Terror By Satellite

By Hugh Walters

A Chris Godfrey of U.N.E.X.A. Adventure

Book 7 in the Series

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By the Same Author

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Ghapter One

"Got it!"

Tony Hale straightened his aching back and looked at his handiwork proudly. The bench in front of him was littered with electrical equipment, for the young rocket mechanic had recently become interested in short wave radio. During his month's leave he had begged, borrowed and, finally, had purchased masses of radio parts to make the transmitter he'd just finished. Unfortunately his license hadn't yet come through and he was reluctant to get into trouble by using his apparatus illegally.

The transmitter should work, and he was aching to try it out. Then he would be able to call up other radio hams all over the Earth. Maybe he'd pick up signals from the base on the Moon, and certainly from the host of satellites, Not that the satellite signals would be intelligible, for they were coded and needed elaborate instruments to unravel the meaning.

To obtain a license was now extremely difficult, for with so much radio communication, almost all wavelengths were allocated. Only when some amateur enthusiast gave up his wavelength-a very rare occurrence-was it possible to license it to someone else. In view of Tony's past services to the community, including his journeys to the Moon and the planets, he expected the minimum possible delay. But now that his set was finished he was impatient to use it.

His leave would be up in another three days. Then he would have to return to duty at the great new satellite observatory circling the Earth every four hours. Not for another three months would he be on leave again, so unless his license came through very quickly he would have to wait some time before he could try out the result of his labors.

He wondered how Sidney was getting on with his job. Tony's friend had been bitten with the same bug and lie, too, had been busily engaged in building a transmitter. Unlike Tony, Sidney Stafford had access to plenty of radio parts, for his father had one of those fascinating shops which sell all sorts of surplus government equipment. Mr. Stafford regarded his son's latest fad with mild amusement, for the young man had had many before this, and they had all fizzled out after a very short time.

Tony and Sid had been friends for a long time, ever since they had attended the same technical college. Tony had become a highly skilled mechanic who had made many voyages in space rockets before taking his present job on the satellite observatory. Sid had drifted into his father's business, and despite all Mr. Stafford's efforts, had shown little interest in anything else. It is bad, Stafford senior thought, for a~ young man to take the line of least resistance and shelter in his father's business. It would be better for him to stand on his own two feet and carve his own niche in the world. Some day, he hoped, Sidney would wake up and really begin to make use of the ability he undoubtedly had.

When Tony and his friend decided to build transmitters they did it in a spirit of friendly rivalry. Originally the idea was to be able to talk to each other from their homes when Tony was on leave. Soon after they had started they decided that it was hardly fair to see who could complete the job first, for Mr. Stafford allowed his son to take whatever he Wanted from the shop. Instead they were to see who could build the smaller set, and in this Tony's dexterity gave him the edge on Sid.

"Not bad," Tony said to himself as he eyed his work proudly. It would be a tight squeeze but he might be able to get the transmitter into his suitcase. Not bad for an amateur, he decided. If only the license came through before he went back to work. He was just dying to give Sid a call.

Young Stafford was waiting for his license also. His set had been ready for a couple of weeks, but it was larger and perhaps more powerful than his friend's. He had used a lot of equipment from his father's shop and this had made his apparatus more bulky than Tony's. Mr. Stafford was only too happy to let his son take anything he wanted from stock, and use their attic

room as a workshop.

The two young men met to admire each other's efforts.

Tony had brought his transmitter to Sid's home in a suitcase, and both were generous with their praise. They proceeded to make elaborate plans for scouring the globe for other amateurs as soon as they were allowed to operate.

They wondered how many contacts they would be able to make.

"You'll have a terrific start over me," Tony grumbled.

"Even if the license comes through tomorrow, I'll only have a couple of days before I go back to the satellite."

"Take your set with you," laughed Sid. "You could easily smuggle it in with your luggage."

"You don't know what you're saying," Tony replied, and he suddenly became very serious. How could his friend know about Commander Hendriks, the man in charge of the satellite observatory?

In spite of himself Tony shivered a little at the thought of this hateful man. Though a brilliant scientist, Hendriks was also a ruthless disciplinarian, and his rule on the satellite was absolute. The least slackness in carrying out an order, or the merest hesitancy in obeying his commands, called forth his frightening anger. All the thirty men who formed the normal complement of the satellite observatory feared, yet admired, this remarkable scientist. Tony had avoided contact with him as much as possible, and only once had he felt the biting lash of the Commander's tongue.

To smuggle his transmitter aboard the satellite would bring the terrible wrath of the chief upon him, Tony told his companion. But Sidney didn't seem to understand.

"He wouldn't know if you didn't want him to," Tony's friend persisted. "And just think how often we could talk to each other. Besides, you'd be able to contact hams that I couldn't reach."

"It's no use, Sid," Tony sighed. "I'd like to, but he'd skin me

alive if he found out. Sorry. It'll have to wait till I get back."

"Too bad," Sidney said with mock sympathy. "I suppose I'll have to be content with getting my radio contacts without competition."

"I suppose it's no use asking you not to use your set till my next leave, is it?" Tony asked hopelessly.

"No use at all," his friend told him. "I'm just dying to start twiddling those knobs. It would be more than I could stand to leave them alone after the license has come."

"Well, let's hope they both come tomorrow," sighed the mechanic.

But they didn't. Nor the next day, either, and the two pieces of apparatus had to remain silent. When he went to wish him good-bye, Tony had a strong suspicion that Sid was really pleased the documents hadn't turned up. They were bound to come any day now, and Sid would have a whole three months Without any competition. But surely Hendriks wouldn't mind if Tony used his home-made transmitter in his off-duty hours! No sooner had the thought entered the mechanic's head than he dismissed it. The only communication between Earth and satellite was by the official radio, and the Commander had always refused to relay even the most urgent private messages.

Feeling thoroughly fed-up, Tony said good-bye to his friend. Early the next morning he must fly to Cape Kennedy to join the ferry rocket that would return him to the Observatory. That night he completed his packing. Then he had one more look at the small piece of apparatus over which he had labored so lovingly. He looked at the transmitter for a long time, as if trying to make up his mind about something. Suddenly his face hardened, and he turned and started to remove some of the clothing from one of his two suitcases...

Whistling in a carefree, innocent way, Tony reported to the airport the next morning with his two cases. An officer weighed them.

"Kind of heavy, this one. What's in it?" he asked.

"Oh, just the usual. Perhaps a bit of extra chocolate.

Can't buy any up there, you know," Tony grinned. He hoped his face wouldn't give him away, for if the officer checked his case and found unauthorized baggage, he'd be in for a rough time.

"All right," the officer said as he swung Tony's cases onto a truck. "Don't make a beast of yourself with it."

"I won't," the mechanic assured him. "See you in three months."

The Comet was soon whisking its passengers across the Atlantic. Occasionally Tony felt qualms about that mysterious case. Fortunately there wouldn't be another check, as the one at the airport sufficed for the rocket journey also.

He knew he was taking a fearful risk, but he just couldn't bear to let Sidney steal a march on him.

There was no trouble at Cape Kennedy. Although he had passed through the rocket station many times before, Tony had to go through the formality of identification followed by a medical check-up. No attention was paid to his sealed cases, but not until his luggage was stowed in the hold and he was strapped on to his couch ready for the launching did he feel at ease. His fellow passengers were also members of the observatory staff, both technical and scientific, and many of them greeted him.

"Wonder how Hendriks is these days," one of the astronomers murmured as they waited for the count-down. "I keep out of his way as much as possible."

"Me, too, though I hear he's been keeping pretty much to that lab of his lately," a physicist informed the party.

"Let's hope he's better tempered than he was during my last tour," one of the mathematicians said. "He almost tore my head off when I asked politely what work he was engaged on."

"You fallen foul of him yet?" the physicist asked Tony.

"Once," the mechanic answered. "One of the airlocks jammed. I got the blame for it. No use telling him that later I

found fusing by a micro-meteorite."

"Some day he'll go mad in one of those rages of his," the astronomer sighed, and all further conversation was cut off abruptly by the take-off.

Though they had all been through launchings scores of times, the passengers and crew knew they were in for an uncomfortable time during the next few minutes. Forced down hard on their contour couches by the terrific acceleration of the transport rocket, they were unable to move or speak. Only when the huge motor ceased firing would the discomfort end and speech again become possible. It was always a great relief when this distressing but essential phase was over.

The pressure went off as suddenly as it had started, but in addition to recovering the use of their muscles, the passengers and crew had entered that strange and exhilarating condition of weightlessness. Rocket, crew and passengers were now coasting along on an orbit approximately the same as that of the Observatory. Small booster rockets would enable the ferry to position itself alongside the huge satellite, and the pilot was already calculating the necessary bursts from radar observations.

Before long the blimp of the Observatory had appeared on the rocket's screen, and the experienced pilot had given short bursts of power that would bring them together. The really delicate part of the job would be when the ferry had to be maneuvered into contact with the airlock giving entrance to the satellite. It was here that the pilot's skill really showed itself, for in almost record time the job was done and the passengers were preparing to leave.

With the others Tony put on his space suit, for they would all have to pass through the rocket's airlock into that of the Observatory. Although ferry and satellite were now clamped together magnetically, this airlock routine was essential to conserve .the precious supply of oxygen stored in both.

Maybe some day a satellite would be built that would enable a ferry to sail right inside. Then the travelers would simply float out of their rocket into the cozy surroundings of the space station. For the moment, ferry rockets had to cling like leeches to the outside of the Observatory, dropping away only when unloaded. Tony was patiently waiting his turn to pass through the lock. Conversation among the waiting men over their space-suit radios was almost nil, for each was feeling an unaccountable chill at the prospect of coming once more under the jurisdiction of the strange Commander Hendriks.

Only the fascination of their work made life in the Observatory possible. When it was Tony's turn to pass through the airlock, he picked up his bags, little knowing what a historic part the contents of one of them were destined to lay.

A few minutes later the mechanic was safely aboard the space station and was removing his helmet in the locker room. The other new arrivals were also removing their equipment, while a similar number of men were excitedly donning theirs ready for the returning ferry to take them back to Earth on leave.

"Hello, Tony," a voice called out, and the mechanic turned to see a young man, dressed ready to depart, making his way toward him.

"Hello, Bill," Tony called back, "you certainly got ready fast."

"Not fast enough for me," the other smiled back. "Glad to get out of reach of Hendriks for a spell."

"How's he been?" Tony asked his friend, who was also a mechanic.

"Terrible. Look, Tony," Bill went on seriously, "there's going to be trouble here if things don't change. Everybody hates Hendriks and there'll be a blow-up soon if he's in charge of the Observatory much longer. Watch your step, fella."

"Sure I will, Bill. Well, have a nice leave. See you in a month."

"No you won't. I'm applying for a transfer when I get back to Earth. If I don't get it—I still won't come back."

"Bad as that? Maybe I'll do the same next time," Tony said

thoughtfully.

As his friend clipped on his helmet and joined the others in line for the airlock the mechanic picked up his bags.

Like his shoes, the bags had magnetic strips along the bottom to anchor them down, for everything was now weightless in the satellite, though after the ferry had left, the Observatory would start turning like a huge wheel, the centrifugal force acting as a substitute for gravity. Carefully, with a serious expression on his face, Tony made his Way to his own cabin. If things were as bad as Bill said, the Commander would certainly have something to say if he found out what was included in the mechanic's luggage.

Chapter Two

"I don't understand it."

Professor Bargh was looking through the Windows of his plane. The Comet was flying at twenty thousand feet over the Welsh mountains. Fa below was the wild countryside.

But it wasn't at this that the scientist was looking. Something else had attracted his attention. A wide brown strip, looking as if a painter had drawn his brush across a map, lay below.

It started from the shore near the Barmouth estuary and stretched in a straight line over fields and mountains for several miles. At a guess the Professor thought it might be about a quarter of a mile wide by anything up to ten miles long. Then it stopped abruptly. Other passengers were now looking at this strange phenomenon.

"It wasn't there yesterday," one of them declared, and they all speculated on what it might be.

Only a few minutes after the Comet had landed, the scientist hurried down the gangway at Speke Airport, Liverpool. A car was waiting to take him to the University, but his mind was still full of the strange sight he'd seen barely a quarter of an hour before.

"Heard anything about a brown streak across the Welsh coast?" he asked the young man who was driving.

"Why, yes, sir. It was reported this morning. The Ministry of Agriculture got on to the Vice-Chancellor before ten o'clock. There's a mixed team gone out to investigate," the driver reported.

Professor Bargh stroked one of his bushy gray eyebrows thoughtfully.

"How much gas have you in the tank?" he asked.

"Quite enough, sir," the young man smiled.

"Right," the scientist said briskly. "Make for Dolgelley as quickly as you can. I'll take full responsibility."

The driver put his foot down enthusiastically, and soon the car was tearing along the road at a satisfying speed. Meanwhile the Professor plied him with questions, and the driver told him all he knew.

It was during the night that the brown streak had appeared. Early-rising farmers had discovered a band of withered grass and trees four hundred yards wide crossing their fields. The band had continued on up the mountainside and over the top. It was as if some blight had suddenly swept across the countryside; no other explanation seemed possible. Only when reports came flooding into the local office of the Ministry of Agriculture at Welshpool was the extraordinary nature of the affliction realized.

"Do you know where the other folk are heading for?" asked Bargh as the driver finished his account.

"Yes, sir. The Ministry people are meeting them in the market place at Dolgelley. Then they will follow the Towyn road until it takes them right into the affected area," the driver told him.

"Think they have much of a lead on us?"

"Not more than half an hour. And we can knock that off," the young man said confidently.

Professor Bargh sat back and allowed the driver to get on with the job without further conversation. Sure enough, some five miles before they reached Dolgelley they saw a bunch of cars ahead which the driver identified as the convoy from the University. Quietly the Professor's car tagged on behind and soon the Welsh market town was reached.

In the market-place quite a number of people stood about in small groups, talking earnestly. The presence of a police sergeant and three Constables seemed to show that something was afoot. Without doubt news had reached the town about the brown streak, and watching shopkeepers and farmers guessed that these strangers were in some way connected with it.

As they climbed out of their cars the Liverpool party was joined by the Ministry officials. After introductions one of the Ministry men, who had already visited the phenomenon, described it to the University people, after which they all piled back into their cars and started off down the Towyn road.

Seven miles from Dolgelley, at the village of Arthog, there was a police road block and the whole party disembarked.

"Hello, Bargh. Didn't know you were here with us," one of the Liverpool team remarked as the Professor mingled with the others.

"Joined up at the last minute," the scientist answered nonchalantly.

Led by the man from the Ministry, they all walked past the road block. A quarter of a mile farther on, just as they had rounded one of the many bends in the road, they saw it.

The hedges on each side of the road were scorched brown. Beyond them grass and trees, in a broad band stretching from the river right up over the mountains, were similarly scorched. Green vegetation was visible at the far side of the strip. Curiously the investigators approached the dark scar which disfigured the pleasant countryside.

From a distance it had seemed that the edge of the streak was sharp and straight, but as they reached it the investigators could see that the boundary was not clear-cut. Several inches of vegetation were only lightly touched, but the scorching was progressively more intense until nothing but a brown powder remained of the leaves and grass. Branches of trees and bushes were stripped bare, and the limbs themselves were all of the same dull color.

The scientists and officials spread out along the edge of the streak. Some of them bent down to examine the ground closely. Others, with gloved hands, scooped up samples of the powder for laboratory examination. One of the scientists discovered that the streak was faintly radioactive, and thereafter everyone was even more cautious.

When they had collected all the samples they needed and made all the tests they could on the spot, the scientists from the University and the men from the Ministry collected in a bunch to discuss this strange happening. Various theories were pretty sure that there was no natural explanation, for no blight or disease could have acted so rapidly or confined itself within such limits. Because of the faint radioactivity, most of the group were looking at the geologists for a theory. The one they put forward rather half-heartedly was that due to some subterranean disturbance a radioactive vein had been exposed and this had caused the vegetation to crumble.

"But I've never seen such a straight rock formation myself," Professor Bargh objected, and went on to explain what he'd observed from the Comet.

"Then what do you suggest, Bargh?" one of his colleagues asked a trifle sarcastically.

"The most likely cause," the Professor said thoughtfully, "is a near miss by a fair-sized meteor. If such a body came skimming through our atmosphere its heat would scorch a straight trail very similar to this one."

"But wouldn't a meteor light up the countryside? Wouldn't it plunge into the ground with a terrific explosion?

There are no reports of anything like that," a Ministry man pointed out.

"Yes, that's true. But how else can you account for this deadstraight trail crossing hills and valleys?" Professor Bargh demanded.

The truth of the matter was that no one had a clue to what had caused the mysterious brown streak, and for weeks scientists from Liverpool and other universities speculated on its origin. One thing was soon evident. The soil beneath the powdered vegetation was completely sterile, and no amount of effort could induce it to support vegetation again.

Dozens of sheep, from fields through which the streak ran, sickened and died, so the brown scar was fenced off to save other animals.

Barely a week after the incident in Wales, while speculation about it was still running high, a sheep farmer in Australia had a strange experience. He was on horseback, inspecting a flock of several hundred sheep, when he began to feel ill. Thinking he was going to faint, he decided to dismount. But his horse had suddenly become restive, and he had great difficulty in controlling him. This in itself was peculiar, for his mount was a very docile animal as a rule.

When he'd calmed the horse down he felt better; the strange feeling had passed.

Now the farmer was able to look at his flock. To his amazement the sheep seemed restless and some of them were definitely sick. He jumped down, puzzled, and made his way among them. Since he couldn't tell what was wrong, he picked out one of the worst affected and slung it over his horse to take back home.

"Darned funny," he muttered to himself. "I could have sworn they all looked well enough before I had that queer turn."

He rode away with the struggling sheep across the horse in front of him. He was perplexed and worried, hoping the flock hadn't picked up anything and was going to go sick on him. Come to think of it, he hoped he himself hadn't picked up a bug. He just couldn't be laid up right now. He turned to look back at the animals he'd just left-and nearly fell off his horse in surprise.

From the point he'd just left, stretching away right and left to the horizons of the flat plain, a wide band of the rich lush grass had changed color-was, in fact, changing as he looked at it. Every moment the herbage, where the farmer's sheep had been grazing, was turning from a light to a darker brown. It reminded him of a cake being baked, only this was no mixture of flour and fruit but his own precious pasture.

Surprised, the farmer let the sick sheep fall from his horse

and escape. He rode back rapidly toward the discolored area, and when he came up to it he gazed at it in utter bewilderment. Jumping from his mount he bent down and examined the grass, which crumbled to powder under his touch. Now he was really scared, so he jumped on his horse and galloped toward home, where he called up his neighbors on the radio. One of them, the nearest, had also just seen this disturbing phenomenon. In fact, his house was squarely in the middle of the brown strip and he, too, was thoroughly alarmed.

Two days later, knowledge of this second strange occurrence reached Professor Bargh. Immediately the scientist cabled for full information and requested that precise details should be given of the length, width and direction of this new marking.

The similarity to the Welsh streak was remarkable. Slight radioactivity, brown powder, sterile ground, sick animals.

Whereas the discoloration in Wales was ten miles long, the Australian counterpart was double this length.

Now the Professor no longer held to his meteorite theory.

The possibility of two such bodies plunging through Earth's atmosphere in such a relatively short time was too remote.

There must be some other cause. Yet the scientist was still convinced that the scorching was caused by something moving in a straight line. An aerial survey of both streaks gave strength to his conviction.

Gradually a suspicion began to grow in Professor Bargh's mind. When a third streak appeared a week later in the Canadian wheat belt, he was sure his new theory must be the correct one. Armed with reports and masses of figures the Professor sallied forth from the fastnesses of Liverpool and was granted an interview by the Minister of Science in a committee room in the House of Commons.

Lord Porter, whom Bargh had known for many years, was a scientist in his own right; he had now become a life peer.

The Minister listened carefully to his former colleague's theory. When the Professor had finished and had displayed his maps and calculations, Lord Peter looked grave.

"You've almost convinced me, Bargh," he said. "Mind meeting my advisory committee?"

This was a team of top scientists from many branches, used by the Minister to advise him when deciding matters of scientific policy. They were due for one of their regular meetings with Lord Porter in a few hours' time. The Professor realized that the Minister would never move far without the support of his team, so he readily agreed to meet the scientists. That evening he repeated his theory to the Advisory Committee and was well prepared for the searching questions he knew would follow.

At the end of two hours Lord Porter, who was presiding, summed up.

"If Professor Bargh is right," he said, "and his arguments are very strong, there is only one explanation for these brown streaks which have appeared on three widely separated parts of the Earth's surface. Bargh says that the three streaks have much in common. Each was radioactive and consisted of brown powdered vegetation. Each was perfectly straight, ignoring physical features of the landscape.

But more significant still, the streaks appeared in each case just after the Observatory satellite had passed over-and they lie in the direction of its orbit.

"What connection the Observatory has with the streaks we do not know. It may be that in conducting a new experiment the satellite is emitting some kind of radiation that is responsible for this alarming phenomenon. I propose dispatching a message to Cape Kennedy requesting information about the activities taking place in the Observatory. I shall ask about anything that might be responsible for a harmful radiation. Now, gentlemen, if you will join me at dinner our message can be on its way."

The meal was over. The coffee was served. A waiter brought the Minister a sealed envelope. Lord Porter opened it and took out a paper. Members of the Advisory Committee watched him closely as he read it, for they rightly guessed it was the reply they had awaited. Professor Bargh saw the frown deepen on the Minister's face, and he knew his theory would be confirmed.

"Gentlemen," Lord Porter said, putting the paper back into the envelope, "that was the reply from Cape Kennedy.

No new experiments had been authorized for the Observatory, but Commander Hendriks has a pretty free hand.

However, they have given me a very disturbing piece of information. No radio signals have been received from the satellite for over twenty-four hours!"

Chapter Three

"Whew!"

Tony breathed a sigh of relief as the panel of his cabin slid to behind him. Now that he was in his private quarters there was little likelihood that he would have trouble with his luggage. His first spell of duty did not begin for another twelve hours, so he'd be able to unpack.

First he stowed away his clothes. This spell he'd have to manage with fewer. But it was worth it, he told himself as he unfastened his second case. Gingerly he lifted it out-his beloved transmitter and its battery, the work of his own hands. Where should he put it? It would have to go under his bunk when he was not using it. Meanwhile, there was no harm in seeing if he could get the thing working.

"You coming to eat?" someone called through the panel.

"Oh—er—yes," Tony called back, hastily pushing the apparatus out of sight. It was one of his friends who had just come up from Earth. Good thing the satellite had started revolving. The set could stay under his bunk until he dragged it out. If everything had still been weightless, it wouldn't have been safe to leave the instrument, for it would have floated about the cabin and no doubt damaged itself. With a glance back to see that it was completely concealed, Tony slid open his panel and stepped into the corridor.

Now that they had the benefit of the artificial gravity, it was no longer necessary to clump along in magnetic boots. The mechanic joined his waiting friend and they walked along the corridor together. Actually they were making their way along the hollow rim of a huge wheel, for this was the shape of the Observatory. Five spokes ran from the rim to the hub, and it was here that the nerve center of the whole satellite was situated.

Inside the hub was the observatory proper, with a huge telescope of special design poking out towards the black heavens. It was here that Commander Hendriks had his quarters, right next to the holy of holies—his private laboratory which no one was allowed to enter. The Commander spent most of his time in the central observatory or in his lab, rarely venturing into the rim which housed the living quarters, recreation rooms and stores. As long as it stayed that way everything would be fine, thought Tony. Only occasionally did Tony's work take him into the central section.

"Wonder what's on the menu," the young mechanic said, as he and his companion walked along the gently sloping floor. They were actually treading on the outer edge of the rim, their heads being pointed toward the hub.

"Don't suppose it'll be anything exciting," replied Don, the other young man. It was natural for the two mechanics, who had to work so much together, to become friends.

"Unpacked yet?" Tony asked his companion.

"Not yet. Have you?" replied Don.

"Just about to start."

Tony wondered whether he should tell his friend about the transmitter he had smuggled aboard, but decided against it—at least until it was working.

It was very strange to be walking along inside the rim.

If you looked ahead the floor on which you were walking curved out of sight. When you reached it, it didn't seem to slope at all. Always ahead and behind the corridor sloped upwardnever beneath your feet.

The two mechanics passed through a panel into a long narrow dining room. Because of the centrifugal force caused by the rotation, meals could be eaten normally. If something should cause the huge wheel to cease turning, everything! would become weightless. Eating would mean chasing food around the room, and drinking liquids from plastic tubes. The concentrated food was most uninteresting, being designed to provide health and strength rather than pleasure. But mealtimes did at least give one the opportunity of meeting and talking to friends.

"Had a word with Bill before he left," Tony remarked as the two friends seated themselves at a table. "Says he's not coming back. Old Hendriks must be worse than ever, according to what he said. Have you heard anything?"

"Haven't had time to hear much yet, but I believe he's clamped down with a whole list of restrictions. No private messages to Earth, no using any instrument or apparatus without his permission, an absolute ban on anyone listening to radio programs from Earth, though it seems he doesn't object to canned music relayed over the internal system. What's he up to, Tony?" asked the puzzled Don.

"Search me. Bill thought Hendriks is going batty. But if he isn't, there's something pretty serious brewing."

The two fell silent as they plodded through the meal.

What a difference the personality of the man in charge can make, Tony reflected. Of course he could always resign after this spell of duty, just as Bill was doing. But somehow he knew he wouldn't do it. Something made him want to stick it out. Hendriks couldn't be on active service forever.

He must be getting pretty near to retiring age now. No man over forty was allowed in space. The Commander couldn't have long to go.

Tony and Don had almost finished when the loudspeaker blared out.

"Mechanic wanted urgently in Section E 4," the voice of the Duty Officer called.

The two young men looked at each other.

"Isn't that close to the lab?" Don asked. His companion nodded. The rim of the satellite was divided into twenty-five sections, each one with a number prefixed by the letter R. Each of the five spokes, lettered from A upward, was also made up of live divisions. Section E 4 was the last but one compartment before the hub. It housed the powerful batteries that supplied current to the Commander's laboratory.

"Mechanic wanted urgently in Section E 4," the loud-speaker repeated.

"I'm not on duty for another eleven hours or so, or that would be my job," Tony observed. "When are you on?"

"In a few minutes," Don told him. "Guess I'd better go along and see what it's all about. See you later."

The two young men parted company, Don to see what was wrong in the battery room and Tony to return to his cabin and the precious transmitter. Perhaps he had been foolish, after all, to bring it along with him in view of the tense situation in the Observatory. If private messages to Earth were banned by the Commander he'd be asking for trouble if he used it. No doubt it would soon be detected if he did. What would Hendriks do if he did get to know about the transmitter? Pack him back to Earth on the next ferry rocket for certain, and no doubt see that he lost his job on space vehicles for good. Tony shuddered at the prospect of having to work on earthbound vehicles like cars or planes.

The mechanic sat on his bunk in glum silence for some minutes. Bet Sid was having a rare old time with his contraption. Wonder if their licenses had come through and what their call signs would be. He bent down and drew the apparatus from its hiding place. What a shame that all those hours of work had been spent on it and now he couldn't use it! His finger wandered over it regretfully.

How long was it before he was on duty? Nine hours?

It was more than enough to get the set going. He took a deep breath and reached for a screwdriver.

When a loud buzing sounded through his cabin, Tony started guiltily. Then he relaxed. Someone was calling him on the intercom. He straightened his back and reached up to Hick over a switch. Immediately the voice of the Duty Officer boomed out.

"Hale? Report at once to E 4."

"But I'm not on duty," Tony protested.

"This is an emergency. Commander Hendriks himself is responsible for the order. Want me to tell him you're not on duty yet?"

"Er—no, it doesn't matter. I'll be along right away," Tony said, switching off the speaker. For a moment he looked at the transmitter with disgust and then he pushed it under his bunk once more.

"Seems doomed," he muttered.

He slid open the door of his cabin and stepped out into the corridor. Wonder what the trouble was in E 4. Don was there. Must be pretty bad if he couldn't cope with it. Besides, Hendriks, always a stickler for routine, would never have called on him unnecessarily out of duty hours. To him it would have been a sign of. bad organization—a fault to which the Commander would not admit.

Tony walked along the gently curving corridor past many cabins like his. This was the part of the rim in which everyone slept, except of course, the Commander. A little farther along there opened out above his head one of the spokes running toward the hub of the satellite. Three-quarters of the spoke was occupied by various compartments, while the other provided the means of communication. As he looked up it seemed as if he were at the bottom of a huge manhole. Even a metal ladder was provided for use while the artificial gravity was on. But this was spoke D, not the one he was making for, so Tony continued on.

Several times the mechanic met other men. Some he knew, but others were strangers, for the personnel of the Observatory was constantly changing. All had that look of strain that he'd noticed since his return from leave. Hendriks must be pretty bad if he'd got everyone so jumpy.

Ah! This was spoke E. Tony grabbed the first rung of the ladder and swung himself up-a comparatively easy matter under the strange conditions of space. Quickly he climbed up toward the center and soon a pungent smell assailed him and a

faint haze of smoke filled the passage.

E 4—this was it. The door to the battery room was partly open, and it was from here that the smoke was coming.

Inside he could see a little knot of men peering over a piece of apparatus. Don, his white overalls creased and soiled, was climbing out from under it.

"The insulation's gone," he announced. "It will mean stripping the whole thing down."

"But that's not possible," one of the onlookers, a physicist, spluttered. "It would mean shutting off the power supply to the Commander's laboratory."

By this time Don had noticed Tony.

"See what you think," he invited.

Tony slipped into his friend's overalls and, while the scientists watched anxiously, wriggled beneath the transformer. Carefully he examined the apparatus which converted energy from the solar batteries into the high-voltage current fed into Hendriks' private lab. After about five minutes he maneuvered himself from underneath and stood up.

"Don's right," he said briefly. "It's been overloaded and the insulation has burned up. Stripping is the only thing."

"But the Commander won't allow it. He's engaged on some important experiments and it's vital that his power supply should not be interrupted," the physicist said worriedly.

The other men looked equally concerned for they knew only too well the effect on their fearsome chief of the slightest upset to his plans. Just then another man entered E 4 and Tony recognized him as the Duty Officer. Both mechanics reported their findings and the officer went a little pale, for it was his duty to inform his chief.

"Wait here," he instructed them and left to perform his unwelcome task.

While the other men fussed around the transformer and talked in low voices, the two mechanics drew apart and whispered together.

"Why did he send for me?" Tony wanted to know.

"You know as much about the job as I do."

"Guess the D.O. wanted a second opinion," Don sighed.

"Not that it will do him much good when he tells Hendriks."

"Is it so vital to him that the juice shouldn't be cut off? Any idea yet what he's up to?" queried Tony.

"Still haven't a clue, but the D.O. and everyone else are in a frightful dither at the prospect. Think we could possibly do it without a strip-down?"

"Might, but it would be dangerous to try. Anyone doing it would run a terrific risk of getting electrocuted."

"Quiet! Here's the D.O.," Don whispered.

Everyone turned to the Duty Officer as he stepped into the compartment, and it was plain to see how he had fared.

His forehead was glistening with perspiration, and his face had lost a great deal of its color.

"The Commander says that it's absolutely essential that there should be no interruption in the power supply," the officer said hoarsely. "The safety of the Observatory depends on it."

The safety of the satellite! At these ominous words the men in E 4 looked at each other with scared eyes. Since it had been assembled in orbit almost four years before, the Observatory had had no major accidents. Apart from the inevitable trouble from micrometeorites and just an occasional body of larger size, the Observatory had suffered no disaster. Its crew had come to regard their strange mode of life as normal and safe. What did the Commander mean?

How could the safety of the Observatory be jeopardized if the current to his laboratory was interrupted?

Tony and Don, with the others, plied the Duty Officer with questions, but the poor man could tell them very little. Only the Commander knew the answers to their questions. If anyone cared to, he could go and quiz Hendriks himself. The D.O. was emphatic that he would not question the Chief's pronouncement. Gradually the two mechanics became aware that everyone was looking at them. They were the ones who would have to do the job if the damage was to be repaired.

"It's too dangerous," declared Don. "To try and restore that insulation while the transformer is still working would be suicidal. Does the Commander know that?"

"Wouldn't make any difference if he did," the Duty Officer sighed. "Now, are you two going to get on with it—or shall I report that you refuse?"

"He hasn't any right to make us take such a risk," Tony burst out hotly. "How would he like it himself?"

"But if the safety of all of us depends on the current—" began one of the astronomers.

"If," Tony stormed. "How do we know he isn't bluffing? Or he might be wrong, you know. Can any of you see how the juice from this one transformer is so vital? Do you really think the lives of all of us depend upon the current going into his laboratory?"

"Better come along and see the Commander yourself," suggested the Duty Officer acidly.

"Right," was Tony's impetuous answer. "I will."

There was silence for a moment in the compartment. All the others were looking aghast at the mechanic. Daring to question an order of the Chief! Was he crazy?

Tony felt the chill in the atmosphere. For a moment he faltered. But he couldn't draw back now.

"Take me to him, please," he asked the D.O. His mouth had gone dry as he followed the silent officer from the room.

Chapter Four

Only once before had Tony been inside the Commander's room. That was when he'd first come to the Observatory, for Hendriks insisted on seeing all new arrivals so that he could impress his personality on them. The mechanic vividly remembered the effect of this encounter. From that moment he had disliked his chief intensely, but like the rest of the crew, he had felt compelled to obey the man's every order.

The room, Tony remembered, was somehow like the man himself. It was a mass of instruments and control equipment with a bunk as its only furniture on which the Commander took his rare periods of rest. From here all operations on the satellite were controlled and directed just as a battleship receives orders from the bridge. But instead of having a number of officers on duty, the Commander alone was in charge.

It was rumored that Hendriks slept only one hour in every twenty-four, and certainly he never seemed to relax. He had refused to have a deputy with whom he could share responsibilities. Often his crew would speculate on whether their chief would crack under the strain. Some of them believed they already had the answer.

Outside the door the Duty Officer paused. His linger pressed a bell, and almost instantly a green light flashed on over the panel. This meant that the Commander would admit them, for if it was a red light that meant he was not to be disturbed. The panel slid open and with a sharp intake of breath the two stepped inside.

Commander Hendriks was slim and tall. His hair and eyebrows were of a pale straw color and his face, except for a red spot over each high cheekbone, was pale too. It was his eyes that attracted attention. They were like two black diamonds-

hard and hypnotic. He stood beside a console of instruments, waiting for his visitors to speak.

"Sir, this is Hale, one of the mechanics," the D.O. managed to say. "He-wants to speak to you about the transformer in E 4."

Now the Commander's attention was riveted solely on Tony, and he felt the full force of those dark, burning eyes.

"Well?"

Hendriks snapped out the single word as Tony feverishly wondered what to say. He could see the Commander was waiting, so he gulped and then spoke.

"It's—it's about the transformer, sir," he said, feeling himself beginning to perspire. "We must strip it down if we are to repair it."

There was silence for some seconds as the Chief glared at the mechanic. When he spoke, his words were like icicles.

"My orders are that the apparatus must be repaired while it continues to operate," he said, and his eyes bored into the uncomfortable Tony.

"But-"

"There are no 'buts.' I know it can be done," the tinkling icicles pronounced. "Do it!"

"We shall get electrocuted," Tony burst out.

Even as he spoke he knew that this mattered not at all to the strange man who was in charge. For the first time he could see how little human life counted to the owner of those hypnotic eyes. Surely the man was mad.

'You will die only if you are careless," Hendriks said.

"But even if you should, what is your life compared with that of all on this satellite and with the tremendous work We are doing? Go—and remember the current must not be switched off even for a fraction of a second."

His eyes held Tony's, and all further protest stuck in the mechanic's throat. At this moment Tony hated and feared this strange man. Almost bursting with emotion, he turned and stumbled blindly from the Commander's room.

Back in E 4 Don and the others were anxiously awaiting the outcome of this dangerous interview, and when Tony returned they could read the answer on his face.

"But it's sheer murder," Don burst out. The other crewmen murmured sympathetically, each one thankful in his heart that he hadn't the skill to do this dangerous job.

"What are we going to do, Tony?" Don asked, licking his dry lips.

The mechanic's face had now set into a hard, grim line.

"We've got to try it," he answered grimly. "Will you get all our stuff here, Don? I want to go back to my cabin for something."

Without waiting for his colleague to reply, Tony went out and made his way as quickly as he could along the spoke and the rim back to his own cabin.

He was still seething with anger when he reached it. The cold-blooded brute didn't care whether he and Don were electrocuted. How could the safety of the whole satellite depend on the uninterrupted supply of current into Hendrik's private lab? Tony was convinced that either the Commander was deceiving them for his own ends, or something pretty fantastic had been hatched in the laboratory. If he must run this fearful risk on the orders of his chief, at least he'd try to let someone down on Earth know what was being demanded of him. Then if something should go wrong—well, Hendriks would have some explaining to do.

Tony closed the door of his cabin carefully and swiftly took the transmitter from its hiding place. Just a few connections to the power supply, thus saving the battery, and he'd be able to send out a message. Of course he'd have to be pretty quick, for he'd have to return very shortly to E 4, and he didn't want the Duty Officer nosing around to find out where he was.

Tony Worked feverishly. His hands did their job deftly and in less than ten minutes the set became "alive." Now how about

transmitting? What time was it? He looked at his watch. Eighteen hundred hours Greenwich Mean Time! The Observatory always kept to Greenwich, so it would be six o'clock in the evening in Britain.

Wonder where they were. He hadn't the least idea which part of the Earth they were passing over at that moment. It would be no use trying to contact Britain if they were over Australia, for his high-frequency set would transmit only to stations on the nearest side of the globe. If they were by any chance over Europe he might be able to get through to old Sid. His father's shop would just have closed and young Stafford would have rushed to his own set to try to add to his list of contacts.

Earphones clamped tightly on his head, Tony twisted the controls of his set feverishly. Sometimes he was nearly deafened by the shriek of atmospherics. Several times he heard snatches of foreign languages. At least his set was working! Carefully he tuned in to the wavelength on which he knew Sid would be operating. Holding his breath so that he could listen more intently, he strained his ears in trying to pick up the voice of his friend.

It was no use. Either Sid wasn't broadcasting or he was on the wrong side of the Earth. Desperately Tony looked at his watch. He really couldn't stay any longer. If he did the Duty Officer would be coming to haul him out. Experimentally he spoke in a low voice into his own microphone.

"Sidney Stafford. Calling Sidney Stafford. Are you receiving me?"

Wonder what Sid's call sign would be, Tony mused as he repeated his message.

"Sidney Stafford. Calling Sidney Stafford."

Again he listened intently. If he couldn't reach Sid, should he try to pick up someone else? But if he did, what could he say? How could he talk to a stranger of his fears about what was happening aboard the Observatory? No, it must be Sid or no one.

"Sidney Stafford. Calling Sidney Stafford. Are you receiving

me?"

Quite clearly a voice sounded in his ear.

"Sidney Stafford calling. Who is that?"

Tony's heart leapt with joy. Good old Sid! How good it was to hear his voice! The mechanic was shaking with relief so that he could hardly speak. But time was pressing and he must say something. He spoke into his microphone.

"Hello, Sid," he whispered back. "Good to hear you. This is Tony. Sorry I can't speak any louder."

Even over the distance he could hear his friend gasp in astonishment.

"Tony! But you're on the—"

"Yes, I'm on the Observatory satellite," Tony interrupted quickly, "and I'm not supposed to do this. Something very fishy is going on, Sid. I think the Commander is off his rocker. He's up to something. I'll call you at this time tomorrow if we're in position. Keep listening till you hear me. If you don't pick me up, let Chris Godfrey know. That's all for now. Listen for me tomorrow, Sid. It's vital."

So saying, Tony switched off his transmitter and replaced it under his bunk. He'd wanted very much to talk to his friend, but he'd been a dangerously long time in his cabin already. Pulling himself up, he slipped on his overalls and made his way toward E 4.

Would he survive the next few hours, or would he and Don die at a madman's whim?

Sidney Stafford was looking at his apparatus as if he were afraid it would explode. He could hardly believe he'd been talking to Tony way up on the Observatory satellite.

For a moment he contemplated trying to call back his friend to prove he hadn't been dreaming, but Tony's last words had struck a chill in him, and he knew it would be useless to try to make contact. What was the matter up on the satellite? Young Stafford knew his friend well enough to know that Tony wasn't easily alarmed. Nor would he try a hoax like this. Besides, his voice—in spite of the distance between them—had somehow carried conviction. What was it he said? The Commander was going off his rocker? Sidney whistled as it dawned on him just how serious such a thing could be.

While their conversation was fresh in his memory he pulled out a notebook and wrote down as nearly as he could remember all that had been said. Pity he hadn't had his tape recorder working. He would make sure he had it running next evening.

Next evening? That was when he was supposed to be going out with his mother and father to visit an uncle. Well, he just couldn't go, that was all. Couldn't let old Tony down if he was in trouble. Now what was it Tony had said? If no message came through the next evening he was to let Chris Godfrey know!

Sid knew that his friend had many scientists among his acquaintances because of his job in rockets. One whom he never tired of talking about was Christopher Godfrey, with whom he had made several rocket flights. Mr. Godfrey was one of the top men in this fascinating new science of astronautics. Where he was at the moment, or how he could contact him, Sid had no idea. Better find out, though, before next evening—just in case.

Somehow Sidney didn't feel like playing any more with his transmitter that night. He was worried about Tony, and several times he read through the notes he had made of their brief conversation. At supper he asked his father, as casually as he could, if he'd heard anything recently about Mr. Godfrey, the rocket expert. Mr. Stafford had not, but rather thought that the scientist was out of the country—in Australia or America, or somewhere. It was Sid's mother who thought she had seen a newspaper report that Mr. Godfrey had just returned to this country.

After supper, without saying anything to his parents, Sid searched through the pile of the last few days' newspapers, eagerly seeking the item his mother thought she remembered.

At last he found it. A small paragraph said that Christopher Godfrey, the famous space traveler, had returned to London for a conference. Where the conference was, or what it was for, the paper didn't give a clue. And with that Sidney had to be content.

For several hours after he'd gone to bed, Tony's friend wondered how he could find out more about the scientist and where he could contact him if the need arose. Just before he fell asleep he made up his mind to visit the head office of their own local newspaper. Surely someone there would know where this famous astronaut was.

Mr. Stafford willingly gave his son a couple of hours off from the shop next morning. He wanted to ask what Sidney was up to, but the young man seemed preoccupied and didn't volunteer any information.

At the *Evening Courier* offices Sid told the managing editor what he wanted. The man scratched his chin doubtfully but promised he'd see what he could do. He disappeared for at least a quarter of an hour, returning then with a bespectacled young man who had several clippings in his hand.

"According to the latest information we have," the young man said, "Mr. Godfrey is in Edinburgh. He is giving a paper this evening to professors from all northern universities."

"You don't happen to know how I could get in touch with him, do you?" Sid asked.

The newspaperman looked at his questioner curiously. Certainly not the type who would have much in common with Mr. Godfrey, he thought to himself. Wonder what he wants.

"We don't know the name of his hotel, but I imagine a message addressed to the University would reach him. I should write there if you want to contact him."

"Oh, but I might want to speak to him," said Sid in some confusion. How could he explain things to this newspaper fellow?

"Sorry. Can't help you there," the bespectacled young man replied. "If it's important, maybe the telephone exchange could give you the phone number of the University."

"That's an idea! Thank you for your help," Sidney said, and left to go back to the shop.

All day he wondered whether Tony would call him again. Mr. Stafford asked his son several times what was worrying him, but Sidney passed it off without telling his father what had happened. His parents were both a little vexed when he asked to be excused from the visit to his uncle.

From five-thirty on, Sid kept his eyes on the clock. Never had his father known him to be so impatient to~ get out of the shop. As an excuse he said that another radio ham was going to try to call him at six o'clock, so would it be all right if he finished at ten to the hour? With a sigh Mr. Stafford agreed. Sometimes he wondered whether he'd been wise in encouraging his son's latest project, for it seemed that Sidney had become completely absorbed in his transmitter.

Well before the set hour Sid had installed himself in front of his apparatus and was in the process of warming it up. At his side he had his tape recorder, which he'd switch on as soon as he made contact. Carefully he adjusted the controls, with ears straining to get Tony's carrier wave.

Six o'clock and nothing happened. For several minutes Sid worked on his set but without results. Surely he hadn't imagined Tony's dramatic message of twenty-four hours ago? Maybe Tony's fears had proved groundless and he was now regretting his action in breaking all regulations by calling his friend. Or maybe his fears weren't groundless, and something terrible had occurred aboard the satellite. Whatever had happened, it seemed pointless to go on. He was just about to switch off, not knowing whether to be alarmed or relieved, when he picked up a carrier wave. Hardly daring to breathe, he listened. Then he heard something.

It was Tony's voice

Chapter Five

By the time Tony had made his way back to E 4, Don—complete with overalls and tools-was waiting. It was a tense little group of men that stood around the transformer waiting for the job to begin.

As the senior mechanic, Tony was in charge of operations. He had a moment of grim satisfaction that all of these scientists, no matter how good they were, depended on Don and himself to carry out this difficult assignment. The danger of the job had nothing to do with it. All these men had courage, otherwise they wouldn't be on the satellite at all. It was just that they hadn't the experience or know-how to do the job. They might be first class scientists but this wasn't their line. He was proud to have a skill which the others didn't possess.

The transformer was shorting badly. Every few seconds a puff of smoke would rise from it as more of the insulation was burned up. It was a wonder that the whole thing hadn't burned out already. Any time there might be one terrific flash and the whole apparatus would be destroyed together with anyone near it. There was no time to lose if it was to be saved. It would have been so much easier, and safer, to have shut the whole thing off for a few hours while the job was being done. Any reasonable man would have agreed. But then, Hendriks Wasn't a reasonable man.

Tony's task was made infinitely more difficult by the restricted space in which he and Don had to Work. There were only about twelve inches between the damaged part of the transformer and the compartment wall. Into this narrow space the mechanics had to squeeze. Then they had to remove part of the transformer's outer casing and insert sheets of insulating material between the hot coils.

The next two hours were a time of agony and suspense. In turn, the two mechanics, almost afraid to breathe, squeezed into the narrow space. Soon their contorted bodies were racked with cramp so that they wanted to shriek with pain. Because gloves would have reduced the sensitiveness of their touch, both had their hands badly burned before the job was done. As they suffered, Tony and his colleague conceived a violent hatred of the loathsome man who had ordered this unnecessary job to be done.

At last it was over. Almost fainting from fatigue and pain the two mechanics crawled from behind the transformer having put the casing back into place. A doctor was waiting to dress their hands and to give them what relief he could, but Tony grimly refused help, preferring to go on suffering so that the agony would strengthen his resolve.

"I want to see the Commander," he said to the worried Duty Officer, and his voice was as grim and cold as steel.

"He won't see you," the D.O. said.

"No? If he doesn't, then even if it kills me, I'll get behind that transformer again and pull out every piece of insulation we've just put in," Tony said grimly, and he could feel himself trembling with anger.

"I'll come too," Don said quietly, looking up from the doctor's ministrations.

The D.O. sighed.

"I'll see what he says," he muttered.

"Tell him what I'll do to his precious transformer," Tony, thoroughly aroused, called after the retreating officer.

"What are you going to say to the Commander?" one of the men in E 4 asked.

"Something that ought to have been said to him long ago," Tony retorted. "That he's not God Almighty, and that he's got to be more reasonable in the way he runs this satellite."

"But you know he has absolute authority here," an astronomer pointed out.

"I don't mind that. It's necessary, of course. What I object to is the despotic way he uses his authority. Take the job we've just done, for example. Why should Don and I have to risk our lives, and get half-fried to a cinder just to let him carry on with his private experiments? That story about the safety of the Observatory depending on uninterrupted current is all phoney. And I'm going to tell him so," Tony declared heatedly.

"He'll skin you alive," another of the men warned.

"That won't be any more painful than this," the mechanic insisted, holding up his two badly burned hands.

"Good luck," the men said, one after another, as they left to carry on their own jobs.

"Why hasn't someone tackled Hendriks before?" asked Don as he and Tony were left alone in E 4.

"From what I gather, when he was first appointed to this satellite, he Wasn't a bad fellow. He's only gradually turned into a dictator. I think most of the fellows have become accustomed to it. Besides, I suppose they have their jobs to think about. Where could one get the same pay down on Earth?"

"Well, whatever you say to him, I'll back you up," Don told his friend and colleague.

The Duty Officer returned. He looked ghastly.

"You'd better come right away," he told the two Waiting mechanics. They turned and followed him to the dreaded Commander's room.

The sting of Tony's burns was too sharp for him to feel the quake of fear he would normally have experienced when bound for Hendriks' den. His blood still coursed hotly through his veins. Cost what it might—his status, his job even—he was determined to accuse the Commander of sheer inhumanity. And to let him know that there was someone—two with Don—who would no longer tolerate his outrageous demands.

It was lucky that Tony was still furious when they reached Hendriks' door. The Duty Officer pressed the buzzer and a few seconds later the door slid open silently. All three stepped inside.

"You may go," the Commander snapped at the Duty Officer, and the man lost no time in obeying. When they were alone Hendriks followed his usual routine of glaring silently at the two mechanics.

Much of Tony's anger evaporated under that cold, unwinking stare. But sufficient remained for him to stand his ground firmly and to look back defiantly at the tall, pale man standing two yards from him.

"S-o-o-o," and it was more a hiss than a word, "you insist on seeing me! What—have—you—to—say?"

Now for it, Tony, thought. But he braced himself up for his task.

"I've come to see you about this, sir," he said doggedly, and held up his scorched hands. "And this." He held up Don's bandaged ones.

The Commander looked at them both, completely unmoved.

"Well?" he spat out.

"These injuries," Tony went on with a gulp, "were completely unnecessary. We should have shut off the transformer and allowed it to cool down."

"My orders to you were that the repair must be done without interrupting the current. If you were so clumsy that you have slight burns, that is your fault. You can get medical attention if you wish it," Hendriks barked.

"Clumsy?" Tony was glad of the word, for it boosted his morale. "You don't know what you're talking about, sir. If we'd been clumsy we'd both be dead. Why couldn't we shut off the current?"

For a moment the Commander looked at the young man as if he couldn't believe his ears. How dare this miserable mechanic speak to him like that—he whose word was law aboard the satellite!

"Fool! Idiot! You could not shut off the current because I

said so," Hendriks hissed.

"But why, sir? Why? That bit about the safety of the satellite was not correct. The transformer only supplies power to your lab."

The Commander's face began to flush. Gradually his pale features became tinged with pink, which soon changed to a deeper shade. There was a suspicion of foam on his lips as he choked out the words.

"Miserable creature! Who are you to question my decisions and orders? I will not allow such a worthless person to interfere with my great plan. You will be confined to your quarters. Return there immediately!"

Tony could sense poor Don standing behind him. Was it fair to land his friend in such a situation? For himself—he was going through with it. But perhaps he ought to help Don to avoid the wrath of this madman. Turning to his fellow mechanic, Tony spoke.

"All right, Don," he said. "You go. I take full responsibility for this. No need for you to get involved. I will see you later."

Don looked awful, his forehead glistening with nervous perspiration. For a long moment he hesitated and then turned towards the door. He took just one faltering step and then he turned again and came and stood by Tony's side.

"No, Tony. I'm with you in this. Commander, we both feel that you've been unreasonable and"—here he swallowed hard—"we'd like to ask you to be more considerate to the men on this satellite."

Tony's heart warmed to his friend, for he knew just what courage it had taken to stand his ground in front of Hendriks. His eyes flashed a glance of appreciation.

"You will both go to your quarters," the Commander barked. "At once."

Don hesitated, but Tony stood his ground.

"I request facilities for lodging a complaint with Headquarters," he said stiffly. The Commander's face became a deeper color.

"Facilities no longer exist," he snapped. "I have personally taken over control of all communication with Earth. You are both under arrest."

So saying, he pressed a buzzer and the Duty Officer reentered.

"These men are under arrest for insubordination. See that they are confined to their rooms," he ordered.

The D.O. saluted and stepped aside for the mechanics to precede him through the door. Tony could see it was useless to argue with Hendriks. Besides, he had something in his cabin that the Commander did not know about. If he incensed the man still further, he might not be allowed to return to his own room. Without a word he stepped out into the corridor, followed by Don.

It was a silent little procession that made its way down the spoke and along the rim to the crew's quarters. Outside Don's room they stopped and the young mechanic turned to the D.O. uncertainly.

"Better stay inside till you see me again," the Duty Officer suggested apologetically, and Don turned to shake his friend's hand.

"Cheer up," Tony said. "I'm sure we've done the right thing."

Don nodded silently, and then slid open his door, pulling it shut behind him. Tony and the D.O. went on until they came to Tony's own room.

"See you later," the D.O. promised. "Er—don't come outside. I will be in trouble if you do."

"Don't worry," Tony answered. "I can amuse myself all right in here."

So that's that, he thought to himself as he sat on his bunk. Hendriks was certainly unfit to be in command of the satellite. Granted there had to be rigid discipline, but Hendriks had gone much too far. Regulations laid down that any member of the crew could lodge a complaint about a senior officer. Normally it

would go to the Commander, but if the complaint was about the Commander it had to be made to Headquarters at the United Nations on Earth. Hendriks' refusal to allow this was further proof of his megalomania.

Why had he taken over personally all means of communication with Earth? Surely it would only be to prevent his actions from becoming known. And what was that strange thing he'd said? Something about a "great plan." What was he up to that he didn't want Earth to know about? The more he thought about it, the more uneasy Tony became. Not so much because of the consequences of his action, but because he was convinced that Hendriks was up to no good. Anything was possible when a brilliant man like the Commander went off the rails. It was his duty to let someone on Earth know just what was happening. Thank God he'd got his transmitter and had managed to contact his friend Sidney.

Four P.M.! Tony saw from his watch that the time he'd arranged to call Sid was two hours ahead. Now he really had something to tell his friend. When he'd first spoken to him the day before, Tony's ideas about the Commander had only been suspicions. Now they were certainties, and he intended, through Sid, to let his friend Chris Godfrey know. He had every confidence that Chris would know just what to do. Perhaps Hendriks would be recalled for an inquiry.

Tony was thinking that his message to Earth yesterday must have been pretty mysterious. Bet old Sid was puzzled out of his wits. Hope he will have the good sense, though, to take it seriously and be standing by at six o'clock. What luck it was that he'd smuggled his transmitter along with him! If Hendriks had taken over the satellite's radio, Tony's set would now be the only means of communication with Earth if anything blew up.

What would he say to Sid? He couldn't broadcast for long in case the Commander detected him. Sid must get hold of Chris Godfrey and have him there the next time he made contact. He must tell Chris what was happening, so that the scientist could warn the authorities. Maybe he'd call up again about noon next

day. Of course he couldn't say just when he'd be able to get his message through. Everything depended on what was going to happen now that he was confined to his room. Sid and Chris would have to stand by and he'd call them as soon as it was safe.

Just after five-thirty, when Tony was looking forward to his clandestine radio call, his cabin door slid open and the Duty Officer came in. Good thing I hadn't uncovered the set, Tony thought.

"Look, Hale," the D.O. began, "we've never had anyone under arrest before, so we've no—er—cell to confine you in. Will you give me your word you won't come out of your room? If you don't I'll have to fix some sort of fastening to the door."

Tony thought rapidly. How could he give his word to remain idly in his own quarters when something terrible might be happening on the satellite? Besides, the D.O. had very nearly surprised him with the transmitter. If he was locked in at least he'd get more warning when anyone was about to enter.

"Sorry," he answered firmly, "I can't give it. Oh, I don't want to cause you any trouble, but it's that madman in charge that I'm up against."

"Very well," the officer sighed, "I'll have to have a lock fixed."

"Go ahead," replied Tony pleasantly enough, for he had no quarrel with the D.O.

"You'll stay put until the job's done?" the officer inquired anxiously.

"I'll stay in here for twenty minutes," Tony said deliberately, "and if I'm not locked in by then I'll hold myself free to come out."

"Twenty minutes it is then," the Duty Officer agreed with a glance at his watch. Then he went out and Tony sat on his bunk to await events. Five minutes later he could hear sounds outside. The D.O. came in with one of the radio operators who fancied himself as a handyman. Without a word they set to work drilling the door frame and before Tony's time limit had

elapsed they had succeeded in fixing a lock to the outside of the sliding door. Tony had watched politely but with concealed amusement. It was an amateurish job which he would have little difficulty in undoing if the need arose.

"Right. That's that," the Duty Officer breathed with evident relief. "I'm locking you in, Hale, but I'll be back later."

Tony smiled back cheerfully. He was anxious that the D.O. should go so that he could make that vital radio contact with Sid. It was after six already, and his friend would be waiting for him. Unless he could get through quickly, old Sid might think everything was fine and dandy. After what seemed an interminable time the door was secured and he was left alone.

Swiftly Tony pulled his transmitter from its place of concealment, and with feverish haste he adjusted the controls while praying that old Sid would still be hanging on. Would he be able to contact his friend and pass on a warning of the hideous situation? He'd have to risk the possibility of the Duty Officer suddenly coming back. Sid wouldn't hang on forever. With earphones over one ear only so that the other could pick up any sound from the door, Tony tried desperately to establish contact with his friend back on Earth.

Chapter Six

"Sid, are you there? Sidney, can you hear me? Tony calling."

Thank goodness, it was Tony all right. At the first sound young Stafford had switched on his tape recorder. He'd take a full recording of all that his friend said.

"Hello, Tony. Sid calling. Are you all right?"

There was a crackle of atmospherics, but even this didn't conceal the relief in Tony's reply.

"Thank God you're there, Sid. Now listen carefully—"

"I'm recording you, Tony."

"All the better. Something is wrong here. Hendriks is acting strangely. He has some secret plan. I think he's nuts.

He's forbidden any communication with Earth. Get hold of Chris Godfrey. This is vital. I'll try and get through some time tomorrow, but I'm a prisoner and may not be able to.

Must close down now or I may get caught. Good-bye."

And the receiver went silent. Sidney switched it off and sat staring at it as if it were some strange animal. Then, pulling himself together, he ran the tape back through the recorder and listened again to his friend's message.

His instructions were clear. He must get in touch with Mr. Godfrey Without delay. If the astronaut listened to Tony's message then it would be up to him to decide what to do next. But how to get in touch with Mr. Godfrey? And how to convince him that Tony was in trouble? Nervously Sidney went to the telephone and dialed for "Directory Inquiries."

As he listened to the ringing phone, young Stafford wondered what he would say to the famous astronaut. Suppose he wasn't at Edinburgh University at all? What would he do if

Mr. Godfrey refused to come to the phone? By the time the operator answered, Sid was sweating nervously.

"Er—can you give me the number of Edinburgh University?" he asked.

In a few seconds the operator came back to say that there were more than a score of numbers to different departments of the University. Which one did he want?

This was something poor Sidney hadn't bargained for, and had no way of knowing which line to choose. He decided to throw himself on the mercy of the unknown man at the other end of the phone.

"I really don't know which number to call," he confessed. "I want to get in touch with someone who is lecturing there. I have to get an urgent personal message to him. Can you help?"

"Wait a minute," the voice answered. "I'll see what the Edinburgh operator says."

Sid held on, and he could hear the conversation between the two men. In Scottish accents he was advised to try the Bursar's office and the number was given. Thanking his helpers, Sidney hung up the receiver and waited for the line to clear. Then he dialed for a trunk call and waited for the operator to answer.

"Oh—I want to make a personal call," he said, startled a little when a crisp voice requested what number he Wanted. "I want to make a personal call to Mr. Christopher Godfrey, and the number is Edinburgh 41354."

The operator repeated the number and asked Sidney to hold on. The young man heard the call being put through to the Edinburgh exchange and then the ringing as the University number was called. It was almost half a minute before a voice answered, and he heard the operator ask if Mr. Godfrey was available to take a personal call.

The interval that followed seemed interminable. As he hung on, changing the earpiece from side to side, Sidney was full of doubt. What would he say when Mr. Godfrey spoke? Would he be lecturing? It was hardly likely, for it was not yet seven o'clock. What would his father and mother say when he told them how he'd become involved in this mysterious affair? There never had been anything like this before in his life, and he could hardly believe that it was he, Sidney Stafford, who was playing a part in such a drama. just as he'd almost given up hope and was seriously thinking of hanging up the receiver, a voice sounded in his ear.

"Godfrey speaking. Who is it?"

Poor Sid nearly jumped out of his skin. "Oh—er—Mr. Godfrey, my name is Sidney Stafford. I am a friend of Tony Hale. I want to give you a message from him."

"From Tony Hale?"

He could hear the disbelief in Mr. Godfrey's voice. If only he didn't hang up before Sid could convince him that this emergency was genuine!

"Tony is up on the Observatory Satellite," said the voice at the other end.

"I know," Sidney said desperately. "I've had a radio message from him. We both built transmitters in our spare time and Tony took his with him when he went on duty."

"He's not allowed to do that," the scientist pointed out.

"I know, but he did take it. He spoke to me not long ago. Mr. Godfrey, there's some trouble on the satellite," young Stafford said earnestly.

"Trouble on the satellite? But that's impossible."

"Please believe me. It's true what I've said. I've got a recording of what Tony said. Will you listen to it?" young Stafford pleaded.

"If this is a hoax, you'll be in serious trouble."

"Listen, Mr. Godfrey. I'll switch on the tape."

So saying, Sid set his recorder running and held the telephone so that it would pick up every sound. Tony's message came through clearly. When it was over he switched off and spoke again.

"Did you hear that, Mr. Godfrey?"

There was a long silence. Sid thought perhaps the man at the other end had gone away. Then Mr. Godfrey's voice came through.

"Will you play that again?" it asked.

Delighted and relieved that he'd captured the famous man's attention, Sidney did as requested and then took the receiver again.

"What do you think, Mr. Godfrey?" he asked.

The voice of the astronaut sounded completely different. There was no doubt that he was very much concerned at what he'd heard.

"I want you to tell me everything you know," he said.

Sidney was thrilled that Chris Godfrey was asking him to do something. Carefully he related how he and Tony had built their radio transmitters and their disappointment that their licenses hadn't come through before Tony had to return to the Observatory Satellite. His own had arrived and he told how he'd picked up Tony's strange message the previous day. Sidney read out the notes he'd made and then told how he had been waiting for his friend's second call. Just as he was about to give up, Tony had spoken, and Mr. Godfrey had heard the recording of what he said.

"Thank you very much, Sidney," the astronaut's reply came. "I'm sorry I was very short with you. Now listen carefully. Give me the wavelength you are using, and—most important—do not tell anyone about this. You had better give me your telephone number and address."

Happily Sid gave the required information. He was delighted that Mr. Godfrey wanted his address and that he had been asked to keep Tony's message confidential. The astronaut thanked him again and said that he'd be calling him shortly. Sid hung up the receiver, still hardly believing that he was involved with such exciting people and important events.

* * *

Chris Godfrey was deeply troubled. When he had finished his telephone conversation with young Stafford he sat in thought until a discreet knock on the door of the Bursar's office captured his attention.

"Excuse me, Mr. Godfrey," the Bursar said, peering inside, "if you've finished your call the audience is waiting."

Chris looked at him for a few seconds without understanding. Then he stood up.

"I'm sorry, but I shall be unable to lecture tonight," he said.

The Bursar looked at him with concern.

"Are you ill, Mr. Godfrey?"

"No. I've just had some disturbing news that may oblige me to get back to London at once."

"But your lecture?"

"Sorry about that. Here is the paper. Get someone to read it. Now may I use your phone again?"

"Of course," agreed the astonished Bursar.

The call which Chris put through was to Sir George Benson, a distinguished scientist and a very old friend. Sir George had periods of activity with UNEXA, the United Nations Exploration Agency, which was responsible for the exploration of space. At the moment he was a member of the Minister of Science's Advisory Committee and should be staying at his usual address in London.

A woman's voice answered the phone. Chris recognized the voice of his friend's housekeeper. Sir George was out at a meeting with the Minister and had said he would not be back till late.

"Will you ask Sir George to phone Edinburgh 41354 immediately? It's urgent," Chris said.

"Very well, Mr. Godfrey. I usually wait up for him and I'll tell him the minute he sets foot in the house," Benson's housekeeper promised.

Chris returned the phone to its rest. He was alone in the

office and sat deep in thought for some time. He was very uneasy about his young friend Tony; he more than half believed his strange message about trouble with Commander Hendriks. Sir George would surely know if there was anything unusual happening on the satellite. Meanwhile there was nothing he could do but Wait, so he chased after the Bursar and relieved the poor man's anxiety by saying he'd do the lecture after all. There was one condition—that someone must remain in the Bursar's office and must fetch him immediately if a call came through from Sir George.

The lecture was over and there had been no call. After he had thanked those who congratulated him, Chris returned to the Bursar's office to wait. He apologized to the poor man for keeping him but explained that the call was very important. It was nearly eleven o'clock before the phone rang. Chris grabbed the instrument at once.

"Godfrey speaking," he said hurriedly.

"Ah, Chris," he heard the well-known voice at the other end say. "You phoned me. What's the trouble?"

"Hello, Uncle George"—Chris always addressed his old friend thus—"sorry to bother you at this time of the night, but I'm rather worried. Tell me, is there anything wrong on the Satellite Observatory?"

There was a long pause before Benson replied.

"Why do you ask, Chris?"

"Briefly, because this evening I had a telephone call from a friend of Tony's. It seems that Tony smuggled a transmitter aboard when he returned to duty a few days ago.

This friend has had two very peculiar messages from Tony, and I'm deeply concerned."

"How do you know they're from Tony?" Sir George asked.

"This young fellow was sensible enough to record the message he got from Tony just after six this evening. He repeated it to me over the phone, and I'm certain it was Tony's voice."

"What did Tony say?"

Chris gave Sir George the gist of the mechanic's message and also what he could remember of the earlier one. But still his friend hadn't answered his question about the Observatory, so Chris repeated it.

"I can't answer over the phone," came the reply in serious tones. "Are you busy for the next few days? Could you come down to London right now?"

"I've nothing important at the moment," Chris answered his friend, "and I can just about catch the night train. By the way, I managed to get Tony's wavelength from his friend."

"What is it? I'd like to get it monitored."

Chris gave the necessary information and then said goodbye. If all was well, they would be meeting the next day.

This time the Bursar had been in the office during the conversation. His eyes were wide with wonder at the information he'd overheard. Chris immediately cautioned him not to repeat anything he had heard. Then the astronaut had a thought. He looked at a scrap of paper and dialed Sidney's number.

The Stafford household had just gone to bed when the phone rang. Some instinct told Sid that the call was for him. He was halfway down the stairs before his father had one foot out of bed.

"Sidney Stafford speaking," the young man spoke into the phone.

"Oh, Sidney! This is Christopher Godfrey. I want you to do something. It's asking a lot of you, I know. But it's very important or I wouldn't ask. I want to borrow that tape recording. Do you think you could possibly be with it at New Street Station at six o'clock in the morning? I'm traveling on the overnight train to London and will look for you."

"Yes, of course, Mr. Godfrey," the young man said breathlessly. He was aware of his father standing behind him. "I'll be at New Street Station at six o'clock in the morning with the tape. You can depend on me, Mr. Godfrey."

"Now what's all that about?" Mr. Stafford demanded as his son put down the phone.

"Oh, Dad, I can't tell you. It's—it's top secret. Perhaps Mr. Godfrey will let me tell you later," he burst out. He was wild with excitement at the prospect of meeting the famous astronaut.

"Who is this Mr. Godfrey?" Stafford senior asked, "and why do you have to see him at such an ungodly hour?"

"He's the astronaut, Dad. He's Mr. Chris Godfrey. I've—I've got to take him something."

"Why does he phone here? How does he know this number?"

"I can't tell you, Dad. Please trust me. I'll ask if I can let you into the secret after I've seen Mr. Godfrey," the young man said earnestly.

"Well, I'm coming along with you to New Street in the morning. No, don't argue. I'm coming," Mr. Stafford declared.

"All right, Dad," sighed Sidney. "I'll set the alarm clock."

There was no need. For an hour before it was time to rise, young Stafford was wide awake. Indeed it was very doubtful whether he had slept at all, for his mind was racing from Tony's mysterious message to his talk with the astronaut and back to his concern for his friend.

While his father backed out the car Sid slipped into his den and took the tape from the machine. He wrapped it into a neat parcel and put it in his pocket.

"You must have this hot tea before you go," Mrs. Stafford said, for she had insisted on coming down to see her husband and son off on this mysterious rendezvous.

"What's he like, this man you're going to meet?" asked Mr. Stafford as they drank their tea.

Sidney disappeared and then returned a few moments later with a cut-out newspaper photo of the astronaut.

"So that's him, is it?" said his father, duly impressed. "Well, I

don't know how you got yourself involved in this affair, but you'll have no rest from me until I find out."

"Time to go now, Dad," Sidney called, anxious to avoid any further discussion.

Mr. Stafford gulped his tea, burned his tongue, and complained bitterly that they still had plenty of time. But Sidney was jumping about like a cat on hot bricks, so his father, mumbled something about crazy escapades and allowed himself to be guided toward the car.

They arrived at the station a good ten minutes before the train was due. In addition, a weary porter informed them that it was running ten minutes late. The twenty minutes they spent pacing up and down the platform seemed like an eternity to young Stafford. At last he called out, "It's signaled." A minute later the long train moved in slowly and stopped.

Where would Mr. Godfrey be? Most of the train consisted of sleeping cars and had all blinds pulled down. Sidney looked up and down the platform anxiously to discover if he could see anyone looking out. Apart from activity at the rear of the train, where mail bags were being thrown onto a truck, the whole train seemed to be asleep. Then, when he looked up toward the engine again, he saw that an athletic-looking young man had stepped out on to the platform and was looking questioningly in their direction.

"There he is," Sidney shouted, and began to run toward the man whose face he had recognized.

"Mr. Godfrey?" he asked a little breathlessly as he came up.

"Yes, and you must be Sidney Stafford. Well, Sidney, you've done something very important today and there are many people who will be grateful to you. I can't tell you more yet, but maybe I'll be seeing you again soon. Have you the tape?" Chris asked.

"Yes, Mr. Godfrey. Here it is," Sidney said as he slipped the parcel from his pocket. "Oh—er—Mr. Godfrey, this is my father."

"How do you do, Mr. Stafford?" Chris said, shaking hands.

"You must be wondering what this is all about. I'm sorry it's confidential at the moment, but you can be proud of your son. He's performed a great service."

"He's certainly got his mother and me puzzled," Stafford senior admitted. "Still—I suppose it's all right if you say so."

"It certainly is, Mr. Stafford. Well, I shall have to be getting aboard again. Wouldn't do for the train to go without me, would it? Well, good-bye, Mr. Stafford. Good-bye, Sidney. We'll meet again soon. And thanks for everything."

The two Staffords watched the train as it left the station.

"Well," said the bewildered father, "that beats everything."

"Come on, Dad. Bet Ma's got breakfast ready," Sidney called, and the pair walked off toward the car.

Chapter Seven

The astronaut and the scientist shook hands firmly. They had been really close to each other since Chris, as a very small boy, had been taken under Sir George's wing.

"Glad you could come, Chris," Benson greeted the other.

They were in the scientist's office in the Air Ministry building. Chris had gone there straight from the station.

"I wasn't involved in anything," the astronaut explained, "but even if I had been I think I should have taken time off to look into this message of Tony's."

"Tell me all about it again, please," Benson asked. Chris obliged and then asked his question in turn.

"Why were you so mysterious on the phone? Is there anything wrong on the satellite?"

"I'm afraid so," Sir George answered gravely. He told his young friend about the mysterious brown streaks that had appeared and how Professor Bargh had deduced that they had been caused by rays from the Observatory. He concluded by telling his listener of the disturbing news announced the previous evening to the Minister of Science's Advisory Committee-that all communication with the Observatory Satellite had ceased!

"Can you get a tape recorder?" Chris asked as he produced Sidney's parcel. Sir George spoke into the phone and a few minutes later a machine was placed on his desk. Chris loaded the tape and they listened in silence to the recording.

"What do you think?" asked Chris as he switched off.

Benson looked very serious.

"I haven't a doubt that Tony made this recording," he said. "I

know him well enough to believe in his judgment. If Commander Hendriks is acting strangely, we may well be in for trouble."

"Can't you make him talk?" enquired the astronaut.

"We can get no signal in reply to all our messages," Benson replied. "You heard what Tony said. He's forbidden any communication with Earth! It isn't that there's been a mechanical breakdown, but this interruption of communication is a deliberate act of the Commander. Tony says he thinks he's nuts, and his action is certainly inexplicable."

"At the moment, then, Tony's smuggled transmitter is the only means of communication?"

"It certainly seems that way. Incidentally, since I learned his wavelength from you I am having it constantly monitored. No matter when Tony calls we shall pick up his signal."

"What do you think can be done if Hendriks really has gone off his rocker? Can he do much damage?" asked Chris.

"It looks as if he could. Those brown streaks are certainly serious. If he's discovered some way of funneling cosmic rays into a concentrated beam, he can certainly be a menace," Sir George answered. "As to what can be done about it, that will be the responsibility of UNEXA. Hendriks will have to be removed, of course."

"What are the immediate steps?"

"Number one will be to report all you've told me to the Minister, and for this I'd like the tape recording. Then I expect it will be reported to UNEXA at an emergency meeting."

"But if you can't get through to the satellite what will you do?"

"You forget our young friend Tony's secret transmitter," Benson pointed out. "We may have to rely on that."

At three o'clock that afternoon the Minister of Science, Lord Porter, called his Advisory Committee together. Sir George Benson gave an account of what Chris had told him, and played through the now famous tape record. Benson was instructed to fly to New York immediately and report to UNEXA. Meanwhile a constant watch would be kept to pick up any further message from the young mechanic.

After the meeting Sir George told Chris what had happened. The astronaut assisted his friend with his hurried packing and saw him off at London Airport. Then, being somewhat at loose ends, Chris decided to phone young Stafford and tell him as much as he could. Perhaps he might have a run up to Birmingham to meet Tony's friend again. He might even get a chance to speak to Tony.

Mr. Stafford answered the phone. Sidney had gone to his transmitter. At Chris's request the young man was called to the phone.

"Sidney, this is Chris Godfrey. First I want to thank you again for what you've done. You don't know how important it is. You can tell your father all about it, but ask him to keep it to himself. Your tape record is safe, but at this moment it's on its way to America."

"America!" gasped young Stafford. "What's happened, Mr. Godfrey?"

"You've heard of Sir George Benson? Well, he's taking it to the United Nations in New York. Now listen carefully. If Tony calls again tell him you've seen me, and that everything is being looked after. Tell him he's being monitored, so he can call at any time, day or night. We shall want to know any further information he can give, and it would be useful if he could say when we could call him."

"I'll tell him, Mr. Godfrey. And thanks for letting me tell Dad. He'll certainly appreciate your confidence in him."

"That's all right then, Sidney. Oh—I might come up to Birmingham tomorrow and see you. Your parents won't mind?" asked Chris.

"Of course not, it will be great having you at our house."

Sidney lost no time in telling his incredulous father about the happenings of the last two days and how the famous Mr. Godfrey might be coming to see him. So impressed was the older man that he said he'd like to be with his son when he tried to get through to Tony. Relieved that his parents now shared his secret Sidney gladly let his father accompany him to his den.

The older man examined the transmitter with interest. He recognized many components from his shop. Never had he dreamed that the bits and pieces he had so gladly given his son would be responsible for the dramatic events Sid had just related. Mr. Stafford watched his son in silence, secretly proud that Sidney had achieved something important. It was good to see the young man concentrating so earnestly on this important project.

On the Observatory Satellite the hours were passing slowly for Tony. After his brief talk to his friend on Earth he swiftly stowed away his transmitter and settled down to await events. He smiled wryly to himself as he pictured poor Sid's amazement at receiving his strange message. Perhaps his friend had not the same resourceful personality that, with modesty, Tony knew himself to possess. Still—he was sure he could rely on Sid to take his message seriously and, somehow, contact Chris Godfrey. Chris would know what to do. Meanwhile he must wait to see what the routine of his imprisonment was likely to be.

The Duty Officer called through the door that he was coming inside. Tony gave a cheery greeting to his reluctant jailer as he unlocked the door and entered.

"I've brought some food," the D.O. explained apologetically. "The Commander didn't say anything about starving you."

"Good for you," the mechanic smiled. "What's happening?"

"I'm afraid I can't discuss that with you," his visitor replied uncomfortably, "except that the Commander is going to address everyone on the satellite at noon tomorrow. Is there anything else you want?"

On being assured that there wasn't, the Duty Officer went out, leaving Tony to eat his food thoughtfully. So Hendriks was to address them all at noon tomorrow, was he? Must be something special, for it wasn't often that the Commander harangued the entire crew. Pity the D.O. was so cagey. Poor chap looked worried. He must know things were unusual, and no matter how loyal he was to his chief he must be aware of the strangeness of Hendriks' conduct. Next time the D.O. came Tony would try again to pump him, or at least to gain his sympathy.

It was the next morning before the Duty Officer came again. Tony saw at once that the man's worry had increased. He looked tense, as if he'd scarcely slept.

"Am I allowed any exercise?" Tony asked as he accepted the food from his visitor. "Even in Dartmoor Prison they get it, I believe."

"I expect so," the D.O. said uncertainly, "but, Hale, you'd have to promise not to cause any trouble."

"Don't worry," Tony grinned, "I won't give you any trouble." Did the D.O. notice the slight emphasis on the pronoun?

"Have your food then and I'll come back later," he promised. "It won't be for long; I've loads of work to do before noon."

"How's the other prisoner in the Tower?" called Tony as the D.O. was about to leave.

"He's all right. Behaving quite well. But you won't be able to exercise together," the Duty Officer informed him.

"It would save you time," Tony pointed out slyly. The officer made no reply, but locked the door behind him.

When he had finished eating, Tony found a scrap of paper and on it he scribbled a message.

"Do all you can to find out what's happening and try to let me know," it said briefly. If by any chance the D.O. did let the prisoners exercise together, he would try to slip the message to Don. For he must get every bit of available information to pass on to Sid.

Sid! Wonder if he had managed to contact Chris. It had been a good idea to record the message. Chris would be able to hear it for himself. Tony decided to address his next communication to the astronaut. Old Sidney wouldn't mind. Bet he was excited at having a reason to get into touch with Chris Godfrey.

What would he say in his next transmission? As he must keep it as short as possible, he'd have to think carefully about what he would say. If the Commander had something hairraising to announce, he would be able to report. Maybe in time he could soften up the D.O., who must be torn between a sense of duty and resentment of his chief's tyranny.

"Come on," the Duty Officer called, putting his head round the door some time later. "It can only be for a few minutes."

"I'll be thankful for small mercies," Tony answered cheerfully.

He followed the officer out into the corridor and looked around curiously. The rim, sloping upward in each direction, was almost deserted. Two crew members, whom the mechanic knew slightly, hurried by. He saw the strained look on their faces as they barely acknowledged his greeting. A few yards away the D.O. unlocked a cabin door and Don, rather self-consciously, came out and joined them.

"Just a couple of turns," the officer said, "and please make it as snappy as possible."

Both Tony and Don welcomed the change of scene. Their living quarters were comfortable, but small, and it was a relief to get outside. The two mechanics greeted each other, but neither had much to say. Under the watchful eye of the D.O. they made a complete circuit of the rim before Tony had a chance to slip the piece of paper to his friend. With a quick glance Don secreted it and the second circuit began.

Everyone must be busy or asleep, Tony thought, for during the whole time he had been out of his cabin he'd only seen a dozen of the other crew members. Like the first two, they all seemed jumpy, not at all like the friendly fellows they were. Of course they all knew the two mechanics were under arrest, but Tony was sure that it was something else that was affecting them. Apprehension of the Commander? The prisoners said good-bye to each other as the D.O. returned them to their respective cabins. Tony sat on his bunk for some minutes after the door closed. That something bad was afoot he was now more certain than ever. The free and easy atmosphere, the feeling of comradeship that had been so evident aboard the satellite, all had gone. Instead there was strain and foreboding.

Just before noon, the loudspeaker in the cabin came alive. Tony waited expectantly for the voice of Hendriks. He had no doubt that the Commander was going to say something important, perhaps give a clue to the plan he'd mentioned. For a moment Tony contemplated switching on his transmitter and trying to contact Sidney. It would have been a great achievement if he could have got through and his friend could have recorded the Commander's words. However, it was unlikely that Sidney would be listening in, and he must not use his apparatus except when he was fairly certain he'd be picked up. Little did Tony know that there were at that moment half a dozen stations tuned into his wavelength, waiting for the slightest squeak from the transmitter.

Tony waited with growing apprehension. He was sure that Hendriks was mad and would come out with some diabolical plan. The whole attitude of the man had become overbearing and dictatorial, as if he had unlimited power behind him. The mechanic found a sheet of paper on which to note the words that would blare out at any time now.

"Attention! Attention! This is the Commander speaking!"

Tony, though expecting it, was a little startled as the loudspeaker sounded. His pen was poised and he listened intently, as he knew everyone else on the Observatory Satellite must be doing.

"It is my intention to assume control over all the Earth."

Tony's jaw sagged as he heard the incredible words. For a moment he doubted whether he had understood, but soon it was only too apparent that there had been no mistake.

"I have discovered how to control unlimited power," the

voice went on, its pitch rising a little, "power to destroy instantly any who oppose me. Since the dawn of history the world has muddled along under many governments. Only if the whole Earth is united under a single Direction can its full possibilities be realized. That is what I intend to do."

So amazed had the mechanic been that he had forgotten to take notes. Here was complete confirmation of what he had feared. Something in the brilliant brain of Commander Hendriks had snapped. How could he assume control of the whole Earth? What was this power he had said he could control, and how would it help him to conquer the world?

"If anyone under my command should disobey an order of mine, I should not hesitate to destroy him for the sake of the New World I intend to create. I have the power of life and death over every man in this Observatory. The life of anyone is of little consequence when measured against my Grand Plan."

The mechanic had now recovered a little and was writing away rapidly. What were the others thinking, he wondered? How were all the rest of the crew taking this astounding message to which they were all listening?

"Shortly I shall be demonstrating my power to the governments on Earth. Then I shall give them my ultimatum—either to accept my absolute authority or be destroyed. If they refuse to accept me, I shall not hesitate to destroy the Earth."

"Whew!" breathed Tony as he wrote on. "He certainly is crazy. Does he really think he can wipe out the whole world? Surely everyone will see that he's mad. Someone will have to take over control of the Observatory and lock Hendriks up for his own safety."

The voice from the loudspeaker went on.

"You who are listening to me now may, like the governments of Earth later, doubt my power to destroy. Disobey me in the least and I will give you convincing proof. Follow my commands and in seven days I shall be master of the Earth."

The loudspeaker went dead; the Commander's speech was over. Tony scribbled on for several minutes. When he had finished he concealed the paper in his pocket. Then he sat and thought.

So Hendriks intended to become a universal dictator, did he? Many other people had had similar ambitions in times gone by. None had ever succeeded. Nor would Hendriks now—unless he had some tremendous power which would enable him to carry out his threats. That was the key to the whole situation. Was this statement the ramblings of a diseased mind, or had the man made a great discovery which placed power in his hands that had triggered off this frightening ambition?

From what knowledge he had, Tony thought that either explanation could provide the answer. That the brutal, inhuman conduct of the Commander was caused by a sick brain was quite likely. But it was equally possible that this brilliant scientist, with the almost limitless facilities at his disposal, had discovered some new scientific principle which would enable him to carry out his threats. No doubt the answer would soon be forthcoming. Meanwhile he must decide what to tell Sid in his short message.

Chapter Eight

The afternoon passed slowly. Twice the Duty Officer had brought him food, but in spite of Tony's best efforts, the man had barely spoken. That the D.O. was badly shaken and laboring under tremendous strain was obvious, and the mechanic felt really sorry for the unfortunate man. How had the other men on the satellite taken the Commander's words? Tony would have given much to find out.

Six o'clock was the time he'd set himself to make another call to Earth. Sidney would be finished in the shop and no doubt waiting for him. Tony had no means of knowing over what part of the Earth's surface the Observatory was passing. If he was out of range Sidney would be unable to pick him up. It was a chance he'd have to take.

Zero hour! Tony bent down and pulled his transmitter from beneath his bunk. Quickly he connected it and slipped on the earphones. Again he left one ear free to pick up sounds of any likely interruption. In a low voice he spoke into his small microphone.

"Observatory Satellite calling. Observatory Satellite calling Sidney Stafford. Over."

Anxiously Tony listened for a reply, and to his infinite relief it came at once.

"Hello, Tony. Sidney here. How are you? I managed to contact—"

"Listen, Sid. Record this. It's vital. Hendriks broadcast to all the crew at noon today. This, roughly, is what he said...."

Tony gave an account of the Commander's speech. At the end he asked anxiously, "Have you got it?"

"Yes, I've recorded it," Sidney called back to his friend. "Tony, you're being monitored twenty-four hours a day on the orders of Sir George Benson. You can call at any time."

"That's a relief," Tony replied. "So you contacted Chris Godfrey? I'll have to stop—I may be getting a visit at any time. I'll call again when I can. Good-bye, and thanks, Sid."

Young Stafford switched off. He'd forgotten his father was with him until the older man let out a gasp and wiped his face.

"Great heavens!" he said, "can it really be true? And you've cut in on this! What are you going to do now?"

"Nothing until I hear from Mr. Godfrey," Sidney answered. "Other people will have recorded Tony's message. Mr. Godfrey and Sir George Benson will know all about it. Do you think Mr. Godfrey could stay with us if he comes tomorrow?"

"Better ask your mother, If he wants to stay the night he could have the spare room. Look here, I'd like to hear Tony's message again. Run it through, Sid."

"All right, Dad," the young man agreed, and promptly played the tape over again.

"I don't know what to make of it," the bewildered man said. "If that crazy Commander can do what he says, why don't they shoot the thing down?"

"What about Tony and all the others?" Sid protested hotly. "You wouldn't want them all to be killed just to get one man, would you?"

"I don't know what I'd do," the older man muttered, "and I'm glad I don't have to decide."

It was the United Nations Exploration Agency that would have to decide. UNEXA, as the body controlling all satellites and space research, would have to deal with this threat—real or imaginary—from one of its officers. Even before Sir George Benson arrived in New York, a recording of Tony's message had been transmitted to the Secretary-General.

The most portentous meeting UNEXA had ever held began an hour after Benson's arrival. Delegates, mainly scientists, listened to Sir George's statement with close attention. He reminded them of the mysterious brown streaks that had appeared on different places on the Earth, of how it was suspected that these were somehow caused by the Observatory Satellite, of the lack of response to all communications, and finally of Tony's strange message to his friend on Earth. Sir George concluded by playing the significant tape.

There was a buzz of conversation all around the room as the British scientist finished. The Director, Professor Boronov—it was Russia's turn to provide this official—called the meeting to order and invited discussion and questions. Till well into the next morning the delegates talked about the strange happenings. In the end one opinion seemed to be fairly universal. It was concluded that Hendriks had indeed harnessed some new source of power, that he had been testing his apparatus and so caused the streaks, and that within the next few hours they could expect to receive his ultimatum.

Committees were immediately set up to deal with various aspects of the expected crisis—"Information" to handle news releases to the public, "Agriculture" to devise means of dealing with the brown streaks, and, most important of all, the Action Committee to deal with the problem of Hendriks. It was not unexpected that it was Sir George Benson who headed this latter body.

As the next day dawned the Governments of the World waited. A thousand powerful receivers were tuned in to the Observatory's official wavelength, and others continued to listen for any word from Tony. Both the official and the unofficial transmitters on the satellite remained silent and Benson, on duty again after very little sleep, began to wonder if anything had happened to the mechanic.

Time and time again orders were broadcast to the Commander requesting him to report, but the satellite remained obstinately silent. At noon the Action Committee met to consider what steps to take if action against the Commander became necessary. Though the suggestion was made, Benson firmly vetoed the proposal to destroy the Observatory, except as

a last resort.

As he finished transmitting to Sidney, young Hale tucked his apparatus away safely. It was good to know that his message had reached Chris and even Sir George Benson. As soon as he had more information he would transmit it, for he knew now that whatever part of the globe they were passing over someone would be listening for him.

When the D.O. made his last call of the day Tony tried again to question him.

"What's the Commander up to?" he asked. "Do you think it's right that any one man should rule the Earth?"

"You know I can't discuss it," the officer sighed. "I only obey orders."

"Yes, but you must see that something's wrong. What did the other crewmen think of Hendriks' broadcast?" Tony persisted.

"I can't discuss that either," the Duty Officer answered. "All I can say is that life in the Observatory is normal."

"Except that no one can communicate with Earth," Tony pointed out. "What's the reason for that?"

"No more questions," the officer insisted. "Now I'm locking you up for the night."

"Strange," mused Tony after the man had gone, "how we still use the terms 'day and night.' Of course they don't mean the same as on Earth. 'Day' means work period, 'night' means rest period."

He wondered how Don was faring. If this enforced idleness were to last a long time he'd like some company. Maybe he could persuade the D.O. to let them share one of the cabins during the day. It would save time not to have to visit them separately. Once or twice before he fell asleep Tony was tempted to use his precious transmitter to see if he could hear a friendly voice. However, he abandoned the idea because of the risk of discovery and because he had no further information to pass on.

As he lay in his bunk he speculated on the likely turn of

events. Sir George Benson, Chris, and many other people must be fully alerted by now to what might happen. They would take measures to bring the Commander under control. Perhaps they would send someone up to replace him. It might be a tricky business dealing with this madman, particularly if he really had some new power at his command. How would Hendriks put his ultimatum over to his potential subjects?

Tony had a bad night. He was becoming really irritated by his confinement and it was a great temptation to try to break out. He believed he could do it easily but perhaps it would be premature at the moment. He might want to break out later if things became really desperate. Besides, he didn't want to be far away from his precious transmitter.

The D.O. was late coming. Tony was beginning to think that he'd never get his meal. When at last he came the man was sweating profusely. He looked as if he'd had a terrible fright—as indeed he had.

"What's the matter with you?" Tony asked, seeing his condition.

"I—I can't speak about it," the D.O. answered weakly. "Here are your rations."

"Sit down a minute," Tony said with genuine concern. "You look all in. Come on, sit for a minute. I won't escape."

Like a man in a dream the officer came and sat beside his prisoner on the bunk.

"Come on, get it off your chest," Tony urged. "You'll feel better for it after. Something dreadful has happened, isn't that so?"

The D.O. nodded, and Tony could see that with just a little more encouragement the poor fellow would unburden himself.

"It's something the Commander has done that's shocked you, isn't it?" he persisted.

"Yes, he's-killed a man," the D.O. burst out.

Tony was shocked. "He's killed one of the crew? What happened?"

"It was Kreuzer, the chief radio operator. The Commander ordered him to get all our transmitters linked for a special broadcast. Kreuzer said that as they hadn't been operated for some days under the Commander's orders, it would be necessary to give them a test. The Chief wouldn't allow that, so Kreuzer told him he wouldn't be responsible."

"What happened then?" asked Tony. He could see that the D.O. was laboring under great emotion.

"I saw the Chief look at Kreuzer very strangely," the officer said. "Then I thought I heard him say something about setting an example. The next thing I knew was that the Commander had taken hold of a piece of apparatus he'd made in his laboratory. A flash of light seemed to come from whatever Hendriks was holding, and poor Kreuzer sank to the floor. The Commander left the compartment and I saw that Kreuzer was dead."

"What was it he killed him with?"

"When I was a boy and used to read science fiction the most popular weapon seemed to be a ray gun. This seemed just like something from one of those stories," the Duty officer said glumly.

"A ray gun?" Tony whistled. "So that's what he's been working on. Now he's perfected it he believes he can become the Great Dictator. The radio operator was his first victim."

"Kreuzer was a friend of mine. Why did he have to do that to him?" the officer said in obvious distress.

"To make an example of someone," Tony answered. "It was necessary to demonstrate his power to the crew. If it hadn't been Kreuzer it would have had to be someone else."

"I must go now," the D.O. said, standing up. "I've been here too long already?"

"Don't I get any exercise?" Tony demanded.

"Sorry. It's out of the question at the moment. The Commander's broadcast is due soon, and every member of the crew has to be at his station." As soon as he was alone Tony was very much tempted to rush to his transmitter and to let them know on Earth what had happened. No matter what the chief radio operator had done, the Commander had no right to kill him. Hendriks was a menace. He'd have to be put out of action as soon as possible. While he was still debating whether or not to rig up his apparatus the loudspeaker came alive. Tony froze into inactivity, for he knew that Commander Hendriks was about to make his fateful broadcast.

For hours receiving stations all around the Earth had been tuned in to the official wavelength of the Observatory. On the instructions of Sir George Benson there was an elaborate link-up. The moment any signal came from the satellite it would be picked up and relayed to U.N. headquarters. Benson himself would receive the message in the room where, with his senior staff, he was planning his campaign.

It was at precisely three o'clock in the afternoon, New York time, that the voice of Commander Hendriks came on the air. All activity in the United Nations and in scores of government buildings throughout the world came to a stop to listen to his words.

"This is Jan Hendriks, Commander of the Observatory Satellite, calling all governments on Earth."

A chill ran through many of those who were listening. It was as if some alien creature from Space was addressing them. Some quality about that disembodied voice made more than one of them shudder. The strange opening words prepared them for what was to follow.

"From this moment I am taking over control of the World, for you can be sure that I have the power to do so. Unless my orders are obeyed implicitly I shall use my power without hesitation. Already you have seen signs of what I can do. I can scorch the surface of the Earth."

Sitting with his colleagues, Sir George Benson pursed his lips. Indeed, the brown streaks had proved beyond doubt that Hendriks had some unknown power under his control. Professor Bargh had been right about their source. Could this madman turn all vegetation into that brown dust? If he could, then things would be serious indeed.

"To convince you of my power and to prove to all governments that I will use it, I shall emit radiation for one complete orbit. Then I shall wait forty-eight hours for a reply. If the governments of all Nations do not place themselves at my disposal the Earth will be radiated for two orbits."

In London, Chris Godfrey and a score of fellow astronauts, scientists, and high-ranking Service Officers were listening to the broadcast. Their grave faces showed that what they had heard was no idle boast. One of them did a rapid calculation and found that 70 per cent of the Earth's vegetation could be destroyed in a few days if the radiation was continuous.

"Any communication other than intimation of complete surrender will be ignored. Any attempt to take offensive action against the Observatory will be met by an instant release of radiation. Governments of the Earth, you have forty-eight hours in which to accept my authority."

So the strangest, most frightening message ever heard came to an end. The voice of Commander Hendriks ceased, and the many groups who had been listening intently began to discuss it.

The Action Committee under Sir George Benson had the main responsibility. It was this body of men—the most able brains drawn from a score of countries—that must decide how the threat from the skies must be met. Even as the Action Committee deliberated, a message came from its partner, the Agricultural Committee, that a brown swath, around five miles wide, was being carved all around the world. Jungle in Brazil, heather on Scottish hills, Russian wheat fields, Chinese rice fields, palm groves on Pacific isles—all turned to the same brown powder which covered the sterile ground.

Commander Hendriks had, with a vengeance, demonstrated that his was no idle threat. There could no longer be any doubt that this madman could, and would, destroy the Earth unless his rule was accepted. While the Information Committee worked to keep people calm, the governments of the world conferred. They communicated their decisions to the U.N., who passed them on to Benson's Committee.

The decisions were unanimous. There would be no surrender. The Observatory Satellite was to be attacked!

Ghapter Nine

Like every man on the Observatory Satellite Tony heard the Commander's broadcast to Earth. So now the cards were on the table. It was imperative that he let Chris and Sir George know that Hendriks had killed a man with his new ray, and that as a result the rest of the crew were in dread fear and would obey his every command. Tony must know what to do to help.

Uncovering his transmitter, the mechanic prepared to send his warning. He knew that it would no longer be necessary to try to call Sid. But how would he get a message back? He had little doubt that the Commander would sooner or later detect and monitor any unauthorized broadcasts.

At all costs this must be delayed as long as possible. It might be vital to preserve the secret of this clandestine means of communication by all available means.

"Tony calling. Tony calling Sidney," the mechanic spoke into the microphone. Maybe it would be as well to make messages as guarded as possible in case they were picked up by Hendriks. Even if he picked up that call the Commander would mistake it for two young hams talking together on Earth.

"Hello, Sid," Tony went on, "things aren't very good in our town. One poor chap has died as a result of that illness we were talking about. I'm afraid other people might succumb, too. If there's any advice you can give me, I'd be relieved to have it. Over."

There was silence at the end of Tony's message. No Sidney called back. He was sure, of course, that his broadcast had been picked up. He hoped that Chris, Sir George, or whoever was responsible, would understand what he was trying to say and guess the reason for his caution. Perhaps he'd try again later. Carefully, he hid his apparatus.

The Observatory had been over the Pacific as Tony had made his broadcast. It was picked up in Tokyo and in Honolulu. Within minutes the mechanic's voice was being heard in the room where the Action Committee was in almost constant session. Sir George and his colleagues listened gravely. As the recording came to an end Benson spoke to the other members.

"I know this young man very well," he said. "He is sensible and courageous. Obviously he appreciates the danger of his transmitter being discovered. Hence the cryptic nature of his broadcast. We must arrange to reply in the same vein. This is what I suggest."

He went on to outline a plan for communication with Tony, and his listeners agreed unanimously. If the official transmitters were used, Hendriks would know at once. Even if orders or advice were broadcast by any powerful radio, the Commander might discover that the Observatory was not isolated. Only if the appearance of two amateurs chatting to each other could be preserved would communication be almost 100 per cent safe.

So it was that late that evening Christopher Godfrey, the astronaut, arrived at the home of young Sidney Stafford, friend of Tony Hale, a mechanic on the Observatory Satellite. Chris immediately informed the Staffords, senior and junior, of the important role they had been chosen to play. In order to reduce the chance of discovery to a minimum, all messages to Tony were to be broadcast by Sidney on his home-made transmitter!

Neither Mr. Stafford nor his son could appreciate for some time that Sidney's set was to be the one slender means of communication with the satellite whose Commander was threatening the Earth.

"It was Sir George Benson's idea," Chris explained, "and, if you agree, I'm to stay here on duty with you."

Sidney could hardly believe his ears. Of course he'd heard from news bulletins of the threat from Hendriks. He'd listened to the official comments handed out by the U.N. and he realized that the messages he'd picked up from Tony must have been very important. But he had never dreamed that he would continue to play an important, even vital, part in the events that were to follow.

The Staffords assured Chris that he would be most welcome to stay in their home as long as he wished. Hoping that they would be able to persuade him to stay with them, Mrs. Stafford had already prepared the spare room. Over dinner later, Chris told Sidney and his father what he wanted them to do. The request originated from Sir George Benson himself.

"First of all, I'm afraid we must take over your telephone," Chris said apologetically to Mr. Stafford. "That is, until we can get another line put in. It will inconvenience your business, I'm afraid, but I'm sure you appreciate what is at stake. Next we must stand by your transmitter, Sidney, ready to broadcast to Tony whenever he comes through. You will be the one to speak to him, and you must be ready to do it day or night."

"What shall I say to him?" asked Sid, his throat feeling dry.

"We'll provide the messages," Chris told him. "As a matter of fact I've got the first one ready now—that is, unless something different comes through on the phone."

"What do you think they'll do about Hendriks?" Mr. Stafford asked.

"I really don't know," answered Chris. "Sir George and his Action Committee are working out a plan now. I've got a feeling that we three shall form a very important part of it. Now do you think we could go up to the transmitter?"

They mounted to the attic where the apparatus was installed. Sidney felt very shy about showing the results of his amateurish work to the famous astronaut. But when Chris praised it he felt a warm glow of pride, and from that moment he knew that radio communication was to be the great interest in his life.

"Better have a look through this," Chris said, putting down a piece of paper on to the table. "It's the next message we want you to send."

Sidney looked at the paper curiously and read it. Then he

looked at Chris in surprise.

"What's this?" he asked. "It's just ordinary talk. I thought I was to pass on some instructions."

"This afternoon, soon after Commander Hendriks revealed his plans, Tony broadcast a message. Though you weren't listening, we picked it up. From the way he phrased it we guessed he thought it safer to speak in some kind of code. We decided not to reply to him, but to pass all instructions on through you, Sidney," Chris explained.

True to his word, the Satellite Commander scorched a broad gash all around the Earth. It was enough to warn every country that it could not escape the madman's wrath if it chose to resist. In New York a map had just been placed in front of Sir George Benson showing the exact extent of the radiation damage. It followed, of course, the orbital path of the Observatory.

"Any crops in these areas have been destroyed, and the land will be unable to produce more," a Belgian scientist commented as the Committee studied the map. It was obvious that drastic action must be taken without delay.

"All attempts to get a message through have failed," Benson reported. "We have tried to get the Deputy Commander to assume control but we cannot reach him."

"Then I suggest we dispatch a replacement from the Cape at once," Dr. Rosenberg, the American, said. "Hendriks must be put under restraint immediately."

"I agree," Benson replied, "but will the ferry rocket be accepted? Without the full cooperation of the crew the ferry could not make contact, let alone transfer personnel."

"We must put it to the test," Rosenberg argued. "If the ferry isn't accepted, then it can return and we must try other measures."

"Normally, the next ferry would leave in four days, but we can arrange for the take-off in twenty-four hours," Sir George said.

The order was flashed to Cape Kennedy, where emergency action was immediately started. Commander Barnwell, Hendriks' relief, was alerted and ordered to take over control of the Observatory. An all-out round-the-clock effort was to be made to speed up the launching. Orders were constantly beamed to the satellite instructing Hendriks to be prepared to hand over. No acknowledgment or response was received.

Tony was waiting impatiently for the Duty Officer to make his next call. Not only did he want to elicit further information from the man, but he dare not risk another radio call until after the visit. After what seemed an interminable time he heard the door being unlocked.

To the mechanic's great surprise the D.O. was not alone. His friend, Don, stood in the opening.

"I've decided to put you two together," the officer explained. "No trouble, please. We have enough already."

"Has anything else happened? Has he committed another murder?" Tony asked urgently.

"No, but he's roaming the Observatory with that ray gun of his. Everyone's very jumpy," the officer told him.

"You might be in for a visit yet—so look out."

"I will," Tony breathed. "Anyway, thanks for bringing Don along. Don't worry about us. The only person I'd like to cause trouble is that madman in charge."

"Better mind what you're saying," the officer rejoined sharply. "Commander Hendriks is still our leader."

"Good to see you, Don," Tony said as soon as they were alone. "How have you been doing?"

"Not bad," replied Don. "just bored stiff. I say—did the D.O. tell you about Hendriks blasting old Kreuzer? He really is crazy."

"He's extremely dangerous. That challenge he's thrown outonly a maniac would want to rule the whole world. Well—he won't get away with it," Tony declared.

"How can he be stopped? He's certainly found out how to handle this powerful radiation, and Kreuzer's death proves he won't hesitate to use it ruthlessly. That's made all the crew jittery. Besides-he's seized the radio and we can get no help or advice from the Cape," Don said despondently.

Tony didn't reply. He knew that he must now decide whether or not to share the secret of his transmitter with his fellow prisoner. If Don was to be interned with him, it would seriously reduce his opportunities of communication. Only after his companion had been returned to his own cabin at night would he have the privacy he needed. Should he let Don into the secret? Could he trust him?

It was when he caught sight of his friend's bandaged hands that Tony decided to take the risk. After all, Don had suffered severe burns as a result of the Commander's unreasonable demands. His friend had faced the crazy man's Wrath with him, and he believed he knew Don well enough to take the chance.

"You know what you said a few minutes ago about Hendriks commandeering the radio and cutting us off from all communication with the Cape? Well, it isn't quite true," Tony said.

"What do you mean?"

In answer, Tony went down and pulled his transmitter from its place of concealment.

"A radio!" gasped Don.

"Yes. I smuggled it on board with me when I came back," Tony explained.

"Does it work?" asked the amazed Don.

"Of course it works," Tony answered in mock anger. Then he went on to tell how he had built the apparatus in friendly rivalry with his friend Sidney Stafford, how disappointed he'd been that he hadn't been able to try it out before the end of his leave, and how he'd brought it to the satellite concealed in one of his cases. Tony went on to tell Don of the messages he'd sent out

and received and that, as a result, Sir George Benson had instructed that a continuous watch must be kept for any further news from him.

"So we aren't entirely cut off," he concluded.

Don was looking at the transmitter as if it were about to explode.

"Hendriks would go mad if he knew," he burst out.

"Hendriks is mad already. Don, this transmitter is our only hope. Without it there's no knowing what the crazy fool will do. Anyway, Sir George Benson has set an around-the-clock watch for us to pass on any information we can. Will you help me?" Tony asked, looking at his friend steadily.

"Of course," Don answered, "It's—it's such a surprise, though. When are you going to use it?"

"One of the dangers I've been up against is the possibility of the D.O. coming in while I was transmitting," Tony replied. "If you'll keep watch and yell out if you hear any sound from outside, I'll have a go now."

"Right!" Don agreed readily. "What are you going to say?"

"First I'll repeat my last message. Then if someone replies, I'll see what they say. Hope they'll get the idea of talking in code."

As soon as the apparatus had warmed up, and with Don listening intently at the door, Tony spoke quietly into the microphone. He repeated his cryptic message about someone in his town dying from the illness he'd already mentioned, and asked for advice. At once the voice of his friend, Sidney Stafford, sounded in his earphones and he listened to what seemed a perfectly innocuous message.

"Hello, Tony," Sid said. "We were upset to hear there'd been a death at your place. Your last message was picked up, but I couldn't reply to you then. I'll be standing by in case you get any more sickness. Your message was passed on to the doctor, and he's considering the treatment now. Have you got any friends with you, Tony?"

"I have my pal, Don, with me. He's a fellow with the same sort of job," Tony whispered back. There was a pause and then Sidney's voice sounded again.

"Good. As soon as the doctor has decided on the treatment I'll let you know. Call me again whenever you're worried. Your friends here will give you all the help they can."

"Thanks, Sid," Tony concluded. "I'm signing off now, but I'll call you again later. Good-bye."

He took off the earphones and tucked the set away swiftly. There had been no disturbance from outside, and Don came from his post by the door.

"Did you get anything?" he asked, for he hadn't been able to hear Sidney's voice sounding in Tony's earphones.

"Yes. I spoke to. Sid. He told me the doctor—I suppose he means Sir George Benson—is considering what treatment is called for and then he'll let me know. Oh, I told him that I had you with me and he said that was good. I expect old Sidney had someone beside him feeding him with the replies. Wonder if it was Chris?" Tony mused.

"Is there anything we can do now?" asked Don, but Tony could think of nothing. In another couple of hours he'd call Sid again, but meanwhile they'd have to be as patient as possible. It was difficult, but they passed the interval by discussing all aspects of the situation and speculating how it might be brought under control.

"Someone could knock him out," suggested Don eagerly, but the more cautious Tony pointed out that sudden death might await anyone who tried.

"But he must sleep sometimes," Don protested.

"People like Hendriks sleep very little. It would be a chancy business trying to catch him off-guard."

"How does the D.O. stand in all this? He's Deputy Commander, isn't he?"

"He's Acting Deputy Commander," Tony answered. "If you remember, there was some trouble about the officer appointed,

and the D.O. had to stand in. Of course, with Hendriks it's a purely nominal position, as he never shares his responsibility with anyone. I imagine that may have been at the root of the trouble with his official Deputy."

"Do you think the D.O. would stand up to Hendriks?" asked Don.

"I wouldn't count on it," Tony sighed. "The poor fellow's scared out of his wits. He saw poor Kreuzer killed and it wasn't pleasant. No. Unless the whole crew was behind him I doubt whether the D.O. would disobey his chief."

"What chance is there of the crew taking action? If they all went on strike Hendriks couldn't carry out his threats."

"The Commander has the crew pretty well under his thumb. I doubt whether any of them would stand up to him—and his ray gun. As to whether Hendriks can scorch the Earth without help, I believe he'd never have launched his campaign unless he could carry it out alone. Shall we try the radio again?"

"Let's," agreed Don. "I'll listen at the door."

Tony put on the earphones. He had no fresh news to give, but perhaps Sid might have some for him. In any case it was good to hear his chum's voice. It gave him a nice feeling to know that friends on Earth were in touch.

"Hello, Sid. Tony calling," Don heard his friend say quietly. "No developments here. Has the doctor decided on the treatment yet?"

Don was wondering if his friend was getting any advice from his friends on Earth. He wished he could hear what was being said, but he knew Tony would tell him everything when the transmission was over. Suddenly he was startled by an ominous sound. It was of a key turning in the lock.

The door began to open....

Chapter Ten

"Do you think he'll call again tonight?" Sidney asked.

Chris said that it was hard to say, but what concerned them most was to get back to Tony any messages Sir George wanted sent. Other people would pick up the mechanic's broadcasts, but only young Stafford could transmit in reply. To pass away the time Chris described some of his adventures to his young friend. Sidney listened with complete absorption, and neither of them heard Mr. Stafford call up to them that a phone call was coming through from New York. He was halfway up the attic stairs before he managed to attract their attention.

"Keep watch, Sid. This will probably be Sir George," Chris called back as he raced down the stairs. He was away about ten minutes, while young Stafford wondered what was happening. At the end of that time Chris returned with a paper in his hand.

"We have an urgent message to send back," he declared. "Anything come through?"

"Not a sound," Sidney told him. "What must we tell Tony?"

'That there's a ferry rocket being dispatched within the next few hours, and Commander Hendriks is being replaced."

"How shall we tell him that?" young Stafford wanted to know.

"We'll work out a message in the same vein as the last. We'll work it out now."

While Chris was working on the message, Sidney continued to listen for the voice of his distant friend. Quite suddenly it came, just as Chris had finished writing.

"He's on!" Sidney called out excitedly as his companion placed the paper before him.

"Hello, Sid. Tony calling," the voice came through. "No developments here. Has the doctor decided on the treatment yet?"

"Yes. I have some news for you," Sidney called back. "The doctor is sending a first-aid party within the next few hours. The party leader will take over the care of the patient. Can you give him any help?"

Chris and Sidney waited for Tony's reply, but the loudspeaker was silent. Puzzled, young Stafford repeated his message, but still there was no acknowledgment.

"That's queer," Chris said anxiously. "Keep on trying, Sid."

The young man repeated his message time and time again, but his friend's transmitter on the satellite remained silent.

"I don't like it," Chris said uneasily. "What could have made Tony break off contact? He must have been anxious to hear what you had to say. Do you think his transmitter broke down?"

"Not a chance," young Stafford declared stoutly. "Tony is too careful a technician. You should know that."

"Of course," Chris agreed. He didn't really believe that it was the set which had failed through any constructional fault, for he'd had experience on many space voyages of Tony Hale's competence. The implication was alarming. Some other agency must have caused the contact to be broken. What was it? Trouble in the Observatory? A visit from Hendriks? The transmitter discovered?

"I'd better let Sir George know. Keep trying, Sid," Chris said and hurried downstairs to put through the call.

"Yes, I have some news for you. The doctor—"

Good old Sid's voice was coming through loud and clear. And he'd something to tell them! Tony was listening intently—until he heard Don's startled cry. Even as he turned to see the door starting to open he had snatched off the ear-phones and, in one swift movement, had pushed the transmitter beneath his bunk. Thinking quickly, Don hurled himself through the sliding door

as soon as the gap was wide enough. His flying body collided with someone outside and both fell to the floor in a heap. These vital seconds had enabled Tony to conceal his precious apparatus.

Don found himself in the clutches of the Duty Officer.

"Trying to escape!" that harassed official panted.

"Not really," explained Don, picking himself up. "Just anxious to see beyond these four walls. We've had no exercise today, remember."

As he made no struggle, the D.O. seemed prepared to believe him.

"It's been impossible to spare the time today," he explained as they both re-entered Tony's cabin. "What I've come for is to take you to the Commander. He wants to see you both at once."

"What does he want?" Tony demanded. He didn't think the D.O. had seen his transmitter, thanks to Don's quick action. But it had been a narrow squeak.

"I suggest you come along and find out," the Duty Officer answered noncommittally.

The two mechanics looked at each other in surprise. What did the crazy Hendriks want with them now? Would the madman blast them as he'd done the radio operator? With thumping hearts the two young men followed the officer towards the hub of the giant wheel, the quarters of the dreaded Commander.

When Chris Godfrey's message reached Sir George Benson, the scientist was in a plane heading south toward the famous rocket-launching area. He, too, was concerned that Tony Hale's message had ended so abruptly, and that contact with him had been lost. The moment he arrived at the Cape, Benson phoned the radio dealer's shop in Birmingham and Chris gave him a firsthand account of the broken broadcast.

"You must keep trying," Benson said, his voice sharp with anxiety. "The ferry rocket will be on its way in a matter of hours. Tony must be warned."

"We'll do our best," Chris promised.

Benson went straight to the main control room of the rocket station. On a concrete pad half a mile away stood the ferry rocket, still protected by its steel gantry, and receiving its last attentions. In the control room itself scientists were bent over the banks of instruments, making last checks as the countdown proceeded A dapper little man, his face wreathed in perpetual smiles, followed Benson into a small private office. It was Commander Barnwell, who had been entrusted with the task of relieving Hendriks of his command.

The two men shook hands. Then they discussed the task that lay ahead.

"Whether Hendriks will arrange for the ferry to be accepted we can't tell. We're constantly beaming orders to him, but in his disturbed state of mind it's more than likely he'll ignore them. However, if you do succeed in boarding, then whether Hendriks likes it or not, you must take over. You've already been furnished with the necessary documents?" Benson asked.

"Yes. I have them here. I'm authorized to take over control of the Observatory at all costs, and I take it that means that I'm to use force if necessary," Commander Barnwell said, his face now serious.

"That is so, but I'm hoping it won't come to that. If Hendriks has a scrap of sanity left he'll let you take over as ordered. However, if your ferry is not accepted by the Observatory, you must return to Earth at once, and we'll have to figure out something else," the scientist declared.

"What about the crew?"

"Hendriks has blocked all communication with them, except of course the small transmitter that young Hale has. You can rely on that young man to the limit, Commander. I know him well."

"Very good, Sir George. I'll do my best."

Again the two shook hands, and then Barnwell went to the

changing room to put on his space suit.

The take-off, a routine affair except for the speed of its preparation, went smoothly. As he saw the rocket lift off its pad, Benson wondered what the outcome would be. He had every confidence in the ability of Commander Barnwell. The unknown factor was the reaction of Hendriks.

Because it was not necessary to carry the usual cargo of stores as well as relief crew, the ferry had extra fuel tanks and was kept for special missions. The additional fuel enabled it to burn its motors for a long period and so build up considerable velocity. Under its flight program the ferry should be in the vicinity of the Observatory in about an hour. Allowing time for maneuver, Barnwell should be aboard in some ninety minutes-if Hendriks cooperated.

While he was Waiting, Sir George put through another call to Birmingham, where Chris told him that Sidney still had been unable to contact his friend.

As they followed the Duty Officer, Tony wondered desperately what the Commander might want. Kreuzer had been killed for no more than what he and Don had done. Did the madman intend to wipe them out, too? With someone as crazy as Hendriks life hangs by a thread. At the slightest whim he might use that ray gun of his. Tony and Don might, within the next few minutes, suffer the same fate as the unfortunate radio operator.

When the trio approached the Commander's quarters in the hub of the great wheel, the D.O. went ahead. Tony drew near to his friend, who, he could see, was perspiring profusely.

"Agree to anything he says," Tony whispered, for he'd come to a decision. Two live people trying to help the folks on Earth would be more useful than two dead heroes!

The door slid open and the officer stood aside for his companions to enter. Tony went in first, closely followed by Don.

Tony noticed a great change in Commander Hendriks since he had last seen him. His face was flushed, his bloodshot eyes burned like coals. All his movements were swift, jerky. His voice seemed to be pitched higher.

"You two," he almost squeaked. "You heard my proclamation? I am taking over control of the World. Are you prepared to obey me without question?"

Tony could see a strange piece of apparatus on the table near the Commander and he judged that this was the instrument with which the madman could destroy them. He could see Hendriks' eyes boring into him, and at the same time he could feel Don's gaze on him. Trying hard to return the Commander's look steadily, Tony spoke.

"I will do whatever you ask," he said.

"And you?" Hendriks snapped at Don.

"I will, too," Don replied, his voice sounding cracked and dry.

"Then you will take the spare transformer from stores and connect it to the others. Again there will be no interruption of the supply to my laboratory," the Commander ordered.

Tony was startled. What on earth could Hendriks want the extra transformer for? Those already in use were adequate for the job. Was there something else brewing in that witch's kitchen of his? It would be a difficult and tedious job, not without danger.

"Very good, sir. Do we start now?" Tony asked.

Hendriks glared at him malevolently.

"If the job isn't completed in one hour from now, I shall want to know the reason why," he barked. Tony could see his glance had rested momentarily on his ray gun.

"Yes, sir. We'll change into overalls and start right away," Tony promised.

"Now that you've promised to obey the Commander's orders you may as well go to your cabins yourselves," the Duty Officer

said as they got outside.

Without waiting for the D.O. to change his mind the two mechanics hurried away.

"I must try and get through," Tony whispered as they went. "Come to my cabin after you've changed."

The door was scarcely shut behind him before Tony whipped out the transmitter. If he was not to arouse suspicion, his contact must be a very short one. He clamped on the earphone and spoke softly into the mike. Pray God he was in radio range of Sidney's transmitter! He knew that wherever he was his own voice would be picked up, but he could only receive a message back from his friend's apparatus.

Tony's heart leaped as he heard Sidney's voice reply instantly to his call.

"Hello, Tony. What happened? Are you all right?"

"Yes. I'm all right. Give me your message again quickly, Sid. I've only a few seconds," Tony whispered urgently.

At once young Stafford repeated the "doctor's" message that a first-aid party would be coming to take over care of the "patient" within a few hours. Could he help? Tony replied that he couldn't, and then had to break off.

As he swiftly pulled on his overalls, he pondered on the message he'd just heard. Don's entry interrupted his thoughts.

"Any information?" Don asked eagerly.

"Yes. They're sending someone to relieve Hendriks of his command. He should be here in a few hours."

"How's he coming aboard?"

"I don't know. I'm worried," admitted Tony. "Unless Hendriks orders the usual procedure no ferry can be received."

"And there's nothing we can do?"

"Not a thing. But come on. We'd better be getting along."

For the next hour they worked furiously to install the additional transformer. They followed the Commander's

written direction handed to them by the D.O.

"Must be for carrying out his threat to scorch the vegetation," muttered Tony. "Wish we could do something to stop him."

Sir George Benson was anxiously following the flight of the ferry rocket. Commander Barnwell had reported all well, but there was still no response to the order that was being broadcast continually to the Observatory. The next few minutes would be critical.

"Wonder what Hendriks will do," Sir George said to the little knot of scientists who stood with him around the radar screen indicating the ferry's progress.

"Preparing to approach the Observatory now," the voice of Commander Barnwell informed them over the loud-speaker. They could see from the screen that only a few miles separated the satellite and the ferry. Suddenly there was a startled cry from the little group of men. There was a strange sound on the radio, and the rocket disappeared from their screen! Sir George's face turned gray.

"He's destroyed the ferry!" he gasped.

Chapter Eleven

Both Sidney and Chris had been relieved to hear Tony's voice, though they were concerned that he could give them so little information. That he closed down immediately after he had received their message showed that something was happening. They could only stand by. Sidney and Chris waited in the small attic, which was crammed with electronic equipment, united in concern for their friend.

While Sir George Benson and the rocket engineers at Cape Kennedy were still shocked by the destruction of the ferry, the members of the Agricultural Committee were in session at the U.N. in New York. Orders had been flashed out all over the world for cattle and crops to be gathered together. Where possible they were to be taken below ground to protect them from radiation. Caves, mines, basements, all were pressed into service. Where this wasn't possible, cellars in houses, crypts in churches, even substantial public buildings were used.

The time limit set by the madman on the satellite was drawing near. People were taking the situation with remarkable calm, thanks to the work of the Information Committee. However, the crucial test would come when Hendriks turned on his radiation. The satellite's orbit was being followed closely. Everywhere observers were watching and waiting for the appearance of the ominous brown streaks.

At precisely fifteen minutes before zero hour the voice of Commander Hendriks was heard. In Washington, London, Moscow and all the capitals of the World, Presidents, Prime Ministers, Chancellors and Cabinet Ministers listened to the menacing words. At Cape Kennedy Sir George Benson listened in cold fury because of the deliberate destruction of the ferry rocket.

"Governments and Peoples of Earth," the voice of Hendriks began grandiloquently, "the time has now come for you to accept me as your ruler or be destroyed as surely as I destroyed your ferry rocket. Understand that I can destroy any rocket or missile that you dispatch against me. Be assured that the source of my power is limitless, and that my Observatory can function long after every vestige of your vegetation has been destroyed.

"Peoples and Governments of the World, I await your answer."

The General Assembly of the United Nations had authorized its Secretary-General to broadcast the reply.

"This is the Secretary-General of the United Nations speaking," the official began. "By a unanimous vote of the General Assembly you, Jan Hendriks, are removed from command of the Observatory. Your second in command is instructed to take over your position and you are to be confined to your quarters pending transfer to Earth. These are the commands of the United Nations and must be obeyed."

The semblance of calm with which Hendriks had first spoken now disappeared. He answered in a high-pitched voice, which at times rose almost to a scream. Part of what he said was incoherent, but what it amounted to was that he no longer recognized the authority of the U.N., that the whole of the Observatory staff had accepted his rule, and that in any case he was in sole control of communication, so that the illegal demand for his replacement could not be received by anyone else. He would now switch on his radiation and the Earth must accept his authority or be scorched to a brown dust.

The Chairman of the U.N. Action Committee, Sir George Benson, returned post-haste to New York, where his Committee went into session at once. Meanwhile reports began coming into the Agricultural Committee that the brown ribbons of destruction had begun to wrap themselves around the Earth.

Though the threat was so serious, not one member of the Action Committee would entertain the thought of capitulation. It was unthinkable that the World should submit to the

demands of a dictator—and a mad one at that. Some means must be found of bringing Hendriks under control. The menace to the Earth must be removed at all costs.

"Reluctant as I am to suggest it, I believe the only solution is to destroy the whole Observatory," Professor Boronov, the Russian member, said gravely.

"And slaughter all those innocent crewmen?" asked America's delegate, Dr. Rosenberg, incredulously.

"That I regret as much as anyone," Boronov declared, "but we must be realistic. If the sacrifice of some thirty lives, innocent though they may be, would save the world, then that is the action we must take. It seems to be the only thing we can do."

The Committee was sharply divided on the proposal and the debate was in danger of becoming very heated when the Chairman interposed.

"Gentlemen," he said firmly, "please listen to me. We heard Hendriks say that he could destroy any missile just as he did the ferry rocket and its crew. While we could give a missile a much higher velocity, I have no reason to believe that Hendriks would be unable to carry out his threat. The fate of Commander Barnwell and his companions shows that we must take this man's boasts seriously. I don't think we could shoot down the Observatory."

"But it's worth trying," Boronov burst out.

"I agree—but not until we've tried everything else," Sir George said.

"Can we not starve the Observatory into submission?" Mr. Gillanders, the Australian, asked.

"It would take too long," answered Benson. "As you know, it has a closed oxygen cycle and algae tanks for food production; we send consumable supplies only at long intervals. Without any contact with Earth, the Observatory could carry on for at least six months."

"And in far less than that its dastardly work will be done?"

asked Dr. Rosenberg.

"Exactly," agreed Benson.

"Then what do you suggest?" asked Boronov, wiping his spectacles angrily.

"I think we should exploit the contact we have with the satellite. We should authorize young Hale to recruit what help he can from other members of the crew. If he is successful he may be able to deal with Hendriks. At least he may be able to prevent the destruction of the next ferry and arrange for its reception," Benson answered.

"That is asking a great deal of a young mechanic, is it not?" Dr. Le Roy of France asked.

"Maybe, but knowing this particular young man as I do I think he can do it. At least, gentlemen, let him try," Sir George suggested.

"And meanwhile more and more of our good Earth is being burned up," Professor Boronov pointed out, his spectacles now perched aggressively on his nose.

Mainly out of regard for its chairman, the Action Committee eventually agreed to his plan. Benson also persuaded his colleagues to agree to the dispatch of a second ferry if he should think it advisable.

"You will have difficulty in finding a crew," the Russian professor declared, convinced that, following the disaster to Commander Barnwell, there would be a scarcity of volunteers.

"I think I can look after that, too," Sir George Benson said thoughtfully. His colleagues wondered whom he had in mind.

Mr. Stafford insisted on taking a turn on watch. His wife was equally insistent that Sidney and Mr. Godfrey should get some sleep. It was in the early hours of the morning that the phone rang and Chris came sleepily to take the call.

He was jerked into wakefulness by the voice at the other end. It was someone he didn't know, but the call came from Cape Kennedy. The caller said he'd been requested by Sir George Benson to inform Mr. Godfrey that the ferry carrying the replacement commander to the Observatory had been destroyed. He was to get the information through to Tony Hale if at all possible. Sir George had returned to U.N. Headquarters to consider the new situation. He would be contacting Mr. Godfrey personally as soon as possible.

Chris was staggered at the news of the mad Commander's action. No further proof was needed of the man's mental derangement. Tony must be told that the promised "first-aid party" wouldn't be coming, and that it had been struck down by the same "disease" that had killed his friend. Nevertheless the "doctor" was still seeing what he could do.

Sidney, dressed by now, was equally shocked. It was still hard for him to realize that he was involved in this life-and-death struggle, that he was an important part of the efforts to save the World from the domination of a madman. Up in the attic, Chris, Sidney and Mr. Stafford waited tensely for any sound from Tony. Almost as they were beginning to think that he would never call again his voice came through, forming a tenuous bridge between the terrorized crew and the waiting Earth below.

Now that they seemed to be obeying the Commander's orders docilely, Tony and Don were again allowed the same freedom as other members of the crew. They were able to join them at meals and in the recreation room. But there was no pleasure in this. There had been a remarkable change in the atmosphere aboard the satellite.

Gone was the friendship among the men sharing common hazards; gone was the joking, the laughter that characterized the crew whenever a few of them had relaxed together. Now there was gloom, silence, distrust, despair. It was as if the malevolent influence of the Observatory's Commander had worked a change in these men. Whenever an order came through from Hendriks, it was obeyed on the double.

At first Tony was angry at this change in his companions. Surely some of them still kept a vestige of courage and hope. But at last he began to understand. These men were cut off from their families. They could neither send nor receive news. It was as if all their friends and relatives on Earth had suddenly died. Indeed, Earth itself was losing its reality, so isolated did they feel. Hendriks dominated all their thoughts and actions. They knew the fate of Kreuzer, and they were all aware that their own position was equally precarious.

When the Commander made his final broadcast to Earth it was listened to in gloomy silence. It was some minutes before the two mechanics grasped what Hendriks had said about the ferry rocket. He'd destroyed it! So the "first-aid party" wouldn't arrive! Now Tony could understand the despair that the rest of the crew was feeling. He had to fight hard against the same feeling himself.

"Come back to my cabin," Tony whispered to Don as they left the others. He could see that his friend was badly shaken by this further demonstration of the ruthless power of Hendriks. For the sake of the morale of both of them they must speak to their friends on Earth.

"I'll hang around outside," Don suggested as they reached Tony's cabin. "That will prevent anyone surprising you."

"Right. It was a near thing the last time," agreed Tony, and while Don kept watch up and down the curving rim he bent down over his precious apparatus.

"Hello, Sid, Tony calling. Are you receiving me?"

There was silence, so Tony knew he wasn't in range. He called Don inside and they waited fifteen minutes before trying again. This time young Stafford's voice replied at once.

"Hello, Tony. Thank goodness you've called. Are you all right?"

"Yes. I'm fine. Sorry I had to cut off last time. I've got Don helping me now. Have you any news?"

"Yes. I'm sorry to say the first-aid party won't be coming,"

Sidney said, and went on to give the rest of the coded message. He asked Tony to call him as often as possible, as "the doctor" might have some further advice to give him, and ended with an encouraging message, urging him to keep his chin up.

Long after the broadcast was over Don remained in his friend's cabin anxiously discussing the latest developments.

Tony had an uncomfortable feeling that, by fitting the extra transformer, they had unwittingly helped in the destruction of the rocket.

"But we don't know that," Don pointed out, anxious that his friend shouldn't blame himself.

"No. I suppose not," Tony agreed slowly. "Hendriks holds all the cards, doesn't he? But he's just got to be defeated—somehow "

"How quickly can you meet me in New York?" Sir George Benson asked. He was speaking on the transatlantic phone to Chris Godfrey.

"Oh—er—in twenty-four hours," the startled astronaut answered.

"Right. Ask the two Staffords if they can get the message I've just given you up to Tony—and then pack a bag. I'll see you tomorrow evening."

Benson put the phone down thoughtfully. After all, it was a great deal to ask anyone. The crew of the next ferry faced almost certain death-unless Tony managed to find some way of stopping its destruction. Maybe he could enlist the help of enough of the Observatory's crew to sabotage Hendriks' apparatus. Then they would have to operate the landing procedure to receive the ferry. Unless he received word from Tony that there was a reasonable chance of fulfilling these tasks, he wouldn't allow a second ferry to take off. Meanwhile there was no harm in getting a possible crew together—just in case. The scientist drummed his fingertips on the table top, deep in thought. Then he picked up the phone again and put

through a number of long-distance calls. Eventually he managed to contact all the people he required.

* * *

Although they were almost fainting with fatigue, neither Mr. Stafford nor Sidney thought for a moment of leaving the attic for a rest. On a piece of paper in front of the transmitter was a message. It was the one Mr. Godfrey had left before rushing away. And it was the most vital message that Sid had yet to transmit.

"He's bound to call soon," Mr. Stafford kept repeating. "Maybe he's still out of range."

"But the Observatory's done more than one orbit already since he spoke," his son pointed out.

"Perhaps it's been too dangerous to use his set," the older man suggested, suppressing a yawn. "He's bound to be as anxious to get news as we are to give it him."

"That's true," Sid nodded. "We'll just have to—Hello, Tony, yes, I can hear you."

The voice of his friend in the satellite had just come through.

"Tony, the doctor says you must get as much local help as you can. He can't send another first-aid party till you've got someone to help when they arrive. Will you see what you can do and keep me posted?" Sidney concluded.

"Will do," the voice of Tony answered. "If I have difficulty in getting help, I'll let you know. Over."

Chapter Twelve

Far out in space Tony finished stowing his transmitter. He called Don into his cabin and they talked over this latest instruction.

"We've got to rope in as many of the crew as possible," Tony told his friend. "If we can manage to recruit a decent number, they'll send another ferry. If necessary Sir George Benson will speak to any of the doubters."

"It's not going to be easy," Don said. "Who are we going to ask? Who can we trust? just one man can give us away to Hendriks and the whole scheme will be blasted sky-high—and probably us as well."

"I agree it's going to be tricky," Tony concurred, "but we've got to take risks. It's urgent, because Hendriks might discover the transmitter at any time and we need it to convince any recruits who may have doubts."

"Who are you going to start with?" asked Don.

Tony was thoughtful for some moments.

"Do you know," he said at last, "I think we should try a bold stroke to begin with. I suggest we start with the Duty Officer."

"The D.O.?" gasped Don. "But wouldn't that be too risky? He's acting Second in Command, remember. And he's loyal to Hendriks."

"He was badly shaken by the death of Kreuzer," Tony pointed out, "and being in closer contact with the Commander than any of us, he's bound to be deeply shocked by Hendriks' behavior. If he gets orders direct from Sir George Benson, surely it would override his loyalty to this madman."

"You're probably right," Don agreed. "When are you going to

try?"

"Now. Do you think you could find him and persuade him to come back here for a few minutes?"

"I'll try," Don answered, "but I don't know if I'll succeed. The poor chap's worked to death."

He went out on his errand, while Tony sat and wondered what he'd say to the D.O. if Don managed to bring him back. It's strange, thought Tony. I can hardly remember what his real name is. Wilkes, I think it is, but everyone call him D.O. I wonder if he'll join us or go rushing off to Hendriks and give the whole show away.

For an anxious ten minutes Tony waited. Then his door slid open and Don and the Duty Officer stepped inside.

"What's all this about, Hale?" the D.O. said, obviously annoyed. "You know how busy I am. I've a whole string of orders to carry out. What do you want?"

"Mr. Wilkes," Tony began, and the D.O. looked up at this strange form of address, "how do you really feel about the situation?"

At this direct question the D.O. was obviously troubled.

"Look here, Hale," he began, "I haven't time to waste in idle discussion. I have to accept things as they are."

"But you were upset when the Commander killed Kreuzer. And you must be staggered at his efforts to rule the World. Do you think it's right?"

"My opinions are my own," the officer answered sharply. "Now I must go."

"Are you a loyal and obedient officer? Do you regard yourself as such?" Tony asked.

The D.O. was stung by the question. "What a ridiculous thing to ask!" he stormed.

"Just one more question, Mr. Wilkes. If you were to receive an order from someone senior to Commander Hendriks, would you obey it?" asked Tony. "Of course," the officer snapped.

"Even if it was contrary to the Commander's?"

"That's not likely to happen," the D.O. hedged. "As you know, we have no contact with Earth."

Tony drew a deep breath and looked keenly at the Duty Officer.

"Mr. Wilkes," he said at last, "we have!"

The officer had turned, ready to leave the cabin. He stopped in mid-stride and turned slowly to face young Hale.

"What did you say?" he asked tonelessly.

"Mr. Wilkes, we're not out of touch with Earth. We can still get orders from the Cape," Tony answered in a rush. "Look!"

He bent down. Knowing that he was risking all, he pulled the transmitter from beneath his bunk. The D.O.'s jaw sagged and he looked at the apparatus incredulously.

"A—a transmitter!" he gasped.

"Yes. It works. I've exchanged messages several times with Earth. And I've received orders from none other than Sir George Benson," Tony said rapidly.

"Orders? Sir George Benson?"

Mr. Wilkes seemed stunned. The two mechanics watched him anxiously. Would he damage the set and report them to Hendriks, or would he want to know more?

"W-what brings it here? It's strictly against regulations."

"I know, but they're Commander Hendriks' orders and not UNEXA's. We know now why the Commander wouldn't allow any private means of communication. It's so that the crew can't receive any orders except his," Tony stated. "Mr. Wilkes, whom would you obey? Sir George Benson speaking on behalf of UNEXA, or Hendriks who's obviously unbalanced?"

All color had drained from the D.O.'s face. Tony and Don felt sorry for the man being subjected to such a terrific conflict of loyalties. If he stuck to Hendriks, then all was over and they would be powerless to help the people at the Cape.

"Let's see if I can get something that will help you to decide," Tony said, and switched on the set. He prayed that they were within range of Sidney's set. Otherwise he could hardly ask the officer to suspend judgment until they were. If he failed to get a message that would stop the D.O., there was no doubt that Wilkes would report them at once. He split his earphones and gave one to Mr. Wilkes. Don had slipped outside to keep watch. Like a man in a dream the D.O. held the earphone to his head.

"Hello, Sidney. Tony calling. Can you hear me? Over," he said quietly into the mike.

There was no reply, and Tony's heart began to pound. He could see the D.O. looking at him doubtfully.

"Sidney, can you hear me? Come in if you can. Over."

Still no reply. The officer put his earphone down, his face set like stone.

"Let me try just once more, Mr. Wilkes. It's frightfully important," Tony pleaded. Without waiting for an answer he called Sidney again, and this time his friend's voice answered. Never had Tony heard a more welcome sound.

"I've got him, Mr. Wilkes," he whispered. "Listen, will you?" The D.O. took the earphone again.

"Listen, Sid, this is frightfully important. I think I've got someone to help me, but I'd like the doctor himself to speak to him. If I call again, in, say, ninety minutes, can you fix it? Over."

"O.K.," was young Stafford's brief reply, and the transmission ended.

"You see, we have to speak in code," Tony explained as he concealed the set again, "in case the Commander picks us up. The doctor is Sir George Benson."

"Who is Sidney?" the officer asked.

Tony rapidly explained the set-up, and begged the D.O. to return in ninety minutes to receive the message himself. There was a long pause as Mr. Wilkes turned the matter over in his mind.

"All right," he said at last, "but I'm not committing myself."

"That's understood," Tony answered, vastly relieved. If only Sir George could, somehow, speak with the D.O. he was sure that the battle would be won.

"Will you reserve judgment for the time being, sir?" Tony asked.

"I shall not be making any report at the moment, if that's what you mean," the D.O. answered.

"Good. See you later then."

Don came in as the Duty Officer left.

"Did he bite?" he asked Tony.

"Not yet. He's coming back. I hope Sir George will speak to him and convince him. Anyway, he's not going to report usyet," Tony said.

"But how could Sir George Benson speak to Tony?" Mr. Stafford asked. "He's in New York, isn't he? It's impossible for him to get here in less than a day."

"He'll find a way if he's anything like Mr. Godfrey says he is," Sid declared.

"But shouldn't we be doing something about this message from Tony? What will happen when he comes through next time?"

"There's no need for us to do anything," young Stafford told his father. "Sir George will have heard Tony's message by now. We'll be hearing from him long before Tony's next broadcast."

Sid was right. About ten minutes later the phone rang and he guessed that the caller was the famous scientist. He was extremely nervous at taking the call, for he'd never spoken to Sir George before. However, Benson soon put Sidney at his ease, and after praising the young man for the way he was helping, he went on to say that Post Office engineers were on

their way to make certain modifications to his father's phone. They would firing along equipment that would allow Sir George, in New York, to speak to the Observatory by means of Sidney's transmitter. Benson felt it was essential to preserve this unsuspicious means of communication as long as possible.

Sidney had hardly finished telling his father all about this exciting call when the Post Office engineers arrived. Both the Staffords admired the swift and efficient way in which the men did their job. In half an hour it was done, and the man in charge demonstrated its use, although he had been instructed to stay on for the broadcast. It was vitally important that there should be no technical hitch. Ten minutes before Tony Was due to call, Sir George came through from New York. The apparatus fitted by the Post Office allowed Sidney to hear the scientist's voice on a loudspeaker as well as to connect the line with his transmitter. Now Benson would be able to talk with Tony, and Sid would be able to join in or listen to the conversation.

As the minutes ticked by Sir George spoke several times to young Stafford, but it seemed that time was moving slowly. Would Tony come through, and would Sir George persuade whoever it was on the satellite to throw in his lot with the mechanic?

Tony and Don were waiting impatiently for the D.O.'s return.

"Think he'll come?" Don asked. "You don't think he has reported us to the Commander, do you?"

"No, because if he had, we wouldn't be here by this time. Hendriks would have been along and blasted us with his ray gun if the D.O. had betrayed us," Tony answered.

"I think he'll come."

Mr. Wilkes did come.

"Here are your duty sheets for the next few days," he said as he entered Tony's cabin, but they knew he'd done this to salve his own troubled conscience.

"Thanks," Tony answered as he produced his set again.

"Now it's time I got through. I hope Sir George Benson is at the other end. Do you know his voice, Mr. Wilkes?"

"I think I might recognize it," the D.O. answered. "Though I've never spoken to him I've heard him lecture many times."

"Here we go then," said Tony, and Don took up his usual position outside.

"Hello, Sid, can you hear me? Tony calling. Over," he said quietly into the mike.

"Hello, Tony. Yes, I'm receiving you clearly. Over," the reply came back at once.

"Good. Did you manage to contact the doctor? I have a friend here Who'd like to hear from him. Over."

"This is the doctor speaking," Benson's unmistakable voice said. "If your friend can hear me I want him to do all he can to help. It's vital that we get a first-aid party to the sick man as quickly as possible. I'd like him to help arrange to receive the first-aid party. Will he do that?"

The Duty Officer was holding his earphone tightly to his head. Tony watched his face intently to see if it would give a clue to what he was thinking. A strange expression came over it as he heard the voice of Sir George Benson. At the scientist's concluding question his mouth began to work as if he'd lost his speech. Tony could see the perspiration on his forehead as the battle of loyalties was fought out in his mind. In the next few seconds a decision would be made that would result in Tony's receiving a valuable ally or being reported to the mad Commander.

"I'll help," the D.O. croaked at last, his voice sounding very strange.

"Good," Benson's voice said. "Recruit as many more as you can. Keep in touch, and let me know as soon as you can receive the first-aid party."

The D.O. was quite silent as Tony packed the transmitter away. Then the mechanic stood and looked intently at Mr. Wilkes. "What will you do now?" he asked.

* * *

After a swift flight from London, Chris Godfrey's plane touched down at Kennedy Airport. A car was waiting to rush him to U.N. Headquarters. It amused him immensely to be escorted by a flock of police motorcycles with sirens screaming to clear the traffic.

"Hello, Uncle George," Chris said, shaking the hand of the man he had known for so many years. "Here I am."

"You've been quick," Benson smiled as he gripped the outstretched hand. "Good trip?"

"Haven't had time to think," Chris smiled back. "Now, what can I do for you?"

The smile faded from Sir George's face and it became lined with worry. It seemed that the scientist was having difficulty finding the right words. Chris watched with affectionate amusement. At last he could stand his friend's distress no longer.

"All right, Uncle George," he grinned, "I know what you want to say. You want to know if I'll volunteer for the ferry to the Observatory."

Benson looked astonished and relieved.

"Well, yes, I was going to mention it," he said, "but of course the choice is entirely with you."

"I know," Chris answered more seriously, "and I also know what's involved. Unless Tony can find some way of spiking the Commander's guns, we'll suffer the same fate as poor old Barnwell."

"Exactly," Benson agreed, "but we shall not send another ferry unless there is at least an outside chance of success.

When I broadcast to the Observatory not long ago I spoke to someone and obtained another recruit for Tony."

"Who was it?" asked Chris.

"I'm not sure, but as our young friend asked me to speak, it

must have been someone of importance on the Observatory. One of the officers, I would guess," Sir George answered.

"So that makes three of them. It's a start, anyway. When do you think we'll blast off?"

"You'll go? You needn't, you know, Chris," Benson said.

"I know, but I'll go all the same. There's just one condition I'd like to make, however," Chris answered.

"What's that?" Benson asked anxiously.

"That if they're willing to come, I take Morrey and Serge with me," Chris replied.

"The 'Old Firm' eh? Well, you couldn't have better companions. I've already sent messages to them. We'll start preparations right away. The rest depends on Tony."

Chapter Thirteen

In a way Tony felt sorry for the D.O. This was certainly a crisis for him. During the whole of his professional career he had been trained to obey his immediate superiors. Discipline was a vital part of every astronaut's conditioning. To be willing to obey orders without question was as important as physical fitness. The Duty Officer had spent many years in giving and obeying orders. Now the chain of command had been broken. He had been told, by someone superior to Hendriks, to do something contrary to the Commander's will. He had been ordered to work with the young mechanic rather than obey the orders of the Observatory's chief officer.

He had little doubt that the man on young Hale's illegal transmitter was Sir George Benson. And he knew Sir George's status with UNEXA, the body to whom all rocket engineers and space explorers owed ultimate allegiance. It was obvious where duty lay. He must break the habits of a lifetime and conspire against his immediate superior.

"Tell me," the D.O. said in a quiet voice, "does anyone else know about this transmitter?"

"No, sir; no one except Lamont, outside. When I was asked to recruit help I approached you first," Tony answered.

"I see. Well, it seems that our task is to prepare to receive someone who will remove Commander Hendriks from his post. We must be very careful," the officer said.

"Now you are in with us, couldn't we just knock the Commander out? We could stop him scorching the Earth. Perhaps we could even lock him up until his successor arrives," Tony suggested hopefully.

"I'm afraid that isn't possible," Mr. Wilkes answered. "There

are no weapons at all in the Observatory—except the Commander's ray gun. I doubt whether it would be possible to surprise him. At the slightest suspicion of hostile action or even disobedience he'd blast us."

"Even you, sir?"

"Me more than anyone," the D.O. sighed. "Commander Hendriks lives in a world of his own, without friends or feelings for others. He's a brilliant man and must have made a breakthrough in the control of cosmic radiation. What a tragedy that such a wonderful intellect should have conceived the desire to rule the world!"

"What do you suggest then, Mr. Wilkes?" asked Tony, relieved that his would not be the sole responsibility.

"First of all, it's essential that we should carry on as if nothing had happened. The Commander mustn't suspect anything. Then you must keep your transmissions as brief as possible to minimize the chance of detection," the D.O. said.

"That's what we've been doing," Tony assured him. "Do you think the Commander will detect us?"

"Undoubtedly. It's only a matter of time. He has apparatus in his lab that can do the job. If he happens to be using it while you're broadcasting, he'll pick you up."

"Whew! Then the balloon would go up," breathed Tony. "He could tell the broadcasts were coming from here?"

"Oh yes. He may be puzzled by your code for a time, but let's hope he doesn't find out too soon," Mr. Wilkes said fervently. "Now I'm going to leave you. I'll be back as soon as I can. Meanwhile, carry on with those jobs on the duty sheet and think whom we should recruit next."

Don came into the cabin as the DD. left and Tony told him all that had happened. Then, between them, the two drew up a list for a possible landing crew for the ferry.

"We'll see what Mr. Wilkes thinks of it," Tony said as they parted to prepare for another spell of duty.

Several times during their work period Tony and Don saw

the D.O., but the officer never gave the slightest sign of the tremendous secret between them. Once, during that period, Tony saw the Commander. Hendriks, complete with ray gun, was making one of his tours of the Observatory. His inflamed eyes seemed to be peering everywhere and he looked searchingly at all the scientists and technicians. Tony was repairing a pump feeding the algae tanks when Hendriks came along. He felt the Commander's eyes boring into him as he bent over his job. Did he suspect anything or was it just Tony's imagination?

Why wouldn't he go away? Tony felt himself growing hotter and hotter as the Commander watched him work. He knew that Hendriks wouldn't be able to find fault with the job he was doing. Why, then, was he so interested?

"You're Hale, aren't you?" Hendriks snapped suddenly.

"Yes, sir," Tony answered without looking up. He had no desire to look at the Commander, for he was scared that the madman would read defiance and resentment in his eyes.

"What is your Christian name?" Hendriks asked suddenly.

"Tony, sir," the astounded mechanic answered, involuntarily looking up at his questioner. With a hard look at him the Commander went away.

Now what did he want to know that for, Tony wondered? Not because he wanted to be friendly, that's certain. He puzzled over the problem for the rest of his duty spell. Don was equally mystified when Tony told him. Perhaps the D.O. might be able to suggest a reason. The two mechanics waited impatiently in Tony's cabin for Mr. Wilkes to come.

"I can only stay for a few minutes," the officer said as he slipped into the cabin. When Tony told him about the Commander's strange question he was very worried, but hadn't a clue as to the reason. However, there were other important things to discuss.

"There are two things we have to aim at," Mr. Wilkes told the others. "The first is to prevent in some way the destruction of the ferry as it approaches, and the second is to have a crew

ready to handle it on arrival. Both are going to be desperately difficult, for the Commander alone has the secret of the radiation. To accept the ferry without his knowledge is virtually impossible, because it means stopping the gravity rotation."

The two mechanics listened silently, for they knew that the D.O. had put his finger on the two great problems. Hendriks would undoubtedly be able to detect the ferry rocket as it drew near. And no one else knew anything about his recent discovery for controlling and using radiation. Only he could use the apparatus and it was installed in his lab, from which everyone else was barred. Always turning to create artificial gravity, the great satellite wheel must be stilled to receive a ferry. During this period the Observatory and everything in it would be in free fall. Crew, as well as all loose objects, would float about weightlessly. How could this be done without the Commander's knowledge? The difficulties that faced the Duty Officer and the two mechanics seemed insuperable.

"Whom shall we tackle first?" Mr. Wilkes asked, willing to put these formidable problems aside for the moment.

"Here's a list of the usual landing crew," Tony answered, producing his piece of paper.

The Duty Officer read the sheet carefully.

"Can all these be trusted?" he asked. "You probably know them better than I."

"I think so," Tony replied. "The only one I'm doubtful about is Peters. He's an unknown quantity."

"Peters? Isn't he the fellow who keeps pretty much to himself?"

"That's him, sir. He's pretty good at his job, of course, but he's not a mixer."

"Well, we'll have to risk it. We must have a full crew at the landing port," the Duty Officer declared.

"Shall we see if there's any more news from Earth, sir?" asked Tony.

The D.O., still hardly used to his role as leader of the

conspiracy against his chief, felt the need for encouragement from the Cape.

"Yes," he said. "But make it as brief as possible."

The faithful Sidney answered the call within ten minutes of Tony's first try. No, there were no further instructions from the doctor. Everything was waiting for the necessary help to be prepared. Had any progress been made?

"Not yet," Tony called back. "There are just the three of us, but we're making a start on some others right now. Over."

Mr. Wilkes was obviously concerned at the risk of discovery, so Tony curtailed his broadcast. As soon as the transmitter was tucked away, they discussed their next move.

"Let's have them in one at a time, sir," suggested Don. "With you here it should be easy."

"What about Neilson first? He was a particular friend of Kreuzer's and will be feeling pretty upset at what's happened," Tony said. "Is he on duty, sir?"

Mr. Wilkes consulted a small book which he pulled from his pocket.

"No, he came off an hour ago. You know his cabin number?"

"Yes, sir. I'll go and get him," Tony answered and went on his mission.

The three astronauts were delighted to be together again. Chris's two companions were Morrison Kant, the tall, crewcut American with the perpetual grin, and Serge Smyslov, the dark, solemn Russian. These three had been together on many adventures, had risked their lives together, and had become closer than brothers. Little wonder that Chris should want the other two with him if he was to face the malice of the madman in the satellite.

"Any idea how soon we'll be off?" asked Morrey.

"Depends on Tony and his friends. Sir George won't allow us to take off until everything possible has been done to reduce the risk," Chris answered.

"Assuming we can land on the Observatory," Serge said, "what do we do to take over?"

"Again it depends on the help we can get from the crew. If we can get no help apart from the landing, we'll have a very difficult task, but we must eliminate Hendriks," replied Chris.

"How?"

"You sound like an Indian," Chris smiled at his American friend. "We'll take quite an armory with us, pistols, gas guns, the lot."

"Any protection from his ray gun?" Serge asked.

"'Fraid not. Only our wits," Chris said seriously. "But the situation is getting urgent. Already more than ten per cent of the Earth's vegetation has been destroyed and more is being scorched every hour. That madman must be stopped. Somehow. Soon."

"How long can we give Tony?" Serge asked.

"Let's go and see Sir George for the latest news," suggested Chris.

"We can hang on for another three days," Benson replied in answer to the Russian's question. "After that the position will be very serious indeed. We may even have to come to terms with Hendriks."

"Any news from Tony?" Chris asked.

"We've just had another message. He and his two companions are starting recruitment at once. I don't quite know who the man was to whom I spoke, but if he's the Duty Officer it will help tremendously," Sir George told them.

"Any way of letting Tony know that we three will be making the next trip?" asked Morrey.

"I'll do my best," the scientist promised. "Now what about a toning up run on the old centrifuge?"

Tony's cabin was not very large, and the little group of men inside fairly filled it. Each had been persuaded to throw in his lot with the D.O. and the two mechanics. Not one of them had hesitated, though they knew the fearful danger they were in if the Commander found out.

"I think we can let the Cape know we've assembled a landing crew," the Duty Officer said, "but that still doesn't solve the difficulty of how the ferry is going to get here. Any ideas?"

Various schemes were put forward, but none that were practical. Someone even suggested drugging the Commander's food. Unfortunately Hendriks had a large stock of vitamin tablets and glucose tubes in his lab, so that he had been independent of ordinary food for a long time. Another bright idea was that someone should creep up behind Hendriks and club him, but a little thought convinced everyone that the Commander was too wily to let that happen. The ray gun was ever at his side, and they all knew he wouldn't hesitate to use it at the slightest suspicion.

"Break up now," the D.O. said. "Carry on with your jobs—and don't talk about this even among yourselves."

The men dispersed silently, each busy with his thoughts. They must take this risk, they felt, to help balk their crazy Commander. For some time they had been aware of a gradual deterioration in his conduct. The sudden final plunge into madness must have been the result of the discovery that gave him unlimited power. For Hendriks to become World Dictator was unthinkable. Under the leadership of Mr. Wilkes they would do all they could. And this was the decision of them all. Except one. Peters.

When the men had left, the Duty Officer suggested they might again try to contact Earth. Although he had thrown in his lot with Tony and Don, Mr. Wilkes felt the need for frequent contact with his superiors on Earth. It was a terrible thing he was doing—contrary to the training of a lifetime—leading a revolt against the space station's Commander. Tony consulted his watch and decided it would be half an hour before the Observatory moved into range of Sidney's set. Until then they discussed the action the landing crew would take when the time came.

As soon as contact was made Tony told his friend on Earth that they now had sufficient help to receive the first-aid party, but that they were unable to do anything about the dangers the party might meet en route. In reply Sidney gave the information that the first-aid party would consist of three "young doctors" whom Tony knew very well. He'd let him know when they were setting out.

"So Chris, Morrey and Serge will be in the next rocket!" Tony burst out as he packed the apparatus away. He explained to the D.O. that the three astronauts were his particular friends. If only they would be able to do something to stop Hendriks from blasting their rocket!

The knowledge that his three closest friends were to risk their lives in the next attempt to land on the Observatory upset Tony very much. He'd made several space journeys with them and they had saved his life more than once. How terrible if they were to lose theirs because of something he failed to do! He had little sleep during his rest period, for he was continually turning over in his mind possible ways of preventing the Commander from destroying them. Only when he thought he had a possible solution to the problem did he fall asleep.

Chapter Fourteen

"Will you please check these figures, Uncle George," asked Chris Godfrey.

The scientist bent over the sheet of paper on which the astronaut had been working.

"What's all this about?" Benson asked.

"Just a hunch I've had," answered Chris. "You remember that the Agricultural Committee reported a mysterious break of about fifteen miles in the brown streak? I've been calculating the precise time it occurred."

Sir George nodded. He was well aware that observers, plotting the course of the radiation damage, had reported a gap in the brown ribbon which was steadily wrapping more and more of the Earth in its grip. Knowing the precise times of the Observatory's orbits, it wasn't difficult to work out the exact time when the interruption took place. Benson nodded agreement at the time Chris had worked out. Without speaking, Chris turned the paper over and on the other side was written precisely the same time.

"What's this?" asked the puzzled scientist.

"The first figure was the time the radiation was shut off," Chris told his friend. "The other is the time when Commander Barnwell's rocket was destroyed."

"I see," Benson said slowly, "so it looks as if Hendriks diverted the radiation to use on the ferry."

"That's my theory," Chris answered. "If it's correct it means that he has only one stream of radiation and that he must divert it from scorching vegetation to attack anything else."

"You're probably right," Sir George agreed, "but where does

"I would guess that Hendriks has the apparatus for directing the radiation situated on the side of the Observatory permanently facing the Earth," Chris said. "If the ferry was to approach it from the far side it's possible he wouldn't attack it."

"Ingenious—but risky," observed Sir George, "and if you're thinking of sailing right up to the satellite on the far side I won't allow it."

"But why not?" protested Chris.

"Because it's only a theory. No, Chris. We have no means of putting your deductions to the test, and I'm not prepared to risk your three lives to find out."

"I see," Chris said, and something in the way he spoke caused Sir George to look at him in a strange way.

"Tony has been through," Benson resumed after an awkward pause, "and he reports that there's a landing crew ready, but that he can't do anything about the radiation. It's certainly a puzzle to know what to do."

"Can the ferry be fitted with shielding?" asked Chris.

"We haven't anything that would stand up to the cosmic radiation Hendriks can turn on," Sir George sighed.

"Then perhaps you'll listen to another scheme of mine," Chris smiled.

Ten minutes later Sir George Benson, his face very grave, spoke.

"It might work," he said, "but the risk to you would be terrific."

In a small community, subject to special stresses like the crew of the Observatory Satellite, every man is bound to be influenced by every other. The most careful selection is made, and only rarely is an error committed. Prospective crewmen are subjected to a most searching psychological examination which is designed to reveal every secret of the human mind—almost.

One secret, which this examination hadn't revealed, was in the mind of Peters, the man whom no one knew very well. Perhaps, at the time of his selection, Peters himself wasn't aware of it. Maybe it had developed since he came to the Observatory. But the fact was that he was now consumed by a burning ambition. He must become a D.O. and—later command his own satellite!

Perhaps because he knew, subconsciously, that he hadn't the ability to win promotion, he was prepared to do anything to achieve his objective. When Commander Hendriks began acting so strangely, and particularly when he had revealed his grandiose plans, Peters decided that here might be a chance to attain his ambition. He would throw in his lot with the Commander. Even at the cost of betraying his companions he resolved to win the favor of the strange man in command.

For some time he had been trying to capture the attention and approval of Hendriks, currying favor by passing on to his chief information and gossip about the rest of the crew. Gradually the Commander began to make use of him to spy on his fellows. What a gift it was to the ambitious traitor when Mr. Wilkes invited all the landing crew into Tony's quarters! Now he could tell his master that the D.O. was working against him. Wilkes would be eliminated, of course, and maybe Commander Hendriks would appoint Peters D.O. as a reward.

Peters slipped furtively out of his cabin. Swiftly he made his way round the rim and up one of the spokes. Whenever he met anyone he pretended he was engaged on some job. At last he reached the dreaded Commander's quarters and pressed a switch on the wall. A door slid open and Peters stepped inside. He heard the door close almost noiselessly behind him.

He went to a microphone on the opposite wall and spoke into it.

"I have all the information you want, sir," he said.

"Good. Come inside," a voice rasped in reply.

A further door opened. Peters passed through and stood facing the would—be Dictator of the World.

"Well?" Hendriks snarled. He no longer seemed like a man, but like some animal. The corners of his month were flecked with foam. Peters cringed before him.

"We all met in Hale's cabin," he told the Commander, "and we're to expect another ferry soon."

"Did you see the transmitter?"

"No, sir, but the D.O. told us about it. Hale gets regular messages from Earth."

"I know," the Commander snarled. "I've detected them, though I didn't know who was responsible until I discovered Hale's Christian name."

"What do you want me to do, sir?" Peters asked.

"Nothing. Do not let the others suspect. I will deal with the traitors and the ferry crew in good time," Hendriks answered through set teeth. "Go back to your duties. You will be well rewarded when I assume my rightful place."

Peters withdrew. He was glad to be away from the evil man whom he had decided to serve.

Tony was discussing with Mr. Wilkes the plan he had thought of before going to sleep.

"None of us know how he concentrated the cosmic rays," Tony had said, "but I'm sure the extra electric current he's had piped into his lab is a factor."

"I don't think there's any doubt about it," the D.O. agreed. "I can't imagine any other reason for such a heavy and continuous current. The Observatory now produces twice as much current as when it was originally constructed. Solar cells have been increased. So has the battery storage accommodation."

"Remember how insistent he was that his current shouldn't be cut off under any circumstances?" Tony asked, looking ruefully at the scars on his hands. "I thought at the time it was pretty unreasonable. It could only have been for his precious apparatus."

"What's your plan?" asked the officer.

"Quite simply—to cut the cable taking the juice into his lab," Tony declared.

"How will you do that?" Mr. Wilkes asked.

Tony had thought well about it. He knew that there was one point where the cable passed into the lab from the transformer room. It was in a narrow space behind the first transformer—narrow, because no space could be wasted in the satellite. To cut the cable he'd have to squeeze into it. Would they be able to recover his body from it? He knew with certainty that he'd be electrocuted.

Tony had taken his decision calmly and dispassionately. What did it matter that his own life would be blotted out in one blinding blue flash? He'd feel nothing. It would be over in a few milliseconds. But he'd spike the Commander's guns. He's stop him from destroying the rocket carrying his three friends. Perhaps it would be the means of helping to save the world.

"Won't it be dangerous?" asked the D.O.

"Nothing to it," Tony answered airily. He hoped the D.O. believed him.

"Perhaps we'd better keep this plan to ourselves, sir," Tony went on, for he knew that Don, if no one else, would realize what it meant. He did not relish the arguments and pleading that he knew would follow. Not that anything anyone could say would weaken him in his resolve, but Tony hated fuss and dreaded his friends' reactions if they learned he was deliberately sacrificing his own life to save the ferry.

"That's all right," agreed Mr. Wilkes. "If you're sure it will prevent the radiation we had better let them know at the Cape. The sooner this job's done the better I'll be pleased."

"So shall we all, sir. If you'd like to hang on, I'll see if I can get through to Sid. It won't matter even if I can't because I'll be picked up wherever we are. Then perhaps, through Sidney, we'll be told exactly when to expect the ferry."

He pulled out the set and was soon speaking.

"Hello, Sidney. Tony calling. Tell the doctor I think it will be

safe for the first-aid party. Let me know when it will arrive. Over."

Though he repeated the message several times, no Sidney answered. Tony wasn't worried, for he knew that all round the globe a chain of radio stations was keeping continual watch. But he wouldn't have been so calm could he have seen inside the Commander's laboratory. Hendriks was just taking off his earphones.

"He thinks he can save them, does he?" he muttered to himself. "Whatever the young fool does cannot help the ferry crew or the traitors who try to block my path. Their fate is sealed as surely as night follows day."

Sir George Benson was studying a report of Tony's last message. On the face of it Tony seemed to have found a way to stop the radiation from being directed at the approaching ferry. How the mechanic would manage it the scientist had no idea, but he knew that Tony would never risk the lives of his three closest friends unless he was very sure that the danger to them could be eliminated. So it seemed that this vital ferry journey might, after all, become a routine operation, and that Chris's daring, but risky plan wouldn't be necessary.

"Do you agree, Chris?" Benson asked after they'd discussed the implications of Tony's message. "You should be able to make a normal landing."

"Good old Tony. I don't know what he'll do, but it looks like being a piece of cake after all. All the same, Uncle George, I'd like to take some special equipment—just in case."

"All right," smiled Benson. "You'll be traveling light in any case, so a few extra items won't alter the payload very much. Now I'm going to work out the launching program. We'd better tackle Hendriks as soon as possible. The brown streaks are growing ominously."

Chris went off to find Morrey and Serge and to tell his two companions that their launching was imminent. He also told them what he'd planned to do if Tony hadn't been able to stop the radiation from the Observatory.

"Whew!" whistled Morrey. "That would take some nerve. Do you think you could have done it?"

"I think so, though I'll never know now, will I?" smiled Chris.

Shortly afterward Benson sent for the three astronauts to tell them that they would blast off from the Cape in just over twenty-four hours. He had worked out a flight program that should take the ferry to its destination in two hours, so a message had been sent to young Stafford for transmission to Tony. The ferry would reach the Observatory at 1300 hours G.M.T. the next day.

"Excellent," muttered Hendriks as he eavesdropped on the message. "It will certainly have a warm reception."

"We'll let all the others know," Mr. Wilkes said as Tony passed the information on to him. "What time will you need to cut the cable?"

Tony thought for a moment. It was strange that, though the D.O. didn't know it, he was being asked the time he proposed to sacrifice his life. Suppressing the little quiver he felt at the thought he replied that the cut should be made not more than two hours before the landing. Anything earlier would give the Commander time to trace the fault and have the cable repaired in time to blast the ferry.

"So you'll slip away and cut the cable at eleven hundred hours?" the D.O. asked.

Tony nodded. He didn't trust himself to reply.

Chris, Morrey and Serge were having a last briefing from Sir George Benson.

"Here is the order appointing you Commander of the Observatory," he told Chris, "and here is the warrant for Hendriks' arrest. I needn't tell you about the dangers you run. Even though Tony has managed to remove the worst obstacle, you'll still find Hendriks a formidable man to tackle. He'll fight to resist arrest with all the cunning and brutality of a madman. Even when you are safely inside the Observatory, the most difficult part of your assignment is still to come."

"Don't worry, sir," Morrey said confidently, "we'll get Hendriks back to Earth even if we have to bring him back in pieces."

"I hope it won't come to that," Benson answered gravely, "but your objective and your own safety come first."

"What about communications, sir?" asked Serge.

"Until we get the all-clear from Tony we shall continue to communicate with the Observatory through young Stafford. When he's assured us that the radiation is cut-off we shall let you know so that you can make the approach. From that moment you can speak to Tony directly on your own set. You'll need to be in close touch for the final maneuver."

"Anything else to tell us, Uncle George?" asked Chris.

"No, I think we've gone over everything. Oh—this latest report from the Agricultural Committee is ominous. If that lunatic is allowed to go on much longer we shall all be starving in six months' time," Benson told them.

"Won't you tell me what you're going to do?" asked Don. "You know I could help."

"Not in this, Don. Oh, it's not that I wouldn't like to tell you, but it's better that as few people as possible should know the details. Only the D.O. and I know the plan," Tony answered.

He could see that his friend was very upset at this apparent lack of confidence, but Tony had no doubt what Don's reactions would be if he knew that he'd decided to cut the cable.

"Very well, if that's how you want it," Don said, turning away, and Tony could see that he was hurt.

"Don," he called, "don't take it like that. I'll ask the D.O. to let you into our secret before anyone else, and then you'll see why I couldn't tell you about it beforehand."

Slightly mollified, Don turned.

"I'll have to get on the job about two and a half hours before the ferry arrives," Tony went on, happy that his friend was back. "Will you operate the set while I'm away? That will be a vital job."

"How long will you want me to stay on the radio?" Don asked.

It seemed ages before Tony replied.

"Oh-er-not too long. I'll be back just as soon as I can."

"I understand the ferry will arrive at thirteen hundred hours," Hendriks was saying to Peters. "Yes, sir," the man blurted out eagerly.

The Commander thought for a few moments. Should he destroy this miserable creature along with the rest of the landing crew and the newcomers? Well, maybe he'd be useful to him again on some future occasion. He wouldn't eliminate Peters—yet.

"At twelve-fifty-five hours, you will leave the landing deck if you value your life. Make any excuse, but come away. Shortly after the passengers have come through the air lock I shall destroy them as I will crush anyone who stands in my path. Until twelve—fifty-five hours, you will perform your duties as a member of the landing crew. If you fail to do this, or if you allow the traitors to suspect, I need not tell you what your fate will be," the Commander concluded.

"I will do exactly as you say, sir," Peters promised, licking his dry lips. "So you won't be blasting the ferry before it gets here?"

"No," chuckled Hendriks, his face contorted into an evil grimace. "That would be too simple. I shall turn off the radiation and let them enter the satellite just as flies get into a spider's web. After all, the satellite is shaped like a spider's web, isn't it?"

Ghapter Fifteen

"All set?"

The voice of the controller sounded in the cabin of the ferry. Chris, Morrey and Serge lay on their contour couches ready for the lift-off. In turn each replied that he was secured and the controller acknowledged.

"Right. Off you go," the unknown voice said, and a second later the astronauts felt their ship quiver. As they lay pressed down on to their couches by the tremendous thrust of the rocket engine, Chris thought how different this take-off was from the early ones. Then there had been the drama and tension of a long count—down with disaster lurking every second. Now the whole operation was a much more casual affair. Only when special expeditions were mounted into the depths of space was there any fuss. A routine flight like a ferry journey aroused no more interest than a transatlantic flight of a generation before.

Perhaps this wasn't quite true of the ferry journey that was now about to start. Sir George Benson himself had supervised the final details and provided a special flightpath. Though the staff at the Cape appeared on the surface to be as casual as ever, they all knew how much depended on this particular flight. Would the courageous young men now setting out save the world from a crazy dictator, or would they be blasted into vapor like their unfortunate predecessors?

The three astronauts waited patiently for the most uncomfortable part of their journey to be over. After a very few minutes the motor died away and the ferry continued its flight in free fall. Floating about in their cabin was no new experience for Chris and his companions. They performed their routine jobs with practiced efficiency, reporting to control the readings of various instruments. Within a few minutes the voice from the Cape informed them that their take-off had been perfect and that they were on the correct flight path.

"Look out, Hendriks. Here we come," sang the irrepressible Morrey as the ferry crew relaxed. There would now be little to do until they reached the satellite's orbit, for the direction of the ferry was controlled from the ground.

"Wonder what time Tony will sabotage the radiation?" mused Serge. "It will be good to speak directly to him again."

One by one the landing crew slipped into Tony's cabin, where the D.O. was waiting to give final instructions.

"The ferry will be taking off from Earth in half an hour or so," he said, "so you may all return to your present jobs for the time being. Between twelve-forty-five hours and twelve hundred fifty hours you will all report to the landing bay and then you will start the procedure for a landing shortly after thirteen hundred hours."

"What about the rotation, sir?" one of the men asked. "At what time shall we be in free fall?"

"I shall stop the rotation as late as possible before the landing," Mr. Wilkes replied. "We must keep this from the Commander until the last possible moment."

"What will happen when the Observatory goes into free fall? What do you think he'll do?" someone else asked.

"I'm hoping the people from the Cape will be safely inside before he realizes what's happening. Then it's up to them," the D.O. answered.

"No warning to the rest of the crew?"

"None. It wouldn't be safe. We'll be unable to take the usual measures for securing all loose articles. Let's hope there won't be too much damage or injury."

The men dispersed quietly. Each dreaded to think what would happen if the crazy Commander discovered the plan.

He would probably rampage through the Observatory blasting everyone with his ray gun. The men who were arriving from the Cape would have a tough nut to crack, and the next hour or two would see the outcome.

Tony sat alone in his cabin. Soon he would have to go on the errand from which he would never return—not even to see his three friends from Earth once more. Through his mind flashed the various pages in his life's story, a story that was by no means a long one. True, the last few chapters had been exciting ones, for in them he had shared terrifying dangers and glorious triumphs with his three friends. Chris, Morrey and Serge had come to mean more to him that he had realized. If his life was to finish he could choose no better way than to eliminate the deadly danger to his friends.

He looked at his watch and then he looked around the cabin that had been his home. Beneath the bunk lay the transmitter on which he had spoken so often to Sid. It was a great temptation to take out the apparatus and say a last good-bye to his friend. With a sinking feeling Tony stood up, paused, and then stepped out into the rim of the great wheel.

Commander Hendriks paced about his laboratory. Peters had just come to reveal the final plans of the D.O. and the landing crew. With the cunning of a diseased mind Hendriks resisted the temptation to rush out and shoot up the whole bunch. No, he'd stick to his original scheme and act as if he knew nothing until the usurpers from Earth had actually entered his kingdom. Then, and only then, would they all feel the immeasurable might of his wrath and pay the price for trying to divert his destiny.

Hendriks paused in front of the apparatus that was "his source of power. It was like a huge funnel with its open end projecting through the Observatory wall out into space. The stem was cunningly fashioned and surrounded with a series of thick rings. These were the key to the Commander's discovery, for they were the most powerful magnets ever made and they were able to divert the cosmic particles into a concentrated beam in whatever direction was required. Current from the

solar cells, suitably stepped up by the transformers, energized the magnets and allowed the apparatus to work. f the current were interrupted or switched off the radiation beam would die away. To surprise and disconcert everyone Hendriks decided he'd switch off and allow the ferry to have an unmolested approach.

He would be able to follow the flight of the ferry on his radar screen for part of its journey. When he could see it was near he'd go and await it, to give the intruders a welcome they would not expect. Undoubtedly the people at the Cape, learning that the radiation had suddenly been cut off, would conclude that Hale, Wilkes, or one of their Confederates had sabotaged the cosmic ray concentration. So they would expect an uneventful completion of their journey. How wrong they would be!

One of the advantages of being a mechanic was that Tony could be almost anywhere in the satellite and none of the staff would think it strange. They were used to these young men clambering all over the place to repair this or that piece of faulty equipment. In spite of the tense atmosphere that prevailed because of the Commander, Tony received a few quiet greetings as he made his way to the transformer room. He acknowledged them all silently, for he could not bring himself to speak on what he knew to be his last journey.

Well, Chris and the others would either be in the ferry cabin waiting for the blast—off, or they would already be on their way. Pity he hadn't thought to scribble a brief note of farewell and leave it in his cabin. He would have liked to thank them for all they had meant to him in the last few years, for the number of times they had saved his life, and for the mature outlook they had given him. Perhaps, when his body was recovered after the evil power of Hendriks had been broken, his friends might know that this last act of his was the best way he knew of saying thanks.

Tony was climbing up the spoke nearest his cabin. He passed one of the members of the landing crew, but the man gave no sign of the secret bond between them. He hoped all would do their parts when the time came. As he drew nearer the hub Tony paused several times and made a pretense of attending to some job. While he went through the semblance of work he was carefully looking around to see if the Commander was in sight, but he was nowhere to be seen. Probably in his lab, thought Tony, waiting to see whether the people on Earth would surrender or send up another rocket to attack him. He'll have a shock when he tries to turn his precious radiation against Chris—and nothing happens.

Now Tony was outside the transformer room. The glance around was more than a precautionary one. It was a last look around the small artificial world in which he had lived and worked. It was a look to seek a last friendly glance from someone he knew. But there was no one in sight. Tony slid open the door and stepped inside. Carefully he closed the door after him.

He looked at his watch. No need to cut the cable just yet. He had another five minutes before the time he himself had set. Five precious minutes. He closed his eyes and remembered how he had hated school and had done as little work as possible. Later he was to regret this and was to devote much time and energy to repairing the neglect of his younger days. Then he recalled his first meeting with Chris. Tony had been critically ill and they had sent him on a spaceflight in an effort to cure him of the strange illness. The cure had worked, but Tony had done more than recover his health. He had made a lifelong friend of the young astronaut in charge of the rocket whom he had come to admire so much.

As he was thinking, Tony squeezed his way past the transformers. At times it was a real effort to pull himself between them and the walls of the room, but eventually he reached the place he was after. At his feet a thick cable led from the bank of transformers through the wall into what he knew was the Commander's lab. This was the cable he'd decided to cut. Here he would strike his last blow at the crazy man who wanted to rule the world.

He looked at his watch again. Still two minutes to go. Two minutes still left to live. This time he watched with fascination as the second hand swept all too quickly around. One minute—a half—fifteen seconds.... Tony found himself half-weeping and praying that his courage wouldn't fail him at the last moment. He pulled from a pocket on his overalls a thin steel saw he'd used many times before in the course of his job. It was tough and would cut all but the hardest metals. It would be ideal for sawing the thick cable.

Time up. This was the moment Tony had set. He would count up to three and then he'd do the job. What would it feel like to be electrocuted Would he feel anything at all? Or would there be just a blinding flash as his saw bit through the insulation and he'd know nothing more? And after that—?

He drew a deep breath as he held the saw poised above the cable. One lunge at it and the sharp teeth would cut through. Better start counting. No use putting it off any longer.

"One." His heart was thumping madly. He didn't want to die but there was no other way out.

"Two!" He tried to recall the many people in history who had deliberately sacrificed their lives for some heroic cause. There must be hundreds, thousands. . . .

"Three."

Yes, "three"—and yet he did nothing.

He was still holding the saw above the cable—and he hadn't cut it!

"Three! Three!" Tony kept repeating, but still he seemed frozen into a statue.

"I'm a coward," he sobbed. "I don't want to die."

Shame flooded over him. Was he going to let his friends down? Hadn't he been responsible for sending them the all-clear message? By failing to cut the cable he would be killing Chris, Morrey and Serge just as surely as if he'd shot them with a gun. He couldn't, he just couldn't do that. With a moan of anguish he plunged the saw through the cable's insulation.

* * *

Sir George Benson put down the phone.

"The radiation's stopped," he said, turning to a little knot of anxious men in the Cape control. "Young Hale has managed it!"

"Has the scorching stopped?" one of the scientists asked.

"Yes, there was a report that the brown ribbon terminated abruptly ten minutes ago and hasn't reappeared," Benson answered.

"Could that mean that our ferry has been blasted?"

"Of course not. You can see for yourself from our instruments that it is still on course. No, I think Tony Hale has managed to stop Hendriks' radiation," Sir George declared." In any case, when Barnwell's ferry was blasted the radiation was only diverted for a matter of seconds, certainly nothing like ten minutes."

"I wonder how he managed it?" one of the other men mused.

"No idea," Benson replied briskly. "It wasn't possible to inform us using his code. When this young man gets back to Earth I'm sure we shall all be deeply indebted to him."

There was a murmur of assent, for they all knew that if the Commander's weapon hadn't been destroyed, at least temporarily, there could have been no ferry landing on the Observatory. Good boy, this young Hale. Thanks to him the first obstacle had been overcome. Must congratulate him when it was all over.

Morrey was at the radio as Sir George Benson's encouraging message came through.

"Tony's done it," he called to his companions. "Sir George says the radiation has stopped, but we are to proceed with caution."

"We'll do that in any case," Chris smiled back, "but—good for Tony!"

"How long before we are in the Observatory's orbit?" asked Serge.

"Ten minutes, then we have to overtake it, for it's about six

thousand miles ahead," answered Chris. "Keep your eye on things, will you, Serge? I want to check our equipment."

The Russian moved over to the instrument panel while Chris climbed down into the storage compartment below. Yes, everything seemed in order, even the equipment he'd planned to use if Tony hadn't pulled his job off. He would have liked to use it, but things were better this way.

Ghapter Sixteen

For a split second Tony felt the steel saw bite through the insulation into the copper cable inside. Then he collapsed into the narrow space, overcome with emotion—but alive.

Nothing had happened! He had felt nothing! There had been no blue flash, no scorched flesh, no instant obliteration. As his numbed mind slowly began to work again he saw that the cable was severed. At least he had done what he set out to do. But why hadn't he been electrocutedP How could he be lying here, alive?

With a struggle Tony raised himself. He was still clutching the saw, and the two ends of the cable curled away below him. Like a physical blow a thought struck him. He was alive because there had been no current in the cable. He had not cut off the radiation because the cable was dead.

In mental anguish Tony racked his brain for an explanation. It couldn't be that he had made a mistake. This was the main cable from the transformers to the lab. There was no other source from which the Commander could draw power. It was, surely, current from this cable that allowed Hendriks to beam his fearful radiation. Then he could think of only one answer. Hendriks had deliberately stopped the radiation and had cut off the current from the transformer!

But why? Possible explanations were even more alarming. It was certain that the Commander had not decided to call off his ruthless bid for power. He had not switched off the radiation from the kindness of his heart. Could it have anything to do with the approaching ferry? Did he know it was on its way and did he want to lure it into a false sense of security? If so it would only mean that he had other plans than blasting it like its predecessor. What devilish plot had the madman conceived for

the reception of his three friends?

One idea burned itself into Tony's brain. He must let them know on Earth that if the radiation had ceased it wasn't because of any action of his. He must not let Chris and the others think he had stopped all danger to them. The wily Commander had cut off the current deliberately. Why? He must make his way back to his transmitter and get a message to Sir George. Then the scientist and Chris would have to work out the next move.

Still shaking badly, Tony eased himself out of the narrow space and towards the door. He could imagine Hendriks lurking in his lab, just this wall between them. Scarcely daring to breathe—he didn't know why—he crept to the door and slowly opened it. Had the Commander been waiting for him outside he wouldn't have been surprised. Instead the corridor was empty and ominously silent. He must get back to his own cabin as quickly as possible.

Afterward Tony couldn't remember whether he'd met anyone else on this nightmare journey. Not until he slipped, panting, through the doorway into his own cabin did he seem aware of his surroundings.

"Don!" he gasped, for his friend was bending over the transmitter.

Don looked up in astonishment.

"What's the matter?" he asked fearfully. "Is Hendriks on to you?"

"I don't know," Tony blurted out. Don, I'm scared."

"What's the matter, Tony?"

"I went to stop the radiation by cutting the cable from the transformers. But the power was already off. He must have done it. He's up to something different this time. We must warn Chris."

"Here. Take over. I was just warming it up," Don said, looking at the transmitter, Tony seized the earphones and the mike and began speaking urgently into the apparatus.

"Get this message to Sir George Benson immediately," he

said, dropping all effort to talk in code. He was at a loss to know how to translate his warning into the language they had been using.

"Tell him that if the radiation has stopped it's not because of action taken here. Hendriks has turned it off deliberately. Warn the ferry crew."

As he took off the earphones he felt weak with reaction. A voice had acknowledged his message, so there was nothing further he could do. He flopped onto his bunk and Don looked at him with concern.

"You knew the risk in cutting the transformer cable, didn't you?" Don asked.

Tony waved his hand wearily.

"Yes, but no one else did, not even Mr. Wilkes. That's why I didn't want to tell you, Don. I knew you would know."

Don looked at his friend long and steadily. He'd never met anyone with such courage. Thank goodness Tony had survived, for if he had died Don would always have felt that he ought to have had the same idea and have made the sacrifice himself.

"Hadn't we better tell Mr. Wilkes?" he asked.

"What time is it?" The landing crew will be assembling in half an hour," Tony cried. "What will happen now? Keep the radio on, Don. I'll try and find the D.O."

Commander Hendriks had heard Tony's warning to SirGeorge. At first his face darkened with rage at the thought that this miserable mechanic had tried to sabotage his plans. A quick flick of a switch confirmed to the Commander that the supply cable had indeed been cut. However, that mattered little. It could easily be repaired after he had wiped out both traitors and intruders. The most important thing was that the ferry was still on course. It was now visible on the Commander's screen, and his anger slowly subsided as he followed the ferry's progress. The fly was still heading for the spider's web.

"Chris, Sir George wants to speak to you," Morrey called to his leader, and Chris went over to the radio. "Benson here," the scientist's voice said, and all three astronauts sensed something in its tone. "Tony has just been through to say that Hendriks had cut the radiation, not he. He feels that Hendriks may have some other plan, so he wants you to be warned."

There was silence in the cabin as the three astronauts digested this unexpected piece of news. Why had Hendriks cut the radiation? What other scheme could he have? How would this affect their own plans?

"Any suggestions?" Chris asked.

"We're thinking of recalling you," Benson's voice replied.

"Don't do that," Chris answered quickly. "That would solve nothing. Let me carry out the plan I was working on before Tony said he could eliminate the radiation."

There was a startled exclamation from Sir George as well as from Morrey and Serge. Since Chris's hazardous proposal had no longer seemed necessary, it had been dismissed from their thoughts. He was now bringing it forward again as an alternative to calling off the whole undertaking.

"The decision is yours, Chris," the voice of Sir George said. "I won't attempt to persuade you either way."

"It's up to you, Chris," Morrey agreed. "It was your idea, but Serge or I would have a go if you'd let us."

"Not a chance," Chris smiled. "As you say, it's my baby, so I'm going to do it. Have you heard, Uncle George?"

"Yes, I heard. Very well, if you've decided, I wish you good luck," the voice of the scientist answered. "When do you propose to put your plan into operation?"

"As soon as I can get ready," Chris replied. "Oh—I suggest you do not contact me until I call you. Mustn't give the game away."

"Very well. By the way, you way as well switch over toTony's wavelength so that you can get inside information from him," Benson concluded.

While Serge did some rapid calculations, Chris and Morrey hurried into the storage compartment to bring out the special equipment.

"You'll make it if you can start in eleven minutes," the Russian announced as his companions returned to the cabin. "I'll give you a hand."

The small cabin became the scene of swift, silent activity as Chris was helped into his space suit. Then he was loaded with masses of equipment that would have weighed him down if he'd been under the gravity of Earth. There was little time for the three young men to talk together, but when Chris was fully equipped both Serge and Morrey seemed as if they wanted to speak.

"You know we'd like to come with you," Morrey said awkwardly, just before Chris fastened on his helmet.

Chris nodded. He hated leaving his two friends, but this was a job for one man only. Besides, the other two would be needed to pilot the ferry back to Earth.

"We've always been together," Serge said simply.

Chris just looked at his two friends and forced a smile.

"We'll be together again soon," he managed to say.

To conceal their feelings, for to show them would have been unthinkable, Morrey and Serge busied themselves with the fastenings of their friend's helmet. At last all was ready—and the time was up. Chris was about to attempt something no man had ever tried before. With a final" wave of farewell he stepped into the airlock and closed it behind him. A few seconds later he was floating in space outside the ferry with an ever-widening distance between them.

"Let's hope Hendriks doesn't guess the ruse," Morrey breathed as they switched on the ferry's motors and began the return to the Cape. Out in space the lonely figure of Chris sped on toward the spider's Web.

Commander Hendriks stared hard at the radar screen.

"So!" he hissed. "The ferry rocket is returning to Earth. Their

courage had failed them. Soon they will capitulate and I shall be the ruler of the World."

Tony and the D.O. came hurrying back to the mechanic's cabin. Don was still crouched over the radio, but his face looked white and strained.

"Tony," he gasped as his friend returned with the officer, "the ferry is going back. It's not coming here after all."

"What's that?" Tony and the D.O. shouted together.

"Sir George Benson's just been through to say that the ferry is returning to Earth," Don told them. "He says we're to stand by to receive only."

The Duty Officer seemed to shrink like a burst balloon. So no help was coming from outside! It was a terrible disappointment. Even Tony felt utterly depressed. As long as he could look forward to Chris and the others coming he could maintain a hopeful, even cheerful outlook. Now they were back where they started from, except that Hendriks would know there was something afoot. When he discovered the cut in the cable it would be all over. What would happen to those members of the landing crew already preparing to make their various ways to the deck? Could anyone be expected to stand up against the Commander after this?

"Did he give you any reason why he wanted us to standby?" Tony asked, trying to keep the despair from his voice.

"No," Don told him, "but it seemed important, for he repeated it twice."

"I wonder if they're going to try something else," the D.O. murmured, trying desperately to keep alive a little spark of hope.

"They may be," Tony answered, eagerly grasping at the suggestion. "Perhaps we'd better not tell the others just yet. Maybe when we do we'll be able to say what the new plan is."

Chris saw the ferry drawing away. Though all around him was the deep purple of space, the rocket shone like a huge star, gradually growing smaller as it sank back to Earth. He was alone in this vast emptiness with only the stars for company. Though he was rushing along at nearly five miles a second, he seemed to be hanging motionless in the void. Somewhere ahead of him was the Observatory—that is, if the calculation of his orbit was correct. If it wasn't, then he would soon become part of the debris of space whirling perpetually round the distant Earth.

He let his hands wander over the equipment strapped to him. Apart from the oxygen cylinder he carried on his back, he wouldn't be using any of it just yet. But it was very reassuring to feel it was all there. Once he'd spotted the Observatory he'd be pretty busy. Now he could relax in a comfort that no earthly condition could reproduce.

The stars shone brilliantly all around. Beneath lay the huge globe of Earth with its continents and oceans clearly mapped. It seemed to be turning slowly beneath him while he remained still. Somewhere at the back of him was the sun, far too brilliant to face in this clear vacuum. Majestic. Terrifying. Those were the words that came into Chris's mind as he looked in awe at the Universe around him.

Was that star a little larger than it had been a few seconds ago? Chris stared fixedly at the bright unwinking source of light ahead. Watching it for a moment provided the answer to his question. This was no ordinary star. It was moving across the star field, and it was getting larger. Without doubt this was the Observatory that he was chasing across the heavens.

Since leaving the ferry Chris hadn't heard a human voice. His radio had been switched to Tony's wavelength so that he could speak to his friend in the satellite. As yet he hadn't called up Tony, for he didn't want to reveal his presence until the last possible moment. In spite of the change in plans he hoped the landing crew would be in position to admit him. Otherwise he'd be shut out in space with a limited supply of oxygen.

By now the Observatory was looming larger. He could see its shape and could make out the glistening rim and spokes. As he watched he could see movement as the giant wheel revolved steadily. Tentatively he fingered the control of the compressed air jet that would steer him toward the hub. The landing crew should be standing by even now to operate the airlock. Better call up Tony to check.

Tony was sitting in his cabin with the earphones on his head. As time passed and he heard nothing his slight feeling of hope began to evaporate. Don and the D.O. had their eyes fixed anxiously on him for the first sign that he could hear something. The minutes ticked by and all was silence. Suddenly the two watchers saw Tony react as if he'd had an electric shock. A look of utter amazement came on his face and his mouth worked but no sound came.

"What is it, Hale?" the D.O. asked, fearing the worst.

"Chris!" Tony managed to gasp. "It's Chris! He's—outside."

"What?" the D.O. and Don shouted.

"I've just heard Chris Godfrey's voice. He left the ferry before it turned off and he continued in orbit," Tony managed to explain. "He'll be outside the landing bay in a few minutes!"

"Gosh," Don exclaimed, "he's followed us in free fall."

"Hello, Chris," Tony was saying into the mike. "Yes, I heard you. Am I glad to hear your voice! I was just telling the D.O. and Don. Yes, we'll go there at once. I'll take the radio with me and call you as soon as we're in position."

Tony whipped off the earphones. His eyes were glistening with an excitement which quickly communicated itself to Don and the Duty Officer.

"If we can only get him inside before the Commander knows," breathed Mr. Wilkes. "Come on. Let's get going!"

While Tony and Don picked up the radio the D.O. slid open the cabin door.

In the corridor outside stood Commander Hendriks, his ray gun pointing squarely at them.

Chapter Seventeen

"S-o-o-o," hissed Hendriks, "I have caught you nicely, my loyal Duty Officer and your two miserable fellow conspirators. And this is the transmitter to which I have listened with so much interest for the last few days, is it?"

Tony, Mr. Wilkes and Don stood rooted to the spot. The unexpected apparition of the Commander seemed to have robbed them of all power of movement, while Hendriks himself gloated over his victims.

"You have tried to betray me," the Commander went on, his eyes glaring at the trio, "but you have failed. And now your friends in the ferry have deserted you and returned to Earth. Have you any reason why I should not destroy you for this treachery?"

The ray gun was still pointed unwaveringly at them, but Tony's attention was no longer monopolized by this menacing weapon. At the back of his mind there came a thought that perhaps the Commander hadn't heard Chris's message. Maybe he'd been on his way from his lab to challenge them when Chris's astounding broadcast came through. If this were so, Hendriks didn't know that the astronaut was, even then, speeding through the vacuum of space toward the Observatory. With all his might Tony tried to keep from his face any sign of the faint hope that this thought had raised. He wondered whether Mr. Wilkes or Don had thought of the same thing. He hoped fervently that if they had, neither would accidentally reveal it. Perhaps he had better put his theory to the test.

"You—you don't mean to say, sir, that the ferry has been recalled and isn't coming?" Tony blurted out in what he hoped was well-simulated dismay. Through the corner of his eyes he could see the puzzled glances of his two companions.

"That is just what I do mean," the Commander replied, savoring the situation. "You have been deserted, left to face your punishment alone. My instruments show that this ferry and its brave crew have altered their course and are returning to Earth. Their discretion was commendable."

Before Don or Mr. Wilkes could betray themselves Tony gave a convincing show of despair.

"I never thought they would let us down like that," he groaned. "They promised we should be all right if we worked for them."

"You see what fools you have been," Hendriks snarled, and he spat out a torrent of abuse at the trio. Any minute, Tony thought, he will obliterate us with his gun.

Suddenly the Commander seemed to regain his self-control.

"You will proceed to the landing deck and join the other conspirators," he ordered, motioning them to precede him.

There was nothing else they could do. All three knew that their lives hung on a thread. At the whim of this madman they could be scorched into oblivion. Life was precious and every second gained was worth a fortune. Silently; with Mr. Wilkes leading and the Commander in the rear, the party moved out and along the rim toward a spoke leading to the landing deck. Each believed that he was going to his execution.

Tony and Don were still carrying the transmitter and battery. Though it was not heavy it would be awkward to climb up the spoke with it. Don was carrying the battery container, and Tony the rest of the apparatus. The connecting wire wasn't long, and the two mechanics were fairly close together.

"Do we take this?" Don asked in a cracked voice.

"Certainly," Hendriks snapped back. "You will do exactly as you would have done before."

Tony looked at his precious transmitter sadly. How near it had come to doing a great job. It had been the only means of communication with his friend Sidney, with Sir George Benson, and, until a few minutes ago, with Chris. Chris—who would be

waiting for a message to say that he could enter the satellite! just the flick of a switch would have told his friend the terrible news.

The flick of a switch? Tony almost stumbled at the shock of an idea. If he could only switch on the transmitter without Hendriks seeing, Chris might be warned about what was happening. Not that Tony had any idea what the astronaut could do about it, but at least it would let Chris know what had happened inside the Observatory. He must contrive not only to switch on the radio, but also to get a message to his friend. He prayed that Chris wouldn't reply, or the Commander know that Chris was outside.

Tony pretended to stumble. Under cover of his action he flicked on the switch. The party halted while the mechanic recovered.

"Commander," Tony said as clearly as he could, "I feel faint. Could we wait a moment?"

"Get along at once," Hendriks barked. "I want to deal with those traitors in the landing bay."

This was just what Tony wanted. Thank goodness Chris hadn't spoken. If he'd heard what had just been said he'd know that something was seriously wrong. Perhaps Tony could get some more information to him. Showing increasing signs of fear, Tony turned around to Hendriks, who was behind.

"Can't we talk things over, sir, before going to the landing bay? Things are different now the ferry has turned back," he pleaded.

He saw Mr. Wilkes and Don look at him in surprise. How could they know that he was trying desperately to pass a warning to Chris? They would think his nerve had broken and he was begging for mercy. Tony could imagine the contempt they would have for him.

"Ah! So now that your friends have deserted you, you wish to surrender, do you?" Hendriks snarled. "It is too late for that. Neither you nor any of those miserable traitors we shall soon be joining can ever be trusted again. For all of you there is only one fate."

Chris was horrified when he gathered the purport of Tony's message. At first he had been amazed to hear the mechanic's voice, but when it was followed by that of Commander Hendriks ordering him to the landing bay the full significance of the situation struck Chris like a heavy blow. He was grateful to Tony for warning him in the only way possible, and he listened carefully to pick up every sound he could.

That Commander Hendriks had discovered the plot against him was only too plain. It seemed that he had surprised Tony, and possibly others, and was forcing them along to the landing bay. The reference to the ferry turning back and the conspirators being "deserted" made it plain that Hendriks was unaware of his presence. The Commander had no idea that Chris had left the ferry to continue the mission alone and was even then propelling himself right up to the Observatory.

"What can I do?" Chris asked himself anxiously. He had no illusions about the fate of Tony and the others when it suited Hendriks to kill them. Perhaps there were only a few minutes more left for them. If only he could get inside and tackle the madman before it was too late!

That he couldn't get in through the landing bay was obvious. He must find some other means of entering the Observatory, even if it meant blasting a hole in the side with his rocket gun. Time was precious, for Hendriks was shepherding his victims for the final act. Chris fingered the gun at his waist. It was a well-tried and effective weapon, and carried an explosive charge sufficient to tear a gap in the Observatory's walls. Unless he could see some other means of effecting an entry, he would have to use it.

He would do this with reluctance, for if any of the crew happened to be in a compartment where the wall was breached, they would die in seconds. This would not be because of the explosion but because all oxygen would be instantly sucked up by the vacuum outside. Fortunately, each compartment in the Observatory, as in all space vehicles, was airtight. This was to minimize the danger if the outer casing was pierced by a

meteorite. Then only the oxygen in the damaged section would be lost, and the reduction in air pressure would set off an alarm. There was a well-tried emergency drill that swung into operation at the sounding of the alarm, and all personnel were required to assist.

Chris was now immediately below the giant wheel. With carefully controlled bursts from his jets of compressed air he floated over the various parts of the Observatory. It was an intensely grave problem to choose where to make the breach. If only he could be sure that no poor unfortunate was on the inside of the wall! A decision could be no longer delayed. He would have to risk finding an empty compartment, but before he fired his gun he would take just one more look round the satellite.

Now Chris floated past the landing bay. A few feet away from him inside it a little knot of brave men were at the mercy of the crazy Commander. It was an agonizing thought. Up between two of the spokes the astronaut propelled himself. Now he was on the "top" side of the Observatory, or rather the side that was turned away from Earth. A curious shape projected from the center and he swam over to inspect it.

The structure that had aroused Chris's curiosity was evidently a recent addition to the Observatory. Its fabric was still scarcely scarred by the minute particles of interplanetary dust that were always scouring away at the walls of the satellite. It seemed like a funnel which led down into the hub where he knew Hendriks had his laboratory. Perhaps this was the infernal machine that was the source of the Commander's power. If he fired his rocket down the funnel maybe he would not only destroy this dangerous apparatus, but gain an entrance as well. A quick reconnaissance around the rest of the satellite showed Chris that this was as a good a spot as any. With his air jets he positioned himself directly above the funnel. Then he seized his rocket gun, aimed directly into the opening, and fired.

* * *

As Mr. Wilkes, followed by Tony and Don, entered the landing bay, they were greeted by an excited chorus from the small group of men waiting to receive the ferry. The enthusiasm turned to dismay and alarm as they saw the Commander bringing up the rear. Hendriks motioned his captives forward, ray gun in evidence. Then he Waited as the full impact of his presence was felt by the landing crew.

"So-o!" he hissed in his usual blood-chilling way. Slowly he looked every man over from head to foot, taking the utmost pleasure in the unbearable suspense. Tony and Don had put down the transmitter and were standing with the others. Had Chris picked up his message, and had he guessed what Tony was trying to let him know? But even if Chris knew of their plight and that they were unable to help him, could he do anything about it? How could he possibly stop Hendriks from wreaking his vengeance on the men before him!

"So," the Commander went, "I have caught you all about to commit treachery. You believed that you could stop or delay my assumption of power by your miserable schemes. No one can do that, and any who stand in my path will be punished. All of you are traitors to your Commander. All of you must now be punished."

The small group of men, some of them clad in space suits ready to enter the airlock, seemed to wilt. To their eternal credit not one of them whimpered for mercy. They knew it would be useless to plead with this madman. If they had to die, then they would die with dignity and courage. Yet the bravest of them felt his legs go weak, and on the faces of most was evidence of a tremendous battle for self-control.

"Are you all here?" Hendriks demanded. "Are there traitors anywhere else?"

"No, they are all here," one of the landing crew said, and the others turned and looked at him in astonishment. It was Peters, who, either from fear of the men he was betraying, or to get out of range of the ray gun, skipped away and stood behind the Commander's back.

"Good," Hendriks snapped. "Then I need waste no more time."

Tony felt his heart sinking. So this was the end. Not some dramatic death, giving his life to save his friends, but a cold-blooded execution like that of so many cattle. How could he have expected help from Chris? It was impossible for the astronaut to help, for Chris himself would be doomed to death in space when his oxygen gave out. Yet Tony had to admit that, deep within him, he still had a faint hope that his great friend would be able to do something. So many times before Chris had worked miracles. It was important that he should try to gain time.

"I cut the cable, sir." Tony said in a rush. "No one else knew what I was going to do. Don't blame these men."

Hendriks turned his baleful stare on the mechanic.

"You! You are at the root of all this trouble. You are the one who had this transmitter. You are the one who has encouraged this treachery. And now you also admit you are the one who cut the cable," the Commander said venomously. "Very well, you shall be the one to be punished first. Step over here."

Tony swallowed hard. He could see it was impossible to gain any more time or to divert the wrath of the Commander to himself alone. So be it. He wouldn't cower. He would face with courage whatever Hendriks might do. It gave him satisfaction to stare back dauntlessly into those inflamed eyes. He stepped apart from the other men. Hendriks raised his ray gun and his lips curled back in a snarl.

At the very instant that Tony expected his end the alarm bell rang. It was the signal that somewhere in the Observatory air pressure was falling. The men awaiting their fate, even the Commander, stiffened as the ominous sound rang out. There was a movement among them, but Hendriks motioned the landing crew to remain still. "Go and find out what happened," he barked out to Peters, who was standing just behind him. Without a word the man slunk away, leaving the Commander still menacing Tony and his companions.

Several minutes went by. At first Hendriks seemed to be enjoying the additional suspense of his victims. But when Peters did not return, even he began to show signs of uneasiness. What had happened to the Observatory? Had the chance in many millions happened and had it been seriously damaged by a large meteor? It would be ironical if, just as Hendriks was about to demonstrate his absolute power, some accident of nature were to deprive him of the position he was Within an ace of assuming. There was no one else whom he could send to see What had happened to Peters. Still watching his victims closely, he edged toward the door. When he was almost there it slid open and someone stood there. Not Peters, but a figure clad in a strange space suit with oxygen cylinders and many other unusual pieces of equipment strapped on. There was a gasp from the watching men, and Hendriks involuntarily began to turn around.

Perhaps the strangely garbed figure in the doorway was Chris. Vaguely Tony saw a sudden movement. Then all went black.

Ghapter Eighteen

The reaction of his rocket gun sent Chris Godfrey hurtling into space. He would have to use his air jets to slow him down and to bring him back again to the Observatory. But already he had used quite a lot of pressure in his first approach, and he knew that the air bottles must be getting pretty low. He turned on both jets and the satellite seemed to be receding from him more slowly. To his dismay Chris found that one of his two air bottles was exhausted before his velocity relative to the Observatory had been killed. Would the other hold out until his direction was reversed and he was drawing nearer once more? It did. Just.

With tantalizing slowness Chris drifted toward the great wheel once more. He dare not use the last few pounds of air, for he would want them to guide him over the hub. So he had to be content with approaching the Observatory in a leisurely manner. With the lives of Tony and his companions hanging in the balance, this was almost more than even the steely nerves of the astronaut could stand.

At last he was passing over the hub. He could see the torn and blackened metal caused by his rocket shot, but whether he could enter the Observatory through the damaged section he couldn't tell. With almost the last of his precious air Chris propelled himself into the yawning gap. He was instantly aware of a new danger. The torn and jagged pieces of metal could easily puncture his space suit. If that happened he would live scarcely five seconds.

By using extreme care Chris went down the funnel without mishap. As he had hoped, the end, which had received the full force of the rocket gun, was torn open and he was able to squeeze into the room below. Surprisingly little damage had been done to the rest of the apparatus with which the Commander's lab was filled. Only this new construction of his

had been destroyed and even its powerful ring magnets were twisted and broken.

However, Chris had no time to waste looking around this fascinating room. His one thought was to get to the landing bay before the Commander attacked Tony and the others. From his knowledge of the Observatory he was aware that the landing bay was close. He must get out of the lab and find it very quickly. When he pressed the button that caused the door to slide open, he was nearly knocked over by the rush of air from the other side, for all atmosphere in the lab had been drawn through the damaged funnel into the vacuum of space.

Recovering, Chris closed the door behind him. He was now in the compartment which Hendriks used for living quarters, but again he had not time to explore. When he opened the farther door there was another inflow of air, but this wasn't much, as the lab was now sealed off. He was in a corridor and he could see men hurrying about. He guessed that an alarm had been sounded and that the crew were seeking out the damage. One man caught sight of him and paused in amazement. To see someone emerging from the Commander's private quarters, clad in space suit and with much strange equipment, was enough to astound anyone, for it must have been obvious that Chris wasn't a member of the Observatory's crew. No-one would have been allowed to enter Hendriks' room.

Without waiting for the crewman to reach him Chris turned toward the landing bay. Every second was precious and he could not waste time with explanations. This must be the door he was after. Would he be in time or would he be too late to stop the Commander? Even if Hendriks had not yet blasted the landing crew, could he match the deadly powers of the ray gun? He knew since Commander Barnwell's ferry, which was shielded from ordinary radiation, had been destroyed, his space suit would not protect him from the concentrated beam which Hendriks seemed able to control. To go through the door would be taking his life in his hands, but what did that matter when the existence of so many was at stake? Without hesitation he slid open the door.

Chris sized up the situation in a flash. A man whose back was turned to him faced a small knot of men who looked pale and tense. A little to the side he saw Tony. As the men gasped at his unexpected appearance, the man whose back he could see began to swing about. It needed only a glimpse of something the fellow was holding to tell Chris that this was indeed the dreaded Commander—and that his ray gun was at the ready. With a quick movement the astronaut pressed the valve on a cylinder he had and shot a cloud of gas into the Commander's face.

Hendriks staggered, and the next second all was chaos in the landing bay. The floor became littered with men who had been rendered unconscious by the powerful gas. Some still rolled about. Others lay inert on top of their fellows. Only one remained standing. Chris, protected by his space with helmet still closed, remained unaffected. At his feet lay the man who had planned to rule the world. Commander Hendriks was slumped unconscious, his ray gun still in his hand.

Now that the battle was over, the job done, Chris suddenly felt weak from the stresses of the last few hours. He had undertaken a risky journey and been in free fall longer than anyone had ever been before. He had been perilously near exhausting his means of propulsion and guidance. He had barely squeezed into the Observatory without puncturing his space suit. He had arrived at the landing bay in the nick of time. Finally he had anesthetized the Commander just before the ray gun was turned on him. He offered a silent prayer of thanks as he struggled to pull himself together.

First Chris bent down and took the ray gun from Hendriks' grasp. He looked at it curiously, though his purpose was not to examine it but to put it out of the Commander's reach. All the men in the landing bay would be unconscious for about an hour. During that time Chris had to secure Hendriks so that when he recovered he could do no harm. By the next ferry he would be taken to Earth for medical treatment and later to answer for his actions.

The Commander was a heavy man, but gravity in the

Observatory was less than that on Earth. Chris dragged him from the landing bay into the corridor outside. He was surrounded by a score of the Observatory's crew, who were astounded to see their dreaded Commander laid low. One of them bent over him while another turned toward the landing bay. Chris, unable to speak to them because of his helmet, motioned the men to stay away from the bay. At a further gesture from him several of the crew came and helped to remove the helmet.

"Phew! Thank goodness for that," Chris gasped, breathing deeply of the Observatory's free air. "Keep away from the landing bay unless you put on a helmet. It's full of gas which would knock you out at the slightest whiff. By the way, my name is Chris Godfrey. I've been sent by UNEXA to take over command of the Observatory, and to send Commander Hendriks back to Earth. I'll produce my credentials when I've got this thing off."

"Are the fellows in there all right?" one of the men asked, indicating the bay.

"Yes, they're just anesthetized, like the Commander here. Perhaps some of you would put on helmets and get them out. Oh—and you might let out the gas through the airlock."

"Very good, Mr. Godfrey," one of the men said, and several went away to carry out his first order.

"So you made it, Chris," Tony said.

He'd just recovered from the effects of the gas his friend had used to disable the Commander. Most of the other men had also come round and the rest would do so very soon.

"Just about, Chris replied with a smile.

"What's happened to him?" Tony asked, and they both knew to whom he was referring.

"Ex-Commander Hendriks is safely locked away in a storeroom," Chris answered seriously. "I'm afraid he'll be pretty violent when he recovers. The shock of his defeat may make him worse. I hope he doesn't have to be handcuffed."

"Handcuffed?" exclaimed Tony. "I don't think we have any."

"No, but I've brought some with me—just in case," Chris answered. "However—we'll see. Now just keep in your bunk for a bit longer till your head's quite clear. Then I'll see you again."

A very busy time followed for Chris. With the help of the D.O. he sent a lengthy report to the Cape and duly received the congratulations of Sir George Benson on the successful conclusion of his dangerous mission. It was arranged for a ferry to be sent at once, and all the men in the Observatory were to be relieved and given a long leave. Hendriks was to be sent back on the ferry and a new Commander was to be appointed. Chris would remain in temporary command until the new man came.

"He's coming around," one of the crew came hurrying to tell Chris, "and he's kicking up an awful racket."

"I'll go along," Chris said, and followed the man to the storeroom where Hendriks had been imprisoned. Long before he reached it Chris could hear the shouts and screams of the man inside. The last thread of sanity had snapped and the man was now more dangerous than ever.

"What are you going to do, Mr. Godfrey?" one or two of the crew asked anxiously.

Chris thought for a moment. He could take a party into the storeroom and subdue Hendriks by force, but somehow this didn't seem right.

"I'll pump some gas through the door," he answered after a little thought. "Maybe we'd better keep him anesthetized until the ferry comes. Remain on guard, will you. I'll be back shortly."

Chris returned to the storeroom some time later, after attending to numerous duties. He had the same cylinder of gas with which he had anesthetized Hendriks before, but the two men on guard reported that the patient seemed to have quieted down and that no sound had been heard for some time. Chris thought for a moment. He was reluctant even to use gas on the

ex-Commander unless it was absolutely necessary.

"All right," he said, "we'll let things stay as they are. If he remains quiet we'll get some food into him soon. Let me know if you hear anything."

An hour later, when Chris and the D.O. returned, the guards reported that all was still silent. Wondering what would happen, and with the gas cylinder handy, Chris opened the door. He need not have feared. Hendriks sat on the floor, his back propped against one of the walls. He gave no sign of recognition to his visitors but continued to stare before him with vacant eyes.

"We've brought you some food, Mr. Hendriks," Chris said, but the former Commander gave no sign of having heard.

"Better leave it for him," Chris said to Mr. Wilkes. "Maybe he'll eat later. I suppose it's better for him to be like this than raving as he was before."

"He was a brilliant man," sighed the D.O. "It's a tragedy that it should have turned out like this."

'That's true," agreed Chris, "but that reminds me. I would like us to get into his laboratory after we've had some rest. We'll need space suits, of course, because of the damage. I have to send a report after I have inspected it. The people on Earth want to know all about that discovery of his. If possible the apparatus is to be taken down and sent to the Cape for inspection."

Now that he had a moment to relax, Chris realized how terribly tired he was. It was Tony who insisted that he should get into his bunk, for the mechanic was on duty and his friend needed rest desperately. Chris gratefully a for he had not had time to think about quarters for himself. In a very short time he had fallen into a deep sleep.

It seemed to Chris that he had hardly stretched himself on Tony's bunk before someone was shaking him persistently. With a tremendous effort he roused himself sufficiently to ask what was wrong and why he was being disturbed. The man who had so cruelly interrupted his sleep looked upset. "It's the Commander, sir," he burst out. "Commander Hendriks. He's disappeared!"

Chapter Nineteen

"Disappeared?"

Chris swung himself off the bunk as the significance of the man's words penetrated his brain.

"Yes, sir," the man answered. "Mr. Wilkes sent in some food and the room was empty."

"But how could he get out? The storeroom was still locked and guarded, wasn't it?"

"It was, Mr. Godfrey. I was one of the guards and I swear that the Commander—the ex-Commander—didn't come out," the man replied earnestly.

"I'd better come along," Chris said.

How could Hendriks possibly get out of the locked storeroom with two men constantly on guard? There was no other exit, he was sure. Otherwise the room would not have been chosen for a temporary prison. The man could not disappear into thin air. And even Hendriks was not a magician. There must be some explanation—there had to be! But what would happen with the demented ex-Commander running about loose?

As fast as he could Chris followed the crewman along the rim and then up the spoke in which this particular storeroom was situated. As they went along Chris questioned the man, but he continued to maintain stoutly that neither he nor his companion had taken their eyes off the storeroom door.

"By the way, what is in the storeroom?" Chris asked as an afterthought. "Was it completely empty?"

"Yes, Mr. Godfrey, it was—except for the couple of space suits which are stored in various places all over the Observatory in case of an emergency."

Chris stopped dead in his tracks.

"Space suits!" he gasped. "Why-of course!"

"What's that, sir?" the crewman asked, failing to understand.

"He must have been inside one of those space suits! Did you look?"

"No, sir," the man answered in astonishment. "We never—"

"Come on!" Chris snapped.

They were too late. As they reached the storeroom a little knot of men were bending over the other guard. He was bleeding from a blow on the head and was receiving attention. As he saw Chris he struggled to sit up, but Chris motioned for him to lie still.

"What happened?" he demanded shortly.

"After Perkins had gone to tell you that Mr. Hendriks had disappeared, I was looking round the room for any clues. Out of the corner of my eye I saw one of the space suits, standing in that rack, begin to move. As I turned around it leaped at me and struck me down. That's all I know, sir," the man said.

Chris looked at the rack. Only one suit remained and there was a significant space where the other one had been.

"Anyone see where he went?" he asked shortly.

Before anyone could answer they heard a shout. Turning they saw in the distance a figure in a space suit emerge from one of the compartments. It could only be Hendriks. The shout Chris and the others heard was from a startled member of the staff who had collided with Hendriks as he emerged into the spoke.

"After him!" Chris shouted. He couldn't afford to let the madman run loose. There would be no telling what damage he might do and to what deviltry his warped mind might urge him. This time Hendriks would have to be subdued by force. Not only had the space suit helped him to deceive the guards and escape, it also protected him from the anesthetic gas. Chris

wouldn't be able to render him unconscious a second time. Disliking the job intensely, Chris led the chase after Hendriks.

As he saw the men coming after him, the ex-Commander turned away at a surprising speed. Though encumbered with the suit, he was moving almost as fast as his pursuers. In a way Chris felt sorry for him. The man, formerly of brilliant intellect, was now being hunted like an animal. If he was still capable of thought, what must he be thinking? Only a few hours ago he had dreamed of being Dictator of the World—and now he was being hunted as an escaped prisoner!

Chris and his party drew nearer to Hendriks. His capture was only a matter of seconds. They were right by the landing bay, but they didn't realize it until, with a defiant gesture, their quarry entered it and closed the door behind him. By the time Chris had opened it Hendriks had crossed the room and was just entering the airlock. Though he shouted after him, Chris knew the man would not hear him because of the helmet. Before anyone could reach the airlock the door had closed and a red light had flashed on, indicating that the outer door was now open.

Helplessly the pursuers halted. They could not follow Hendriks, for none of them wore a suit, and to open the airlock while the outer door was also open was to court death. All they could do was to wait until the red light went out, which at last it did.

The airlock was empty. Hendriks had escaped from the Observatory and was floating outside. Even as Chris decided to put a suit on and go after him, one of the men at the observation window called out. Chris went over and looked through the heavy glass panel. There he saw a sight he would never forget. The tiny figure of Hendriks, glistening in the sunlight, was drawing rapidly away. Even at that distance the arms seemed to be waving defiantly. Chris knew that Hendriks had somehow propelled himself away from the great wheel. Long before he could put on a suit to go after him the tiny figure would have disappeared, and Hendriks would have gone on a journey through space that would have no end.

For a long time Chris and the others watched, immovable. At last they could see Hendriks no more and the spell was broken.

"Perhaps it was better that way," Chris sighed.

The next two weeks were busy ones aboard the Observatory. Each day a ferry arrived bringing replacements for members of the crew. The tangled remains of the apparatus in the laboratory had been dismantled and shipped back to Earth. Damage caused by Chris' rocket shot had been repaired and life inside the great wheel was returning to normal. Observations were resumed and communications between the satellite and Cape Kennedy flowed thick and fast.

At last came the day when the final party of the old crew would be relieved. Tony had insisted on staying behind with Chris and the D.O., but Don had left and they had arranged to meet during their leave. Carefully, Tony packed up his precious transmitter to take back with him to Earth. As he placed it lovingly in his suitcase he speculated on what would have happened if he hadn't brought it with him. It had been the one frail link between Earth and the Observatory, and had played a significant part in the defeat of the mad Commander. With the help of his friend Sidney Stafford he had managed to send and receive those vital messages which had done so much toward countering the terrible threat of Hendriks' destructive radiation.

"The ferry's here," Mr. Wilkes told him. "Mr. Godfrey is just handing over to his successor, and we'll be off in half an hour."

"Good," Tony answered, fastening his case. "I'm ready, and it can't be too soon for me."

"Better bring your things along to the landing bay, then," the D.O. said. "The rest of the passengers are on their way there now."

The men gathering for the journey back home were talking excitedly together. On many the strain of recent Weeks had left its mark. Apart from brief messages after Mr. Godfrey had restored communications, some had not heard from their

families for a long time. All were overdue for a leave which at one time they feared they would never get. Long before Chris had finished briefing his successor the men were waiting in their space suits ready to pass through the airlock to the ferry slung below. At last Chris came, and a cheer went up from the waiting men. With the help of some of the Observatory's new landing crew Chris quickly put on his suit. Final greetings were exchanged, helmets were fixed, and, by common consent, Chris led the way into the airlock.

The journey back to Earth was uneventful—that is, if a voyage in space ever can be. Cape Kennedy was waiting to greet Chris, Tony and the others who had had such a terrifying experience. Morrey and Serge were on the landing pad, and the shorter figure beside them Tony recognized as Sid! Excited greetings were exchanged, and Sid proudly informed Tony that it was none other than Sir George Benson who had arranged for him to come to Florida in recognition of his part in recent events.

Slowly, still talking happily, the little party made its way toward the main control room. There Sir George Benson, together with scientists and representatives of a number of countries, was waiting to greet them. Flash bulbs popped, cameras rolled, and commentators described the scene in several languages. Sir George made a brief speech and then a few reluctant words were dragged out of Chris. Tony's famous transmitter was photographed from many angles—like a film star. It was all very exhausting.

At last the photographers, the reporters and the cameramen had gone away. Sir George Benson led Chris and the others into a small and comfortable room where they could relax. It was all over. They were safely back on Earth, the radiation danger was past. Commander Hendriks was who knows where? How good it was to sink into an easy chair and to think "Another mission accomplished!"

Suddenly the peace was shattered by Sid, who stood up in sudden alarm.

"Gosh, Tony," he blurted out, "I nearly forgot to give it to

you. This letter came to your home and I promised to bring it to you."

He produced a long buff envelope with an official stamp on it. Tony took it wonderingly. Then with growing excitement he tore open the envelope. Feverishly he took out a letter and read it rapidly. A look of unbelief spread across his face and the letter dropped to the floor. Chris bent down and picked it up. At a sign from Tony he read it through. An expression of incredulity came on to his face also as he read part of it aloud.

"'The Postmaster-General, therefore, regrets that, owing to your lack of experience, he is unable to grant you a license for radio transmission.'"

"Well, I'll be blowed!" exclaimed Tony.

Even Sir George Benson collapsed in laughter at the expression on Tony's face.