were going, but it was an entirely different matter in the dark. The breaking of their contact with Control was sufficiently alarming, but that all the instruments should have failed at the same time was truly frightening.

Even when their quarters were illuminated, in this strange state of free fall all sense of movement was lost. It had only been the rocket's instruments, together with the information from Earth, which had assured the crew that Pegasus was streaking along its planned path. Now they had no instruments, no light, no sound from Earth. Were they hanging motionless in the void, or were they flashing along on some new course? In spite of their efforts to fight it back, fear began to grip their hearts.

"I've found the electric torch," Morrey's voice cried out, and they all sighed with relief. But the next second their alarm was redoubled.

"It won't come on," the American said in amazement. There was nothing wrong with the torch, for they'd used it not long before. So the failure of everything electrical was complete! What had caused this sudden catastrophe, and did it mean the end of their hopes for survival? They had no way of knowing!

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Sir George Benson rapidly outlined his theory to Sir Leo and the other scientists. Most of them remembered the erratic behavior of Sputnik III. If Pegasus was now encountering the same mysterious object, there was a chance that, like the Russian satellite, it would break through. It was a forlorn hope, but better than none at all! At Frayling's command all the men in Control went back to their instruments.

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The light in the cabin blazed up with dazzling suddenness. For a second the crew were too stunned to speak. When at

last they did find their tongues their voices were broken and sobbing with relief. The voice of Sir Leo blared out from the loudspeaker, and never had the words of the scientist sounded so welcome. Gone was his usual icy tone. His voice was raised with excitement, and in the background they could hear the hubbub that had broken out in Control.

Very quickly the crew, like the scientists down on Earth, found that everything was working just as if nothing had happened. Pegasus had kept exactly on course and would soon be able to start the landing maneuver. There were many who offered a silent prayer of thankfulness for this miraculous delivery from the unknown.

What was this phenomenon brooding over the world that had caused so much alarm? No one knew, and only time would bring the answer.



There were no more accidents or alarms. Within ten minutes and two miles of the predicted time and place, the crew of Pegasus staggered out of the cabin. They fell flat on the sandy Australian soil—partly from excess of emotion at once more feeling Mother Earth beneath them, partly because of the strange weakness of their muscles. Later experience was to show that this loss of muscular tone would be common to all returning from the low gravity of the Moon.

Before Chris and his friends realized it they were lifted up by friendly hands of excited men. They were the squad whose good fortune it had been to be nearest the landing point. Other squads, scattered over the possible landing area, were even now rushing along to join them. The squad leader, clad in white overalls, erected an ultraviolet ray lamp and directed it over the crew in turn. This was to kill any spores or viruses they might have carried back from the Moon, and which—under earthly conditions—might prove dangerous. Their cabin and all their equipment would be similarly treated. By the time other men began to arrive in jeeps and trucks, the crew were pronounced clear.

Every squad had received strict instructions not to talk to or question the returning travelers, for they would be under a

considerable emotional strain following their safe landing. Gently, they were shepherded to a waiting helicopter which whisked them the eighty miles to Woomera. There each received an immediate and thorough medical examination. Not until that was over were Chris and his friends able to relax and feel that they were really back home.

With the crew resting in easy chairs—their muscles had not yet become accustomed to terrestrial gravity—Sir George and the others were at last able to greet them.

Then followed the ordeal of newsreel and television cameras, reporters, and the flashing of hundreds of photographic bulbs. Naturally neither Chris nor the others could say much to the press until they had reported exhaustively to the scientists. How glad they were when it was all over! How excited they were when Whiskers informed them that the promised meal of juicy steak was ready!

Only after they had eaten and thoroughly rested would the medical officer, Squadron Leader Lambert, allow the crew to be questioned. In order to save time and to glean as much information as possible, all four were questioned separately by teams of their own national scientists. Questions and answers were recorded for the benefit of those who would follow. Meanwhile all the instruments and samples were removed from the cabin and there began the colossal task of recording all the information that the expedition had brought back.

During this time, to his great disgust, Tony Hale received special attention. He wanted to be with his friends. On the second day after the landing he was amazed when Dr. Ruby and Mr. Carfax walked into the bedroom to which he'd been confined. The two doctors congratulated him warmly.

However, their visit was not a social one. They had come to find out if one of the most daring experiments in the history of medicine had succeeded, or whether this boy, delivered safely from the hazards of space, was doomed to

die a miserable death in the bed of a hospital ward.

Within two hours they knew the answer. Examination showed that the disease had been completely killed by cosmic radiation. Tony would live, and so would thousands of other young people now that the way to cure them was known. Besides being cured physically, Tony had also undergone a mental transformation. He was filled with a quiet assurance—confident he and boys like him could play a great part in Man's future explorations in space.

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Three weeks after they returned, Chris and his friends were taken to the Australian town of Adelaide. There, in the city's largest hall, were gathered government representatives, scientists, engineers and men of learning from all over the world. They had congregated to hear the lecture by Sir Leo Frayling in which he would give a preliminary account of the lunar expedition. Countless millions all over the globe were joined to the audience in the hall by means of radio and television. Never had there been such a link—up before, never had an event so captured universal imagination.

The three young men and the boy were smuggled in a closed car to the hall. Only the faithful Whiskers had accompanied them. Inside, they were met by Sir George, who appeared more nervous than Chris had ever seen him, together with Boronoff and Rosenberg. Even in the little anteroom to which they were shepherded, Chris and the others could hear the low murmur of expectation from the main hall where so many hundreds were waiting.

Precisely two minutes before the proceedings were to commence, Sir Leo joined the tense little group in the anteroom. In his hand was a thick sheaf of notes which he would be using for the lecture. The Chief Scientist gave a brief nod to the others. It was his day and he intended that it should be the climax of his career. With a curt command for them to follow him, he led the way out onto the platform.

From the roar that rose from the crowded hall few would

have guessed that this was a gathering of staid scientists and politicians. Indeed, it seemed like an excited crowd at a ballgame. As one man the audience rose to its feet and gave a thunderous roar of greeting. Sir Leo, with a stiff little bow, went to his chair in the front center of the platform, while the others found theirs in a semicircle at the back of the stage.

Standing up when he thought there had been enough applause, Frayling stepped forward to the lectern on which he placed his notes.

“Thank you. Thank you, ladies and gentlemen,” he said into the microphone—anxious for order so that he could begin his lecture.

Instead of the uproar dying down, it became, if anything, louder. In growing impatience Sir Leo held up his hand. It was no use. From somewhere at the back of the hall came the call: “We want Godfrey!”

Instantly the chant was taken up in all parts of the building until it became deafening. “We want Godfrey! We want Godfrey!”

The Chief Scientist tried to make himself heard, but it was no use.

“We want Godfrey!” the audience chanted.

Poor Chris's face was scarlet with embarrassment. Sir Leo made one more attempt to quiet the gathering, but it was useless, so, gathering up his notes, he strode off the platform. Chris looked beseechingly at Uncle George. What on earth was he to do? Then Benson stepped forward and, taking Chris's arm, he led the young man to the microphone. The scientist held up his hand and, as if by magic, all sound ceased. The entire audience waited in silence for Godfrey to speak.

To say that Chris had never been more scared in his life would not be true, but he was certainly as nervous as he could ever remember having been. His heart thumped inside him as if it would burst. His throat felt dry and he swallowed

convulsively. He turned from the microphone and went to the back of the stage, returning with his three companions. At this gesture the cheering broke out again and lasted for some minutes. The noise gave Chris time to collect his thoughts. Expectantly, the audience fell silent once more.

“Thank you all for this welcome,” he began in a voice he couldn't recognize as his own. “On behalf of the crew and myself may I say how touched we are at this wonderful reception.”

He had to pause again as the cheers were renewed.

“We have all learned very much from this venture,” he continued as soon as he was able, “and I have no doubt that Sir Leo will tell you about all the scientific data we have gathered. But I would like to tell you what all this has taught me.

“Mankind has many mysteries yet to solve. If we are to solve these mysteries and face the dangers involved we must work together as never before. We have already learned the lesson that international co-operation is the only possible way to explore the universe. Now there is another lesson to learn which is equally important. It is that every skill, every craft, has its part to play in this great undertaking.

“To be more specific, may I tell you something that happened while we were on the Moon. A cable in one of the guidance beacons was severed, and Pegasus could not take off as a result. Neither Serge, nor Morrey, nor I, though we are hoping to become scientists, had the knowledge or skill to make the repair. Only Tony here,” he said, leading the uncomfortable boy forward, “had the ability to do the job. Without him, we should not be standing here now.”

The applause was ear-splitting, and Tony shuffled about awkwardly. Morrey and Serge each placed a hand on the boy's shoulder and grinned.

“So you see,” Chris went on a few moments later, “in space travel a good mechanic is as valuable as a good scientist. Just as we can't all work with our heads, so we can't all work with

our hands.”

As he finished his speech Chris gave a shy little bow in response to the applause which had broken out. Then, with the others, he went back to his seat. Sir George took over the microphone and asked for the indulgence of the audience while he went to get Sir Leo to give his lecture.

No one who was in that hall, or the countless millions far and wide who were the unseen audience, would forget the brilliant discourse that Frayling gave. Only at the end did anyone notice that Chris and the other three were missing from the platform. At some point they had tiptoed away.

Whiskers hurried off to find them. He found all four sitting on a seat in one of the city parks. Somehow they felt a sense of anticlimax. The dangers, strains, and fears of the voyage were over; the reports all made; the medical precautions completed. What did the future hold for each of them? Soon they would be parting. Chris, Serge, and Morrey to complete their studies, Tony—to what?

As he sat on the bench with his friends, the boy knew he'd never be the same as he was before the journey to the Moon. Then he was careless, irresponsible, and hated schoolwork. Now he knew that even if he wasn't a mental genius, he could make a great contribution by the skill of his hands. Then his own desires were the most important things in life. Now he had discovered that friendship, self-sacrifice and loyalty were much more satisfying.

Suddenly, Tony looked up at the Wing Commander and his eyes lit up. Yes, there was no doubt about it! There, he could see, were the faint beginnings of a new moustache!

Tony stood up, and while the others watched wonderingly, searched his pockets. Then he pulled out a small tin box which he solemnly offered to the Wing Commander.

“I'd like you to use this as a pattern,” he said innocently.

Whiskers took the box and began to open it curiously, while the donor moved to a discreet distance. Suddenly the

officer let out a great roar and placed the box on the seat.

“You young Varmint!” he bellowed as he chased the laughing boy away across the park.

Chris, Morrey and Serge peered at the box with interest. Inside lay their lucky charm, their talisman. It was the Wing Commander’s original moustache.

