

Illustration by Mabel McDermott

By John Russell Fearn

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ACROSS the ochre wastes of Mars, the endless deserts with their almost completely arid watercourses, there stirred a soft, cool breeze. It had the kiss of death in it. It was thin, cruel, and utterly final.

Yet, though mighty civilizations had perished on Mars, there still lived a beauteous creation — the Martian moth. Apparently it was not very prolific, for in all the time that Max and Eva Harborn had been upon the planet, the first explorers to cross the 40-million mile gulf, they had only seen six of the great moths and wondered at their beauty.

Two of them remained very close to the spaceship most of the time, possibly curious regarding the strangers from another world. It was their tameness which gave Max Harborn the idea of taking them back to Earth.

"After all, why not?" he asked his wife, a few hours before they were due to commence the return trip to Earth. "We came here to get samples of everything we could find—rock, sand, vegetation if any, atmosphere. So why not life? The only life there seems to be on this dying red world."

"Why not, indeed?" Eva Harborn agreed, and for a moment she and her husband stood beside the space machine's bellying exterior and studied the two moths fluttering in the weak sunlight.

The two from Earth were young—not yet out of their 20's—and reasonably good-looking. The space machine was not their invention; it was the product of an engineer by the name of Holt Laycross who had died before seeing his creation tested. So, to Max and Eva Harborn, renowned stratosphere jet pilots, had fallen the task of hurtling the jet-projectile over the endless void—and they had done it successfully by keying together their keen minds and flawlessly functioning bodies.

Eva was blonde and plump, while her husband was dark and lean-jawed with an easy-going smile and the eyes of a thinker. Both of them were general scientists, with specific distinction in astrophysics—which was why they had not enough ability to

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know whether the Martian moths represented the actual life of the red planet, or whether they just fell into the usual order of lepidoptera.

"Anyhow," Max said, as the moths fluttered nearer, "no harm in transplanting them back home. They'll have all the expert entomologists by the ears for sheer beauty alone."

Eva contemplated them. They had bodies four inches long, striped in wasp fashion in amber and scarlet, while their wing-span was a good six inches and ebony-black. This, when the insects perched with wings folded, gave them the appearance of tiny figures with black shawls wrapped about their shoulders.

"Are they moths or butterflies?" Eva asked finally. "I can't tell the difference."

"Moths!" Max was quite firm on the point. "They haven't got knotted antennae, which they would have if they were butterflies."

"Then why do they appear by day? Moths—on Earth, anyway—are nocturnal, and butterflies diurnal."

"Naturally they won't be identical in habits to the Earth lepidoptera," Max decided. "These insects show up at night as well as day. Remember we noticed them the first night we spent here, with their eyes glowing, just like those of the Death's Head moth back on Earth?"

They went into the space ship and reappeared with a large butterfly net each.

In the ordinary way the moths would probably have evaded capture, but to Eva and Max there was given the ability to leap enormous distances in the slight gravity of Mars, and both were amazingly adroit physically. In a matter of minutes Max had caught one moth and very soon afterwards Eva had snared the other.

"Not that I like doing it," she said seriously, regarding the beautiful, weakly fluttering insects snared in the nets. "I think all wild things should be left free and that all zoos should be blown up—but since we're supposed to be interplanetary explorers I suppose we'd fail in our duty if we didn't take them back for examination.

"I wonder," she added, when the airlock had been gained, "what they feed on? Far as I've seen there isn't a single edible thing on Mars. Unless they live on sand or air."

Max said: "Better get some sand and put it in the storage chamber with them—and we'll take a round trip of Mars before starting for home to see if there's any vegetation we can dig up for them."

So the moths were taken into the storage room and there released. They fluttered in the dim lighting but made no attempt to escape as Max and the girl retreated cautiously and closed the door, making sure the shield at the base of it was flush with the floor so the insects would not escape under the edge.

"Not that it would matter," Max said, returning to the control room. "They could only fly about the ship—but it's better they stay put while we're on our way. Now, let's have the final check-up before we start a tour around this graveyard."

Together they went through the itemized list of the various samples they had obtained of the red planet, and also made a final check on their notes concerning atmospheric density, humidity, gravitation, and so forth. This done, Eva secured the airlock. In another moment Max had the power plant in operation and the normal flying gear with which the vessel was equipped came into use.

Travelling at about 200 miles an hour through the almost airless heights of the cloudless planet, Max kept a close watch on the deserts below, while Eva surveyed from a rear window in case he missed anything.

But in no direction did anything urusual relieve the monotony. Deserts, deserts and more deserts, all of the same ochre color without the merest sign of crumbled colonades or eroded terraces which might have bespoken a one-time civilization. The watercourses had no water any more and the vegetation which had once lined them was nothing but chips and dust drifting occasionally in the thin wind.

"Nice cheery sort of place," Max commented at length. "I know quite a few astronomers back home who are going to be disgusted when they learn that the vaunted 'canals of Mars' are nothing but trenches edged with broken sticks."

"Must have been a civilization at some time, though," Eva said thoughtfully, her eyes following a dead watercourse as it vanished over the horizon. "Only intelligent beings could have gouged these watercourses. Probably still some water at the poles."

But there again the testimony of earthly astronomers proved wrong, for the so-called "icecaps" of Mars were actually only areas of lighter-colored sand, narrowing and contracting according to the seasonal winds and not, as astronomers had so often stated, because the Martian ocean was thawing or freezing.

"No water," Max said finally, as the space machine flew onwards to the night side of Mars. "Mars is dead. So what the moths feed on has me licked. Must be sand, after all. Could be, I suppose, when you consider how Earth cattle eat grass."

To fly onwards into the Martian night was a waste of time, so Max switched on the jets, retracted the flying gear, and turned the vessel's nose skywards. With an ever-mounting scream and a deadening pressure, the machine swept outward from Mars and into the void, finally coming into the unmasked glare of the sun. The return journey across the infinite was well under way again—and as before Max took it in turns with his wife to sit at the controls.

Several times during the 120-hour trip they peeped in the storage room, to find the moths still alive—but with the pile of sand noticeably lower. They evidently did eat sand and existed entirely without water, unless their complex organism was such that they could extract all the moisture they needed from the air.

Whatever the explanation the two moths were still very much alive when the space machine touched down at the Central London airport at the close of its epoch-making journey, and for the time being, in the turmoil which followed, Max and Eva completely forgot the moths, the various samples, and everything else. They were honored by the government, the air force, and the newly formed Interplanetary association. Space, so far, had never been flown, and to have reached Mars and back was the height of achievement. The world's newspapers were full of the great Martian expedition and Max and Eva received many gifts of money.

The spaceship was divested of its various samples, which were taken to the Physical Laboratories for analysis; and the moths were transferred to a special cage and removed to Max' and Eva's country home in Surrey.

CHAPTER II

THEY were shown to an expert, Morton Stone, one of the greatest British entomologists. With lens and forceps he examined both insects.

"Very extraordinary insects," he said. "They can hardly be classed in the same order as our own lepidoptera. Their digestive organs are utterly foreign to anything I have seen, and unlike the moths with which we are familiar these are active both by day and night. Intelligent? No, I don't think so. Do they represent a form of Martian life? Obviously yes, but they are not descended from a higher form of life. In a word, they are not members of a Martian race of intellectuals."

"We rather hoped they would be," Max said, disappointed. "On the whole of Mars we couldn't find a trace of life of the human type, or the remains of any cities; that was why we thought these insects might be the remains of high Martian life. What do they eat, Mr. Stone? Can you tell us that?"

"Sand, apparently. It contains many mineral salts which are unusual to earth, according to the analysts' chart which I have seen. The point is, what will the moths do when the sand supply runs out?"

Max shrugged. "Die, I suppose. A pity, but we can't give them what we haven't got, and we're certainly not going to fly 40,000,000 miles for some sand!"

The moths were shown in motion pictures and television all over the world.

Max himself had so many matters on his mind following the Martian trip that he scarcely had the time to think of the moths. They were in a wing of the house used as a laboratory-workshop. He had his normal work as a stratosphere test pilot to attend to, and was also much in demand for information as a space corporation was organized.

Eva was also busy as a test pilot, and to her literary mind had fallen the task of detailing the adventure on Mars. But now and again her thoughts wandered to the magnificent moths in their narrow prison, and at these times her pity for creatures in captivity nearly got the better of her. Finally, about a month after the return from Mars, when the Martian sand on which the moths seemed to exist was nearly running out, Eva went into the workshop one evening when Max was at an interplanetary conference, and opened the door of the cage.

The moths flew through the doorway into the house. She went slowly after them, saw them circling at the top of the staircase, and so she returned to her narrative of the Martian expedition.

Her work absorbed her so that she forgot the insects until about 10.30, and when she went about the house to look for them they had disappeared. The door and window of a bathroom were both open, and presumably they escaped into the outer air.

When Max came home, he said: "I ran into Morton Stone at the conference. Remember? The entomologist. He's keen on being in on the ground floor when interplanetary flight is definitely established. He's made a study of the X-ray plates which were taken after his visit. I didn't know it but both those moths are fully developed adults and have developed from something way back which was much inferior. They represent the highest form a species of lepidoptera can reach. They also have sexes. One is a male and the other female. Stone offered me £20,000 per moth out of the funds of the Entomology institute for exclusive possession of the moths. Sounds a preposterous sum—£40,000 for the two—but after all they do belong to another world. I expect the institute would get the money back by holding an exhibition. I don't quite know what to do. I'd keep them, but we can't feed the insects, and I think we might let Stone take that responsibility and clean up £40,000."

She looked so queer, that he said, "Anything the matter?"

She said, "I was just wondering how much it would take to turn you into a wife beater."

"What! For the love of Mike, Eva, what are you talking about?"

"I am trying," she said tautly, "to summon up enough nerve to tell you that I released both the moths this evening, and where they are I don't know."

"Do you mean to tell me that you threw £40,000 away just like that? Because of some crazy sentimental streak?"

"I didn't know about the offer then. All I saw was those two moths imprisoned until they died. I thought of the great empty Martian wastes they are used to, I let them go. I'm dreadfully sorry, Maxy."

"Of all the tomfool things to do! You, who have some scientific knowledge, ought surely to have known that living specimens brought from Mars ought never to have been allowed to go free. I'm not worrying over the money, but I am worrying over the fact that two of the rarest moths from another world may finish up pinned to some small boy's cardboard sheet as part of his collection. Dead, Stone won't give a cent for 'em."

"All we can do is advertise," Eva suggested. "They're so unusual they can't fail to be identified, and everybody knows what they look like from the publicity they got."

"Yes, and I'll have a radio broadcast made."

He offered a reward of £250 for the moths alive. But, rather surprisingly, they were not found. Despite the reward, despite the men, women, and especially children who scoured the length and breadth of Britain in the warm summer weather, day and night, there was no trace of the Martian moths to be seen.

Then the Interplanetary association trebled the reward and extended it to every country in the world. For the sake of scientific prestige the moths had got to be found. They did not mention Eva's lapse, merely saying the insects had inadvertently escaped.

Yet the moths were not located. They had probably sought the most desolate regions of the world as the nearest approaching those of their home; or perhaps they had even died through lack of Martian sand, unless they had the power to assimilate earth sand. All of which was conjecture, and the summer passed into autumn without the moths being discovered.

By the time spring had come again the moths were forgotten. Certainly Max no longer recollected them. His interests now were with the Interplanetary corporation and their plan for opening up regular journeys to Mars for sightseeing.

"Which I still think is crazy," he insisted, as he and Eva prepared, one early March evening, to attend the inaugural banquet of the corporation. "I shall say so tonight, and I want you to do the same."

"Willingly," she agreed, looking about in her wardrobe. Then she cried, "Good heavens!"

"What?" Max did not look at her; he was busy adjusting his bow tie.

"My blue satin evening gown — ruined! Look at it!"

Max turned. Eva was holding up what looked to be a mass of tatters. All resemblance to an evening gown had gone.

"Does it matter?" he asked finally. "You surely weren't going to wear last year's model for tonight?"

"Of course not!" Eva said. "I was moving this to get at my other dress and this is what I find! Maxy, look at it! Just as though somebody's thrown acid over it."

CHAPTER III

A CERTAIN significance crept into Max's mind and he took the gown from Eva's grasp. Examining the dress he finally gave her a grim glance.

He snapped: "Grubs, by the thousand. Moths. They've eaten the fabric to bits . . ."

"But moths don't eat things to that extent!" Eva protested. "At—at least, not ordinary moths."

Max threw the ruined gown on the floor and set to work on a clearing out of Eva's wardrobe. She lent him assistance and they had made the startling discovery that several costly gowns were in rags and two fur coats were eaten down to the skin. And everywhere there were the grubs. And apparently they were alive.

"You realize what's happened, of course?" Max said.

"Naturally. The female of the moths laid eggs in here and they—or at least the grubs therefrom—are about 50 times more destructive than those of an ordinary moth. This wardrobe is loaded with moth preventatives, too. You can smell them."

Max said: "I haven't worn my dress suit for eight or nine months. These trousers seem all right, but I'm not sure about the coat and vest."

He went to his own wardrobe. His dress coat and vest were damaged and several sports jackets and trousers were falling apart, together with the trousers hanging with them. When he lifted them they tore apart under their own weight and dropped in shreds to the floor. With them fell a shower of grubs and each one had a little squirming motion.

"I don't understand it," Eva said, struggling into her latest gown in readiness for the evening. "The Martian moths ate sand, so why should their progeny eat clothes, like the common moth we all know about?"

"Don't ask me . . . And we're not going to that banquet, Eva, until later on. If at all."

"Why not?"

"Because we've a job to do. Each of these grubs is alive, and a potential moth. I'm going for the insecticide."

He disappeared and Eva relaxed and frowned anxiously, surveying with further horror the destruction of her dresses and furs. Evidently the moths she had released had flown in here, the female had laid its eggs, and now the spring had come they had hatched. But where else had eggs been laid? And there was no guide, either, as to how many eggs the female of the Martian species was capable of laying.

Max returned with the insecticide and atomizer. With great vigor he sprayed the grubs everywhere he could

see them, and then drenched the interiors of the two wardrobes. He only desisted when his arm ached.

"That should settle it," he said, putting the atomizer on the dressing table. "At least as far as we are concerned."

"Are you sure?" Eva asked, staring at the carpet.

Max followed her gaze, and saw that far from being dead after the drenching poison the grubs were still on the move, consuming holes in the carpet as they lay upon it.

Max stared. "This is good insecticide," he said.

"But evidently useless against Martian products," Eva said. "We'll have to try something else."

Max fled from the room again and returned with a shovel and soft brush. He gave the shovel to Eva and then began to sweep vigorously, noting with horrified amazement that great chunks of pile and underfelt came up with the grubs as they were swept into the shovel.

"Why didn't we use the vacuum?" Eva said.

"Because they might eat the dust-bag before I'd time to tip 'em out. I'm going to burn this lot: no other way."

So, when he had a shovel full of grubs, carpet fibre, and the rags of Eva's dresses, Max departed again, ridding himself of the rubbish in the basement heating plant. He collected those of his own clothes that were ruined, and burned the lot. Feeling a trifle relieved, he came back into the bedroom.

"Do we go to the banquet, or not?" Eva asked.

"We go," Max replied, "because it is essential that I speak about this matter. I don't think you've grasped yet how deep the business is."

They were half an hour late, but nothing was said, chiefly because they were both too well liked and too important for any member of the corporation to find fault with them. The only point that did arouse wonder was the fact that Max was in a dark lounge suit instead of evening dress.

Throughout the meal which preceded the conference on future developments he was mainly silent, lost in thought. Only when he was called upon to give his own opinions as to the development interplanetary travel should take did he arouse himself.

"It will probably astonish you, ladies and gentlemen," he said, "but I think that until Mars is entirely rid of every scrap of life it possesses we'd be foolish to let anybody go there. I am referring specifically to the moth life, the only kind we found there."

The chairman laughed good-naturedly. "Obviously, Mr. Harborn, you mean that as a joke," he commented. "Certainly there is no reason to be afraid of a few moths—"

"There is every reason!" Max interrupted, his face grim. "Many of you must be wondering why tonight I am dressed in this suit. I'll tell you why—because the grubs of the Martian moths, now hatching, destroyed my dress suit and inflicted appalling damage on several of my wife's gowns. That was what made us late."

The chairman in particular was undisturbed.

"I can only say, Mr. Harborn, that Mrs. Harborn looks most charming, moths or no moths."

Max said: "My friends, listen to me. There has arisen a situation which may well prove difficult to handle. You are all aware that the two moths from Mars, one male and the other female, have disappeared — and we have never discovered where they are. The destruction my wife and I witnessed tonight set me wondering. Where else are there grubs? Where else are clothes being destroyed? Where else are grubs breeding into moths which, in turn, bring forth myriads more? I tell you that this Martian moth is the most destructive insect which ever invaded civilization. I believe we should make a second effort to locate the originals — if they still live—and if they do not then people should be asked to search their own homes and surroundings for the grubs and quickly burn them."

"That can be done, of course," the chairman conceded, "but I think you are needlessly enlarging upon the business, Mr. Harborn."

"I only hope I am. What worries me is: do these Martian moths confine themselves to one form of food, or are they capable of eating almost anything? The parents consumed Martian sand, yet the progeny devoured fabrics. That seems to suggest that the progeny are either differently constituted to the parents—which is technically impossible—or else the insects can eat pretty much anything. If by some chance we are going to be faced by a species which can consume anything in its path, then the occasional depredations of locusts will fade into oblivion by comparison."

The chairman reflected for a moment or two. Though he looked more serious than before he did not appear too convinced. Before he could comment, however, Morton Stone, the entomologist, and a new member of the corporation, rose to his feet.

"I think," he said, "that Mr. Harborn is substantially right. As you know, I have made an intensive study of the x-ray plates of the two original moths and I found their digestive organs to be utterly different from any, human or insectile, in my experience. That they can perhaps consume almost any material is within the bounds of possibility. Indeed, I suggest that this is indeed the case, otherwise the law of nature would not allow the female to leave thousands of eggs where there was no possibility of the offspring being nourished. I think we're in danger, particularly at this season of the year. Let us leave nothing undone to hunt for moths and grubs and destroy them."

"None of which," the chairman commented, "has anything to do with the interplanetary flights we are discussing. I fail to see why the activities of two Martian moths on Earth should stop visits to Mars."

"For the simple reason that, unintentionally, more grubs might be brought back by travellers," Max said. "I think we should prevent that possibility. Or, alternatively, send advance guards to Mars with extermination apparatus and sweep the planet clean first."

"It means delay in our plans, but perhaps you are right. What do you suggest for their extermination? D.D.T.. and other insecticides?"

"Definitely not. I flooded the grubs in my home with that sort of stuff and they were undeterred—just as moth preventative in the wardrobes made no difference. No, I think we should contact the anti-locust league, find out what they use as a poison for locusts, and then try it on the first new lot of grubs we encounter."

All of which seemed highly elaborate, and to the chairman highly unnecessary—but with so many members nodding heads seriously he had no other course than to comply . . . So the conference drifted to an undecisive stop and, the next day, was fully reported in the press, with such headlines as: "Moth Plague Foreseen by Martian Pioneer. World Call to Search for Grubs."

CHAPTER IV

ONE of the biggest spring cleanings in history followed as all dark corners were examined and wardrobes and clothing shaken and inspected. The results were startling—and they were all sent by request to the Moth Prevention headquarters newly established as another branch of the Interplanetary corporation. It appeared that in about 60 cases out of 100 traces of the grub had been discovered, which seemed to suggest that the Martian moth had a prodiguous laying power. In many cases the grubs were sent intact for examination, in small metal boxes. At the head of the research was Morton Stone, with other entomologists around him.

At first it had been suggested that Max and Eva should head the expedition to Mars for the elimination of the moths, until Max pointed out that Earth itself was much more in need of "fumigating" than the red planet. The thing to do was locate the breeding grounds, if possible, and then launch an onslaught. The antilocust leagues had learned what poisons were used on locusts, but so far they had failed to affect the captured Martian grubs in the least. The progeny of the moths seemed able to absorb the rankest poison without difficulty.

The next best thing was fire, but this could not be used until the breeding grounds were located—so Max and Eva set off with 20 experts to explore little-known places of the world and report results.

June 14 was a perfect summer day, and the inhabitants of the small manufacturing city of Birencester in the south of England had no reason to suspect that they had been marked for disaster. Towards 10 o'clock in the morning there came a high humming note in the summer air. It gradually grew louder until it enforced itself upon those in the open, and the cause of the sound was seen to be a coiling black cloud, becoming ever wider and denser, spiralling upward toward the sun. Within minutes the sun was obliterated and a curious Doomsday darkness settled over Birencester.

A warning came over the radio: "Take shelter, listeners! Take shelter! It has just been reported by the air ministry that a swarm of insects, either locusts or moths, are headed northwards over the English Channel. Landing point not known. Shut your windows and doors. If the insects should settle near you destroy them."

Then came the descent, and with it the sunlight returned, but Birencester and its immediate environs looked as if they were covered with black snow as countless myriads of Martian moths, all of them fully grown and with ebony wings outspread, alighted on every conceivable building, plant, and animal—and where there was no room for the insects on the outside of the buildings many swept insides, through cracks, through skylights open to the summer air, through ventilators, down chimneys. And everywhere the moths settled they ate—and ate voraciously.

Against this overwhelming menace the employees of the silk and leather manufacturers put up a tremendous resistance. They attacked the clouds of invaders with brushes, mops, large tools, chairs, and every weapon on which they could lay their hands. In the schoolrooms the children fought alongside the teachers as desks became black over with the insects. Fire-fighting equipment was brought into play, but foam extinguishers, though they deterred the moths for a while, certainly did not stop them.

From end to end Birencester crawled with moths. There was not a single corner clear of them. Some of the fighters gave up the struggle and rushed from their homes or places of work, wading knee-deep through the cloying insectile masses covering the streets.

Out in the meadows the cattle were utterly consumed, the orchards wiped out to the roots, the crops sheared to ground level. Humans themselves were not attacked, but valiantly though they fought they were stunned by such overwhelming numbers.

They finally fled from the scene of chaos until the swarm lifted.

It was 3 in the afternoon before this happened. Then, as though a signal had been received from some guiding intelligence, the moths rose in their myriads and swept to the south whence they had come.

But they did not leave Birencester behind. They left the area where the town had been—a wilderness of nothing but dust from which every building, every stone, every stick had been completely eliminated.

Toward the late afternoon the scattered inhabitants of Birencester slowly returned to their town—or what was left of it, and on the outskirts of the picked-clean wilderness they stopped, utterly dumbfounded, looking upon something which had never happened in history. In a few hours an entire town and everything it contained had been completely eaten. Eaten! There was no other word for it. Only human beings had escaped, but with every possession destroyed, they failed to appreciate their immunity.

"What's to be done, sir?" asked Mark Alcott, one of the chief farmers of the district, looking toward the Rev. Henry Perkins as he spoke.

The clergyman was a young man strong in spiritual beliefs, one of the most liked men in the community.

"Report it," he answered simply. "We've had a visitation more devastating than anything ever known. Even the Bible does not report a plague so absolute as this. A town destroyed by beauty—for certainly there was a loveliness about those moths with their ebony wings and striped bodies."

Mark Alcott gave a snort. "Bloodsuckers, Reverend!" he declared. "Beautiful to look at, maybe, but what of our lost homes? What of my 52 Jersey cows, eaten so clean there isn't even the bones left? What kind of a visitation is it that even consumes bones?"

"My silk mills have gone," said a well-dressed man on the flank of the crowd. "Not a fragment of silk left—and even the looms and the factories themselves consumed. Even fire could not have destroyed steel machinery."

The clergyman said: "I think we should thank the Lord that we ourselves have been spared, and then take practical steps to have the matter investigated."

Mark Alcott said: "Look at the ground, folks. I can't trust my own eyes."

In shocked silence every eye contemplated a vast carpet of grubs, shifting, gliding, even growing.

"More of 'em," Mark Alcott whispered, stupefied. "Look at 'em! Must be tens of millions, spawned by those horrible things that destroyed our town!" He swung. "Reverend, we've got to do something before these things grow too big. Kill 'em! Stamp 'em out!"

Firemen deluged the grubs with water and foam, but though it made them change direction it certainly did not kill them. Engines were sent from neighboring towns, bearing with them carboys of sulphuric and nitric acid.

With their radio tuned in, Max and Eva heard what had happened, as did the experts who were with them in the search for moth breeding grounds. Morton Stone, who was in the same plane as Max and Eva, stood frowning as the news item came to an end.

"What do you make of it, Mr. Stone?" Max asked.

"How can I say? I wanted to make a prolonged study of these insects. That's why I wanted to buy those two from you. Seems to me I can have my pick now of any I want."

"It just isn't possible!" Eva declared. "No insects could consume machinery, bricks and stone."

Max said: "You just don't want to believe the awful truth—that these moths from Mars are capable of eating anything they come across, including poisons. The only thing they seem to stop at are human beings, thank heaven. And I suppose there's no guarantee how long they'll hesitate at attacking us, too!"

"If only we could find their breeding grounds," Stone muttered, gazing through the plane's main observation window on to the South African landscape they were crossing. "Nobody can say we haven't been thorough in these past weeks. We've scoured the Earth from poles to tropics and never once seen anything like a breeding ground. Yet they must be somewhere!"

"Obviously," Max agreed drily, turning his attention back to the controls. "Anyway, the best thing we can do now is return to London and then have a look at Birencester. Maybe we can dig out some sort of a clue."

* * *

When Max, Eva and Morton Stone returned to England most of the Birencester people had been temporarily accommodated in the next nearest township of Millerdale, and here a conference was held with Rev. Henry Perkins and Alcott as the chief spokesmen.

They could only repeat exactly what had occurred, and it tallied with the newspaper reports.

"And you seriously mean that machinery, factories and stone buildings were demolished into dust?" Max demanded.

"I mean just that," the clergyman replied.

"What happened to the grubs?" Morton Stone asked.

"To a great extent we killed them, but only by using steam rollers and crushing them. Poisons and acids did not affect them in the least. Those that survived were mature by late evening and winged their way southward, which was the direction from which the original myriads came."

"Southward," Max mused. "Out towards Europe . . . We covered all that area but didn't see anything. Maybe we'd better look again."

CHAPTER V

STONE said: "Was there anything particularly unusual in Birencester which might have attracted the swarm? Say large stores of sugar or syrup?"

"Not that we know of," Alcott replied.

"Not necessarily those things," Stone said. "An unusual store of anything, no matter what? You see, these moths belong to another world and we have no means of knowing as yet what particularly attracts them. What was Birencester noted for?"

"Leather and silk," the clergyman replied.

Stone meditated over this. "I cannot see what the attraction could be in them. Maybe there was no attraction at all—just a blind decision to strike at one spot, and it happened to be Birencester."

"That's possible," Eva agreed, "but what I still do not understand is how moths could consume stone and steel. They just couldn't. Even in their millions they could never digest a whole town and cattle as well!"

"It happened, Mrs. Harborn," the clergyman said.

"I know it did, but I think they must have exerted some other kind of influence to bring it about."

"We can never find out about that unless we can capture one of them," Stone decided. "Somehow, that has got to be done. The singular thing to me, Mr. Harborn, is that you and your wife managed to bring two of the moths from Mars without trouble. They didn't consume the nets, or anything?"

"No. They couldn't have been more docile. In fact they gave the impression of being half asleep."

This thought seemed to interest Stone for the moment, but nevertheless he did not comment upon it. Instead, he rose to his feet and looked toward the scientists who accompanied them.

"Speaking as an entomologist," he said, "I must point out that no insect in our knowledge acts blindly. They all have a fixed purpose in what they do. They have certain things they like and dislike, certain breeding grounds, and certain special foods. For instance, the bee is primarily interested in the secretions of flowers. No bee would, by that ruling, be interested in a chunk of coal. These Martian moths must have had some reason for selecting Birencester and we must never rest until we find out what it is—or was. If we know that we may be able to protect other places having similar characteristics. So you, gentlemen, as scientists, should get to work on an analysis of Birencester for some unusual quality."

The scientists nodded, though they did not look very hopeful.

"As for me," Stone finished, "I shall do my best, with the help of Mr. and Mrs. Harborn, to devise some kind of a trap so that when more of these moths appear one of them can be captured and killed without destroying its organs. For that purpose electricity seems as though it would be the best medium."

So the meeting ended, without a great deal to show for it. The scientists made arrangements to domicile themselves in Millerdale, from which base of operations they could go easily to razed Birencester and study it.

Max and Eva, with Stone, returned to London, but they did not immediately give their attention to devising some kind of moth trap: instead they visited the air ministry and from the flight records endeavored to trace the points at which the Birencester swarm had been noticed. Unfortunately, reports were scanty, no pilots having been specifically advised to watch for the unusual. There was nothing more to tell beyond the fact that the moths had been seen heading from the coast of France, and across southern England. As to their breeding grounds, this was still lost in mystery.

"Not that I can readily understand your anxiety, gentlemen," the chief of the air ministry said, when the interview was closing. "Surely the Birencester tragedy was just a freak of nature, which will never happen again?"

Max said: "I wish I could feel so sanguine, sir, but I can't. Somewhere in this world tens of millions of moths are in hiding, gorged maybe, and there is no guarantee but what at any moment, anywhere, they may appear and devastate everything before them. I believe Birencester was only the beginning. We have by no means seen the last of the Martian moths as yet."

Which fact Max saw proven much sooner than he had expected. That same day, in the late afternoon, the sky blackened over the small township of Lonsdale, 50 miles north of Birencester, and very shortly afterwards there was again that orgy of total destruction as buildings, animals, and vegetation became buried under the "black snow."

It so happened that a townsman telephoned to the nearest town as the swarm descended, and immediately the news was relayed to London.

Max, Eva and Stone flew by fast plane to the scene of the invasion, while by road, from the nearest army centres, there rumbled tanks, bulldozers, and flame-throwers, ready for one of the queerest manoeuvres ever undertaken.

"This is our chance," Stone said, glancing at Max and Eva. "We can try capturing some of these moths and electrocuting them by using the plane's batteries. If I can make an analysis of what they have eaten, it may be possible to discover what it is that so fascinates them at their points of attack."

He turned and looked at the pilot. "Bring us down, captain, will you? Near to the edge of the swarm as you can."

Stone rummaged among the pieces of entomological equipment he had brought with him. Finally he produced what looked to be three big glass jars clamped to the ends of long, light poles. A brake-cable system operated a ventilated lid which clamped shut over the jar at the will of the operator.

"This may work or it may not," he said, handing a jar each to Max and Eva. "The principle is obvious. With so many moths present a mere scooping movement ought to gather quite a few specimens."

"After which they'll probably eat their way through the jar, or otherwise destroy them," Eva pointed out.

"That's possible, Mrs. Harborn—but these jars are made of reinforced unbreakable glass. I hope they'll last long enough for us to get our specimens electrocuted."

He did not say any more, for the plane was circling downwards swiftly. At length it struck the bumpy field on the outer edge of the moth swarm, taxied for a few yards, then came to a standstill. Immediately Stone, Max and Eva scrambled out and hurried rapidly to where the surging "black snow" was nearly knee deep.

"Right," Stone muttered presently, pausing. "I think we're about ready to do some scooping. Could you ever imagine such a fantastic sight?" he broke off, awe-struck.

As far as the eye could reach across the town, the moths were surging, consuming, all of them consumed with a stupendous energy which they had certainly never shown in the Martian deserts.

"An attack like this on a city the size of London could paralyze the country," Max said worriedly. "Sooner we get some dope on the infernal things the better. And, believe me, I'll bring back no more specimens from other worlds henceforth."

Stone did not answer. He seemed to be waiting for an isolated patch of moths in order to attack it. After a moment or two it came and he charged forward. Immediately Max and Eva followed him, operating the levers on the jar poles. In three big scoops they collected perhaps a dozen of the insects, trapping them completely beneath the closed lids.

"Right!" Stone exclaimed, panting. "Back to the plane."

They raced towards it, handing their jars and poles to Stone as they ran. He vanished into the plane's control chamber and busied himself with the batteries, returning presently with two perfect moths inside one of the jars.

"Male and female," he announced proudly. "Stone dead and intact for examination. The others I destroyed."

They did not depart at once. The tanks and flame-throwers had come on to the scene, and from their vantage point in the field there was a clear view of the military onslaught on the pests—a vision of spouting flame incinerating the hordes, of tanks crushing them amidst the buildings they were desolating, of bulldozers pounding and battering at them as they clung to and devoured the stronger edifices.

"We'll wait and see how it finishes up," Stone decided, watching intently through a plane window over the shoulders of the pilot and navigator.

It appeared, for the next half-hour, that the forces of the army were winning. Certainly they did deadly work in clearing up the dense carpet of invaders; but, just when it seemed that victory was assured, there came a thin high droning in the sky, distinctly audible in the quietness of the plane's cabin. Then the late afternoon became dimmed and an unnatural twilight fell.

"Look!" Stone breathed. "Millions of them! Millions!"

Converging on this particular area was a colossal cloud of the moths, stretching 12 miles across and reaching down to the horizon. It seemed endless.

"Better get out of here, sir," the pilot said uneasily. "They haven't come this far yet, and we may get free. If they bury us, there's no telling where we'll finish up."

"Yes—carry on," Stone agreed, watching the scene outside.

CHAPTER VI

By the time London was reached, it seemed hard to imagine that the events of Lonsdale had taken place. The gray city looked impregnable and undisturbed in the early evening light.

"What's your first move, Mr. Stone?" Max asked, as the plane touched down.

"To get to the Entomology Institute and analyze these moths to the last detail. Maybe you'd care to come with me?"

"Nothing we'd like better, but first there's a report to be made to the air ministry. The authorities will want full details of what happened at Lonsdale."

It appeared, however, when air ministry H.Q. was reached that the story of Lonsdale had been received, and as Stone, Max and Eva entered the office of the chief, they could tell in a moment that something was radically wrong, something which even went beyond the seriousness of attack by insects.

He said: "The moths have decided to add the destruction of human beings to their depradations."

"What!" Max ejaculated, horrified. "But—but we saw nothing like that. We even managed to get specimens without harm to ourselves."

"That may be, but almost every inhabitant who lingered near Lonsdale, together with the men of the militia who attacked the pests, was killed. Some escaped and reported the matter to headquarters. The last report from the area of Lonsdale stated that the moths were now departing southward, leaving behind dust and ruin. No bodies, no skeletons, no war equipment — everything gone, and tens of thousands of grubs spawning in the rubbish left behind."

The chief sat down slowly at his desk and drew a hand over his brow.

"I just don't know what the devil to do with a business like this," he muttered. "It's beyond all reason. I've been told by the government to dispatch a bombing fleet to destroy the grubs, but to me it seems like a waste of power. We might kill most of 'em, but the others will escape and create more. We need something more effective."

"Definitely," Stone agreed. "And in a few hours maybe I will be able to suggest something. May I use your phone?"

"Surely. Go right ahead."

Stone lifted the instrument and the chief's eyebrows rose as he realized the prime minister was being contacted.

"Morton Stone, the entomologist, here, sir," he explained. "I wish to make a rather extraordinary request. Can you call a cabinet meeting for 8 o'clock this evening?"

The prime minister's voice was inaudible to all save Stone.

"That's fine," the entomologist said finally. "This insect menace has gone beyond being something like a locust swarm. The fact that even human life isn't immune from it demands vigorous action. At the meeting you had better have the responsible heads of the three services, together with scientists. I'll do my best by then to work out some kind of plan. Yes. Very well, sir. Good-by."

"You think you have something?" the air chief asked as Stone put down the phone.

"I don't know yet, but we'll certainly have to call a state of emergency. Probably see you later at the cabinet meeting."

The entomologist hurried away, with Max and Eva close behind him, and gained the Entomology Institute 10 minutes later by fast car. Immediately he made his way to the laboratory specially devoted to the study of insects and equipped with some of the finest microscopic and x-ray apparatus in the world.

Sandwiches and tea were sent in, of which Max and Eva made short work. Stone scarcely noticed. His tall, stooped figure remained at the binocular microscope, the slide below illuminated by powerful lamps. He made several notes but passed no comment. It was only when he had made an x-ray of both male and female moths and studied them intently on the magnifying screen that he seemed to make up his mind.

"To a great extent I'm working in the dark," he said, "because these insects do not fall into any category for which there is a parallel on this planet—but basically I'd say they're electrical."

"Electrical!" Max exclaimed, astonished. "But is that possible?"

"Most certainly it's possible. Many Earth fishes are highly electrical, particularly deep sea ones—but in this case, from what I can determine of the insects' organisms, they are supercharged with it. It explains why no other insects tackle them. If they did they'd probably die from high voltage shock."

"Does it explain why they have started to attack humans whereas they didn't do it before?" Eva asked.

"Possibly, but I haven't delved that far yet." Stone looked thoughtfully at his notes and then at his watch. "I have a few hours yet in which to work out several more details which puzzle me. I think, without meaning any discourtesy, that you had better leave me to concentrate. We'll meet again at the meeting of the cabinet tonight when maybe I'll have something further to tell."

* * *

The Calcutta-Delhi air express was in trouble, though as yet the passengers, a full complement of them, had not been informed. The trouble was two-fold. A violent windstorm from the south, not foreseen by the weather forecasters, was making itself evident in the upper heights and increasing with every second — and one of the four engines of the plane was behaving badly.

"Our only hope," the chief pilot said, as he studied the situation with his crew, "is that this powerful southerly air stream will exhaust itself quickly. If it doesn't, and with that engine as it is, we'll have to touch down as best we can and radio for help."

The navigator and second pilot nodded, casting a glance at the sealed door behind which were the passengers, at present all unaware that the tremendous windstorm was taking them far off their course.

Normally at this time in the late afternoon the plane should be flying over Karbarhari in Bihar. Instead, the wind had gained the mastery over the weak engine and the machine was in the region of Darbhanga in the northernmost region of Bihar, between 200 and 300 miles off course.

To the north lay Nepal, and in the remoter distances the Himalayan mountains with snow-capped Everest like a white and purple citadel dominating all around it. Toward this region, despite everything which could be done, the airplane was being irresistibly forced withal maintaining a northwesterly course where lay Delhi, the eventual destination.

"Do you think we should come down now, sir, and fix that motor?" the second pilot asked presently. "We've a more or less clear stretch below."

"So I notice." The chief pilot turned from the window. "If we do that we lose hours on schedule and spoil our reputation. It's the last thing I want to try. We can make it okay to Delhi if this air stream would only slacken. I'd better see if the forecasters have any dope on it."

He switched on the radio. "Forty-seven nine calling Air Met. Report on conditions for Calcutta-Delhi. Very strong southerly air stream becoming worse. Moving us off course. Over."

"Southerly air stream unexpected," came the voice of Air Met. "Development from small secondary crossing the Arabian Sea. Not expected to be of long duration. Over."

"Okay, thanks," the pilot responded. "We'll take a chance. Maybe we'll pull out of it."

He switched off and the plane continued in the direction of Delhi in a wide outward sweep as the wind still

continued its pressure toward the north. The consequence was that an hour later Nepal was being crossed, far indeed from the ordinary course—and there was increasing danger of being driven into the Himalayan region.

The pilot cast a look at the country below, mainly rugged, and compressed his lips. Then his eyes moved to the wind velocity meter and he brightened a little. The force of the southerly air stream was at last showing a decrease. A sound made him turn. The private door opened and the air hostess came in, bewilderment on her face.

"Where are we heading, Capt. Digby?" she asked. "Not that it matters to me, but it does to the passengers. I've run out of excuses. Most of them are saying we're going to finish up in Tibet instead of Delhi."

"Tell them that from now on we'll be getting back on to course," the pilot answered. "We'll be late in reaching Delhi but we'll make it just the same. Bad air stream has driven us off course."

The air hostess said: "Sounds to me as though you're having engine trouble as well."

"We are—but it's no use scaring the passengers. Just tell them we're a bit off course. There's nothing to worry about."

The girl departed, closing the door, and hardly had she done so when the wind, which had apparently been decreasing, suddenly doubled and trebled its pressure.

"We've got to do something, sir," the second pilot insisted. "I can't hold her in this. It's like trying to ride a cyclone."

The pilot hurried to the door, assured the passengers there was no danger but that they had better use their safety belts just the same, and then he returned to the control cabin.

The situation had by now seriously deteriorated. Sunlight had gone and clouds were sweeping around the machine in the midst of the hurricane as the second pilot did his best to keep control.

"I'll take over," Digby said. "Keep me posted by the instruments."

Possibly he would have been able to rise over the storm belt had the one motor not been faulty and the plane loaded to the limit with passengers and freight. This being denied him, he searched the ground keenly for some signs of a landing place, but the southerly blast had already driven the plane over the Himalayan foothills and there was nothing but rock, odd dwellings here and there, and treacherous ravines.

The navigator said: "The only way out of this, sir, is to gain altitude."

"I'm aware of it," Digby retorted, and for a second he and the rest of the crew gasped as a solid face of mountain swept toward them out of the clouds and dense mist.

With only a few feet to spare, Digby saved the situation and the machine swung and rocked on its crazy way, all signs of a course now utterly lost. Digby knew full well he had gambled too much on the elements—and lost; and he knew, too, that since altitude was the only answer, he had to gain it if at all possible.

"Order all luggage and cargo overboard," he snapped. "Take no refusal. Our lives may depend on it."

CHAPTER VII

LIGHTENED, the plane began a slow ascent. Then, when Digby was convinced the battle was won, the faulty motor gave up the ghost. The plane dropped, narrowly missed the summit of a lower mountain, and then struck the side of a giant just beyond.

Shaken, his shoulder feeling as though it were broken, Digby struggled to his feet on the slanting floor, helping up his colleagues beside him. They were dazed and badly bruised but otherwise apparently unhurt. They made their way across the chaos of the control room and dragged open the door into the main body of the plane. Here there was confused movement in the gloom, the only light there was coming through the whirling clouds which obscured for the most part the dying light of evening.

Two men and the air hostess had been killed. Several more were injured, but not so badly that first aid did not patch them up temporarily. The others were bruised, but becoming calmer.

Digby, his face strained with pain and responsibility, went back into the control room and tested the radio. At first it failed to work so he set to the task of examination, using an emergency battery light. It was the hardest job he had ever undertaken, having only one hand to do it with. The other was practically useless.

Occassionally, as he worked, he glanced outside upon the scene of fast-dying light and whirling snowflakes. The plane had evidently dropped a considerable height up a mountain: the cold alone proved that. He found the radio functioning again and quickly tuned in.

"Forty-seven-nine calling! Calcutta-Delhi air express. Have crashed in Himalayan range. Over."

There was no immediate answer, so he tried again. Then came a reply, interfered with by electrical static at the tops of the mountains.

"Punaka radio station, Bhutan, answering forty-seven-nine. Come in, please. Communication bad. Over."

"Have crashed in Himalayan range, exact position unknown," Digby stated. "We entered from a southerly position and then lost course. Violent storm in progress. Send search parties. We will give signals and guide by radio. Medical help wanted. We . . ."

Digby broke off. He had glanced through the window and in the nearly vanished light he saw something he could not quite believe. The great plateau upon which the plane had crashed had mysteriously turned black, whereas only a few seconds earlier it had been snowbound.

He was still puzzling it out to himself when the view through the window was completely obscured by myriads of moving bodies seen from the underside. Bodies with stripes and ebony wings, so closely packed together they were a solid mass.

"Moths!" he muttered to himself. "Here of all places!"

He watched, fascinated, as every window blanked over with the winged myriads. He knew of the moths, of course, from radio reports, but this was the last place he had ever expected to encounter them. Then the insects found openings in the riven plane and began to pour into the interior.

* * *

The cabinet meeting called by the prime minister was attended not only by Max, Eva and Morton Stone but by the scientists who had been investigating devastated Birencester and Lonsdale.

"With your permission, sir," Stone said, looking at the P.M., "I'll make my report first. I've investigated two of the moths thoroughly, male and female, and there is no doubt that the female possesses tremendous powers of procreation. The moths are electrical in basis, which makes them immune from attack by any other insect. It is because they are so immune that they breed in such vast numbers. The law of natural selection, of survival, does not operate."

"Electrical?" repeated one of the scientists, as surprised as Max had been when he had first heard about it. "In what way?"

"It would seem," Stone answered, "that untold centuries of evolution on Mars, where the air is thin and the solar rays penetrate more intensely, have caused the moths to develop a curious internal structure which makes them able to absorb electricity. It is merely a process of nature and evolution, as natural as a fish being able to live in water whereas an animal lives in air. The Martian moths live solely on energy, and their electrical basis makes them capable of breaking down any material substance by the process of disintegration, and extracting the energy therefrom. I am not a physical scientist, so I leave it to those gentlemen to better explain how this could be done—but I do know the insects possess the equivalent of a sting which is actually electrical and can disintegrate in a small quantity, any known material substance."

For the moment Stone could not proceed any further: his statement had taken everybody by surprise. The scientists moved over to confer with him and study his notes and it was 10 minutes or so before one of the leading physicists ventured an opinion.

"From studying these excellent findings of Mr. Stone's," he said, "it would seem that these moths possess naturally the power of creating disintegration. Whatever they encounter in the way of a material object they can annihilate, but only an infinitesmial part of it, of course, and when this disintegration takes place they absorb the energy released by that process and are accordingly fed. In other words, nature has provided the insects of a dying world with the only means of sustaining themselves, for in everlasting sand they can find all the energy they need. That is why, Mr. Harborn, on your trip back from Mars, the insects did not break loose. They had all the sustenance they needed in the sand you provided. Had it run out, they would doubtless have set about absorbing energy from the steel walls of their prison."

"But even assuming that to be true—that these things are disintegrative, how could they bring a whole town to dust?" It was Eva who posed the question.

The physicist said: "Numbers, madam. That is the answer to your question. Locusts destroy vast food areas because of the myriads of them which attack."

"True enough," agreed the prime minister, feeling he ought to make a comment. "You are suggesting then that these moths are rather like—er—let us say the woodpecker which drives holes through trees?"

"Nature," the physicist replied politely, "always provides her creations with a means of living, and since we are dealing with insects from a world far advanced beyond our own it is logical to think that evolution will be that far ahead, too."

Max asked, "Why do you suppose they ignored humans at first, but later attacked and destroyed them?"

"I think I can answer that," Stone responded. "Humans are 75 per cent. water, and water is dangerous in contact with electrical energy, however slight it may be. I think the moths refrained from attacking humans until they had decided that it would be safe to do so. Either that or, driven into a corner in the Lonsdale onslaught, they attacked humans from desperation and found they could do so without harm to themselves."

The prime minister said: "Gentlemen, your expositions are most ingenious and welcome, though I am afraid they only pose bigger problems for us. How, for instance, are we to deal with these moths by the only two methods open to us?—fire and electricity? It would be impossible."

"At the moment, yes," agreed the physicist. "But to even know what will kill them is something. The remainder is a matter of being ingenious enough to devise a scientific method. And that we must certainly do. It would be much easier if we knew where they breed and muster — or where they might strike next. That is where we are defeated."

"In regard to that, I have a report to make." The scientist who had conducted the investigation of Birencester and Lonsdale stood up. "We discovered that the one thing Birencester and Lonsdale had in common was red sandstone. It existed in the soil and, indeed, was the most prevalent material of the ground itself. Since Mars, too, is mainly red sandstone—"

"Not mainly," Max said. "It appears so from Earth, but when you reach Mars it is evident that the redness is ferrous oxide dust—or rust, if you prefer. So much of it that it has formed into deserts. There is a certain quantity of red sandstone, of course, but not much."

"I stand corrected by the pioneer," the scientist said. "However, since red sandstone is prevalent on Mars, and also on Earth in certain places, does it not seem possible that there may be some ingredient in it, some energy property which we cannot possibly understand, which is attractive to the moths? I don't propose to explain how they locate it."

"Possibly there is something in your theory," Stone said. "Did you find that much of the sandstone had been destroyed?"

"Yes—about 50 per cent. of it. It may be as attractive to the moths as jam to a house fly.

CHAPTER VIII

THE prime minister said: "We shall not find it easy to forecast where the moths will attack next. Most of England is comprised of red sandstone!"

"But some places contain more of it than others, sir," the physicist pointed out. "I think we ought to have a geological survey of the country made immediately, and the special red sandstone areas marked out. By that time some fire or electrical plan may have been worked out, into which trap the moths might fall."

"Yes, we can do that," the prime minister said.

Max said: "Gentlemen, you are referring to what must be done for Britain, but the entire world is in danger. These moths can fly, remember, and there is no reason why other countries should not be attacked. Indeed I am convinced they will be. I am also convinced, that at the rate the moths spawn and grow, we shall find ourselves fighting desperate battles with them before we're much older. Sitting round a table here clears the air, yes, but we've hardly scratched the outside of the catastrophe. Unless we find a definite, infallible remedy the Martian moths can destroy us, and the world!"

There was an uncomfortable silence.

"Well," the prime minister said finally, "I think that whilst we digest these unpalatable facts we had better have some refreshment." He reached for a button on his desk.

It was during the sandwiches and coffee that Max's voice broke into the buzz of conversation with the air of one who has had an inspiration.

"I wonder what the Martians did to rid themselves of the Martian moth? Or what they did to prevent it? It only exists in trifling numbers on Mars, so there must have been something the Martians did."

"A bit too late to wonder now," Morton Stone sighed. "The Martians have gone forever, leaving behind them a—" He stopped, a rather appalled expression crossing his face. "Good heavens! Did the Martians overcome almost all the moth hordes, or was it the other way about? Is Mars a desert of rust today because of the moths? Did they eat away every trace of Martian civilization and even the Martians themselves? Or were the Martians clever enough scientists to fly into space and escape the horror of relentless annihilation by insects?"

Max said: "I'd gamble that the Martians were clever enough to understand space travel. That being so, if they left their own world they would go to one of the others in the Solar System and start again. They wouldn't fly elsewhere because the next nearest planets, granting they even exist, are somewhere in the region of Alpha Centauri and it would take countless lifetimes to reach them. I think if the Martians are anywhere they're on Venus. We don't know what lies there because of the cloud blankets."

"Then I can only suggest, Mr. Harborn—and you too, Mrs. Harborn, of course—that you fly there and find out," the P.M. said. "If Martians do exist, find a means of communication and try to get their solution to this ghastly problem."

Max nodded promptly. "That suits us fine, sir, using the same machine in which we went to Mars—and this time we won't bring any specimens back with us. We are directly responsible for all this chaos."

"Indirectly," the P.M. corrected. "You cannot be blamed."

So the conversation turned upon this new decision, and since all the authorities were congregated in the room the details of the Venusian trip, to commence on the morrow, were thoroughly worked out. To Morton Stone and the physicists was given the task of devising a wide-area electrical system by which to destroy the hordes if they could be forecast to arrive at a particular spot. To the defence chiefs was given the task of erecting some kind of electrical defence around London in case of a mass attack. And over the telephone geologists were given instructions concerning red sandstone.

It was nearly 1 in the morning before the meeting ended, but those attending it felt they had some scheme to work on.

"By degrees, my friends, we'll master this trouble," the P.M. said confidently. "We had our problems before and overcame them, and we shall again . . . Yes, Rutter?" he said to a secretary who came in.

"Special message for you, sir, just received," the secretary said, handing over a folded memo.

The prime minister read the message and gave a sharp exclamation.

"This has just been received by radio," he said, "and retransmitted from Punaka radio station in Bhutan. It appears that the Calcutta-Delhi air express has crashed somewhere in the Himalayas and been overwhelmed by moths."

"Moths?" Morton Stone repeated sharply. "Did you say moths, sir?"

"I did. Don't misunderstand me. It was not moths which overwhelmed the plane: it came down through a hurricane and engine trouble. The last report was from the captain, saying that moths were everywhere and that he and the survivors were being attacked, nor did he hold out much hope for beating them off. Search parties have started out by plane from Darbhanga to see what they can find."

"I'm afraid I don't give much for the chances of those aboard that machine," Stone said grimly.

"What puzzles me," the P.M. remarked, "is what moths are doing in the Himalayas—and they must be the Martian variety."

"A breeding and mustering ground, maybe!" Max exclaimed. "It's more than likely. The moths would surely go where they could find conditions similar to those on their own world. Thin air, low temperature, and maybe brilliantly clear sunshine. Where else but on a high mountain? In all our searches for breeding grounds we've looked on the ground level. It looks as though by chance the Calcutta air liner dropped straight on to a breeding ground."

"I believe you're right," Stone agreed, his eyes eager.

Eva asked: "Does it say exactly where the plane crashed, sir?"

The prime minister shook his head. "No. Possibly that isn't yet known."

"This is too important to wait for that, sir," Max put in. "Definitely there is a breeding ground there and the best thing I can do is fly there immediately, with my wife and a few scientists, and see what we can discover."

"Immediately?"

"First thing in the morning, then," Max amended. "By then there may be some information to work on, and it will also give us a chance to snatch some sleep. We'll have to postpone the Venusian hop."

"I think Mr. Harborn is right, sir," the leading physicist declared. "This may be the one chance we're looking for. It's a breeding ground all right, and though it can't be the one whence came the swarms which attacked Birencester and Lonsdale, it must nonetheless be stamped out before the hordes start invading India."

"Why shouldn't it be the breeding ground whence came the swarm which attacked this country?" Eva questioned.

"I'm thinking of the timing, Mrs. Harborn. In the Lonsdale attack reinforcements were presumably sent for. They could hardly have come from India so quickly, could they?"

"For the moment," the P.M. said, "let us pinpoint this particular location. Very well, Mr. Harborn, I will give instructions for a fast plane to be placed at your disposal for 8 tomorrow morning, from the Central Airport. You will be going, too, Mrs. Harborn, I assume? How many of you others?"

Morton Stone and the leading physicist decided to go.

* * *

When the quartet set off in an armed and provisioned military plane the following morning, no further information had been received from the far-distant region of Bhutan. It was only known that a search plane had departed from Darbhanga the previous night and nothing had been heard since.

When it was not his turn at the controls and a regular pilot took over, Max spent much of his time contacting receding London, only to learn that nothing more had been heard. So, presently, he established radio communication with Punaka, and then with Darbhanga. From the latter radio station he gleaned the slight but interesting information that the search party had detected a vast black area where snow should have been, deep in the Himalayan range, the approximate latitude and longitude being given.

"Which is roughly in the region of Everest," Max said, looking at the navigation chart. "Maybe the crash actually was on a lower point of Everest."

It was 8 in the evening when they reached Darbhanga. They stayed long enough for a meal and to freshen up, learning meanwhile through the British colony connected with the radio station that nothing further had been heard from the search party.

Then they headed toward the mighty Himalayan range looming purple in the setting sun. At this point Max took over the controls and the pilot gave his attention to the radar equipment. Eva, Morton Stone and the physicist posted themselves at the outlook windows and kept a constant watch, using binoculars as they fancied they detected the unusual.

Gradually the landscape below became rocky as the Himalayan foothills were reached. Max, watching the instruments and guiding the plane as well as he could toward the latitude-longitude readings already given him, had all his work cut out to steer amidst the pinnacles of rock which appeared with ever-increasing frequency the further the range was penetrated. Several times he wondered, as the darkness began to settle, if it would not have been better to wait until the next day—then he shook his head to himself. If some chance caused the moth swarm to suddenly change its breeding grounds the opportunity might be lost.

Nevertheless darkness completely descended without there being any sign of "black snow" amidst these lonely, windswept gorges and crevasses. The plane's three searchlights—two ahead and one projected below—were turned on and Max went doggedly on. Fortunately the air was mainly clear of cloud following the storm which had overwhelmed Capt. Digby, and there was no great difficulty in negotiating the citadels of relentless stone which reared ever higher to heaven.

"We'll have to start on our emergency fuel soon and turn back," Max said finally, disappointed.

"Wait a minute!" Eva interrupted excitedly. "I just saw something. I thought it was a plateau swept clear of snow by the wind and black for that reason—but I believe the black was moving."

Immediately Stone and the physicist moved to her window and peered below in the glare of the searchlights. All they saw at the moment was an abyss, terrifying in its depth but, as the plane began to circle, they saw the region the girl had seen as it came into view again.

CHAPTER IX

IT was indeed a kind of plateau, like a gigantic ledge in the mountain face. It was absolutely black, in startling contrast to the brightness of snow on all sides of it—and definitely it was moving. Its edges expanded and contracted as it was watched.

"We've got it!" Stone cried, his night-glasses focussed. "Moths — tens of millions of them! So closely packed they look like a carpet several feet thick. No sign of a plane, either the Calcutta liner or the rescue party."

"And there wouldn't be any signs of us, either, if we were to try to land near that horde," Max replied. "We've located it, and that's the main thing. What we have to do next is find a suitable landing place and then contact the nearest military air force base in India by radio. We need bombing planes carrying incendiary and high explosive. We shan't be able to kill all these myriads but we'll certainly obliterate 75 per cent. of them, and that will help—at least until we've devised something more effective."

"A landing place around here?" Eva asked. "Where? And why?"

"Because we might not find the spot again. We must stay near to it and guide incoming attacking planes with our radio."

"Unless I'm very much mistaken, we'll be lucky if we ever get out of here alive," Morton Stone commented, looking below intently. "Those infernal moths are rising in a cloud—and coming straight towards us!" he finished in alarm.

"Out we go!" Max cried. "And quick!"

The plane climbed swiftly, but the moths were even faster. They began to adhere to the outsides of the windows, blotting out the view, and presumably they were also covering the plane's exterior from nose to tail.

"We've got to shake 'em off!" Stone exclaimed, glancing about the control cabin nervously. "They can easily eat their way in and we've no means of stopping them."

"We've just one, and I'm taking it," Max retorted. "I'm going to the very limit of height which we can stand in the hope that the freezing conditions and lack of air will make these infernal things fall away."

At 80,000 feet Max glanced sharply over his shoulder towards the physicist.

"Better get the oxygen apparatus in action. We're going to want it if we climb much higher. Then we—"

Max broke off with a little gasp of relief. Suddenly the windows had completely cleared as though no moths had ever been present. Down below, in the blaze of the still-operative searchlights, was a fading cloud of blackness spiraling into the depths.

"Beaten 'em!" Stone cried. "They couldn't stick it any longer, Mr. Harborn. Congratulations on making the ascent so swiftly."

"Only thing I could do," Max replied. "Credit, if any, should go to the makers of the engines that saved us. And the sooner we get down again and have the plane overhauled the better. I'll gamble it looks as though electric drills have been at it."

He was not far wrong. Now the wings could be observed, it was clear that they were badly damaged, so possibly the body of the plane was as well . . . As gently as he could, Max nursed the machine down, but he did not breathe with any freedom until at last the mountains had been left behind and the rugged country which led to Darbhanga, and rest, after their experiences was gained. They had no difficulty in putting up in the small English colony and here, over a meal, they discussed the problem with the commander of the small British air force in the region.

"What chances have we of getting about 50 planes, loaded with incendiaries and high explosives, to deal with this moth centre?" Max asked him.

"Every chance," was the reply. "There is a big concentration of planes at Patna, both British and American.

Max said: "You know of the Martian moth menace. If the hordes we saw, extending over dozens of square miles of mountain country, should double or treble their numbers and then descend upon India, there would not be anything left. We've got to act fast, with everything we've got. Even then we'll only be partially successful."

"You know your way back to the moth swarm?" the commander asked.

"Not by any means, but I think I can manage it with reasonable luck, clear weather and daylight. Very well then, commander, you cantact Patna and ask them to have a fleet ready to attack tomorrow at sunup. They had better fly here and then we'll lead them afterwards. Meantime I'll radio-telephone to London and advise the prime minister what we're doing."

In half an hour all the necessary arrangements had been made and sanction obtained from London. Upon this the commander left his guests to talk and relax before getting some much-needed sleep.

"One thing's certain," Stone said. "We only pulled out of that one by our eye teeth. That plane will never fly again with its body practically bitten to pieces, or rather disintegrated to pieces."

"The thing that puzzles me," Eva remarked, "is how the moths knew we were enemies. For that matter, how did they know the same thing about Capt. Digby and his plane? Apparently they must have known it about the rescuers, too, for they have not reported and we saw no trace of them."

"Unless those moths have highly developed instincts of danger, which is quite possible in their ultra-evolved state," Stone said, "we can only assume that they destroy whatever invades their territory, just as a matter of course. They must instinctively realize that they are on an alien world, so possibly anything to which they are not accustomed automatically becomes an enemy."

"Could be," Max agreed lazily. "Anyway, we'll give them the hiding of their lives tomorrow, always granting we can find them again."

"And it mustn't stop at that either," remarked the physicist. "I think the air force should be ordered to fly over the Himalayas, and indeed over every known mountain range in the world, in a hunt for the moths. We've established it now as a fact that they choose mountain heights in which to breed and muster, so it is the mountain heights which must henceforth receive attention. And the sooner we get back to London, and I can work on the theory of an electrical destroyer for them, the better . . . "

Max nodded and stifled a yawn behind his hand, which seemed to be considered as the signal for general retirement. But, though every member of the party slept soundly, they were all ready at sunup, fully refreshed, prepared for the assault on the enemy citadel.

Max was granted the three requirements he desired — reasonable luck, clear weather and daylight, and, accordingly, he led his armada of 50 war planes to the region where the moths were congregated.

It was now no longer in doubt that the moths had chosen Everest itself as a "home." The tableland portion they covered was about half way up the mighty mountain, a large area and filled to capacity with uncountable trillions of the insects, so much so that from the air it looked as though a sea of black ink had mysteriously formed itself in the mountain.

"If there are other mustering grounds we'll find them later," Max said, speaking both to those in his own cabin, and through the microphone to the pilots of the fleet. "Right now we've only one objective: blast this lot even if the whole mountain goes with it!"

So the onslaught began. Explosives went sailing down into the black carpet, followed by a rain of incendiary and jellied-petrol bombs. Max would not have stopped at atomic bombs either, except for the fact that unexpected earthquakes might ensue in dealing with a mountain range.

Even as it was the chaos was appalling. Rocks, avalanches, snow, and moths were all whirling outwards in the midst of violent flashes, raging fire, and resounding explosions. Not until the circling planes had released everything they possessed was Max satisfied, and the result was a mighty chasm torn in the floor of the tableland and, so far as could be detected, no signs of moths or grubs.

"So far, so good," Max commented finally. "Very effective, unless a lot of them escaped to settle elsewhere. That we'll have to risk . . . Thanks, boys," he added, into the microphone. "You did a grand job."

Lightened of its load the armada returned to Darbhanga just as a second fleet was taking off, heavily loaded, to begin the survey of the Himalayas and seek out the pest-spots. In a word, direct action against the hordes from Mars was at last being taken. The only thing lacking was a really effective weapon of destruction, but from the preoccupied expression on the face of the chief physicist, something was developing.

So came the return to London and the detailed report to the prime minister.

"In my opinion, sir," Max said, "I think the air force should now explore all the mountains of Europe for pest spots—and also the hills in our own country as far north as the Highlands. Throughout the world we've got to stand watch and destroy, until the last grub has been wiped out."

"Which I do not think will ever come about until you, Mr. Harborn, have done your best to locate the vanished scientists of Mars," the prime minister responded. "I take it you will be free to commence the Venusian trip tomorrow?"

"Quite free, sir," Max agreed — and the events which happened only a few hours after he had left the prime minister revealed the urgent necessity of his mission.

CHAPTER X

TOWARD 4 in the afternoon, in the midst of drowsy summer heat, the moths attacked again. They attacked in seven places simultaneously, and with overwhelming fury and numbers.

In England they buried Bedford, Trowbridge, and Tunbridge Wells under a fog of whirring wings and

striped bodies, their disintegrative stings wiping out the struggling humans who had been taken by surprise, while buildings were steadily and relentlessly disintegrated into dust. From all directions the fire services, army, and air forces struck back as best they could. Flame throwers and tanks were again thrown into the battle, and for the most part were destroyed along with the men who controlled them.

In three hours three great areas of England had been reduced to dust—or at least a brown carpet of squirming grubs numbering multi-millions. And the death toll was staggering. But the satiated myriads did not escape with complete freedom. This time they were followed by jet planes, the only machines which could keep up with the moths' tremendously rapid speed of flight. And so the hordes were pursued to their starting point, high up in the Swiss Alps. Immediately this was reported, orders went out: destroy for a week or a month if need be, but kill every one of the winged horrors.

Another thing had also become clear to Morton Stone. It seemed that when the pests consumed energy their life forces were also stimulated, which accounted for the myriads of progeny they always left behind after an attack.

So England reeled with the news which struck it. Throughout the length and breadth of the country on that calm summer evening, eyes were cast apprehensively at the gentle skies as those as yet untouched wondered if it would be their turn next.

Then came radio news from across the ocean. Four other places had been attacked, thousands of miles apart. Cloverdale in Nevada had been devastated, and so had Comilla, in Bengal; Rioja in Argentina; and Winton in Queensland. A world crisis had arrived and the heads of states conversed anxiously over radio-telephones in an effort to get the slowly worsening situation into clearer focus.

Morton Stone was convinced that the attacks had been so widespread and so savage purely for revenge. He believed, and reported as much to the British prime minister, that the insects, scattered though they were all over the world, were constantly in touch with each other through telepathy, and that the onslaughts had chiefly been inspired by the Himalayan reprisal. Which meant that, in a dim kind of way, the moths of Mars were able to reason from an emotional standpoint.

Geologists visited shattered Bedford, Trowbridge, and Tunbridge Wells and reported that they could find few traces of red sandstone—so Morton Stone's theory of the moths attacking something which definitely attracted them promptly went into the discard. Apparently they struck at random, perhaps where they sensed there was the best source of electrical energy for their immediate needs.

Horror loomed over part of the world, for it was clearly realized that without an effective weapon, all the fine work of the air force and army would avail little against the ever-increasing hordes.

All of which brought Max and Eva into an extremely sober mood the following morning when they took their leave of the prime minister and various officials at the London airport, bound for the unknown world of Venus.

"Our hopes are wrapped up in you two young people," the P.M. said, smiling gravely. "The whole world has come to realize the deadly nature of the menace which is threatening, and only from intelligences greater than our own can we hope to find relief from our woes. Incidentally, Dr. Mason, the physicist who has accompanied you so often, telephoned me this morning that he thinks he has the basis of an electrical weapon. That is the one bright spot in an otherwise gray sky."

"We'll find something, sir," Max said, shaking hands. "In fact we feel honor bound to do so. We started this trouble by bringing home the specimens, so we'll clear it up."

With that the airlock was closed, the ground staff ordered away, and Max settled at the control board already so familiar to him from the Martian journey. He waited until Eva had sprawled herself full length in the pressure rack, and then he switched on the power.

Immediately the machine lifted, hurled skyward by its powerful jets. Within seconds of unbearable pressure it flashed through the upper limits of the atmosphere and sailed out into the void.

Gradually Max eased off the terrific speed necessary for the take-off, finally reducing to a point where the acceleration equalled an earth-norm gravity. Eva sat up on the pressure rack and, with Max, looked outside on the view of endless stars, sun and moon. Venus, a single brilliant point inconceivably far away across 60-million miles of void, was clearly visible as their goal.

"So far so good," Max commented. "Just the same, I don't quite like the way the off jet is behaving. It's not got full reaction and that might get us into a spot if we need a sudden burst of maximum speed."

Eva gave him a worried glance. "But surely there can't be very much wrong with it? The vessel must have been checked from end to end before we started off."

"Yes," Max agreed. "But any deep hidden fault wouldn't show itself until stress was put on — as when we took off just now. I don't like it, not when we've 60,000,000 miles of emptiness to cross."

It was plain to Eva, who knew him so well, that the danger was more serious than he was admitting.

"Only one thing for it," she said. "Return to earth and make a complete overhaul."

Max shook his head. "I daren't risk it. The strain we throw on the jets when making a landing is tremendous, nearly as fierce as taking off because of the down-drag of gravity. No, the only course is to make a landing on the moon where gravity has only a sixth pull of earth. There I can check up on the difficulty and put it right before we begin the real hop. We can reach the moon in safety because it takes hardly any jet strain to do it."

Eva nodded uneasily, but did not enlarge on the matter thereafter. So, at its most leisurely pace, the machine continued its lonely journey, Eva taking the controls when Max slept or ate, and vice versa, until at last they were within measurable distance of earth's sun-drenched satellite. This was the time when Max took over completely, carefully studying the rocky, cratered moonscape below.

"Shouldn't take us long to rectify the damage," he said. "Better get out the spacesuits."

Eva busied herself with this task while Max nursed the space machine gently down, using power as little as possible, until at last he had made the descent into the shadow of the Lunar Appenines. The moment he switched off the power plant, there came a constant rattling outside, as though hail were descending.

"That's a new one on me," Eva commented, frowning as she gazed over the brilliantly lighted, hurtful landscape of the moon. "What is it?"

"Meteoric fragments," Max answered, scrambling into his heavy spacesuit. "We don't notice them much in space because space is so vast, but here the lunar gravity pulls them down and there's no air to incinerate them. We'll probably find ourselves under a constant shower of big and little brickbats, a trifling point which romantic writers about the moon seem to have so far missed."

He waited until Eva had donned her spacesuit, and then the airlock was opened to the total vacuum. Carrying tools and moving comfortably in the light gravity with their heavy lead-soled boots, they made their way through the dense pumice dust to the rear of the space machine and began a careful inspection of the faulty rocket tube.

"Nothing very serious," Max said at last, through his audiophone. "Interior sleeve is too tight. Won't take me 10 minutes to loosen it. I'll tell those mechanics something when we land back to earth!"

Eva glanced away across the spiky rockery towards the mother world, a monstrous green ball in the dead black star-dusted sky, and she smiled rather wistfully. There, despite the danger of the moth pestilence, there was at least a world that could be understood. Here on the moon there was an indescribable loneliness, created perhaps by the total desolation in every direction. Pumice rock, upflung mountain ranges, titanic craters, utterly black shadows or blinding, undiffused sunlight; such was the moon's surface.

Finally, realizing she could do little whilst Max was at work on the faulty tube, she started to explore, wandering across the enormous plain until she came to the foothills of the Appenines. Here there were more craters, deeply overhung by the mountain range, so that even at high noon—full moon from earth—the sunlight could never penetrate. In consequence, there being no diffusion and no air on the moon, there lurked eternal frost, so relentless it had split the rocks in half. Indeed, it was something more than frost. It was total interstellar cold.

For a long time Eva stood surveying, purely from interest and nothing more; then as she was about to turn away again to the distant spaceship where Max was still at work she paused, looking at the rocks beside her lead-soled boots. It was so utterly pitchy in the shadows she could scarcely see into them, yet on the outer edge of this dark, where the sunlight just touched, there were curious patterns in the hardened plasma. Strange shapes, which looked exactly like the outline of—moths!

She unhooked the flashlight from her belt, held it clumsily in her enormous heated glove and switched it on. The brilliant beam shone into an area which had never known light for untold generations, and it picked out moth images, hardened so that they looked like creations of white and dusty stone. Moths? Here? On the dead lunar world?

Eva went jumping back at such speed that Max gazed in wonder. He gazed in even greater wonder when Eva told him of her discovery.

"Ridiculous!" he protested. "It isn't possible!"

"That's what I told myself, but it's true. They're there! Frozen so solid they look like stone. Come and look for yourself."

CHAPTER XI

MAX was compelled to change his opinion when he beheld the area the girl had discovered. He spent some 10 minutes studying the stone images, counting perhaps 20 moths which had become petrified with both death and eternal cold. Then at last he straightened up and switched off his flashlight.

He said: "Yes, it's right — and it's making a most extraordinary theory turn over in my mind. Something that might invert all the scientists' theories about the present state of the moon. I'll tell you in the ship. We have no time to waste."

When they re-entered the space machine, and closed the airlock, they waited until the air pressure was back to normal. Only then did they take off their protective suits. Max switched on the power plant, and with all its jets functioning perfectly, the space flyer took off, settling into the course for Venus.

"Well?" Eva demanded. "How much longer are you going to keep me in suspense? What about the moths on the moon? How did they get there?"

Max said: "How the moths got there I don't know, but I think that, contrary to astronomical opinions back on Earth, the Moon perhaps got into its present condition because of them. The generally accepted theory about the Moon is that it got into its present condition of craters and chasms from either volcanic activity or the effect of meteorites constantly battering at it. Suppose there is a third theory? That the Moon was ravaged by moths, which devastated it. In the end the moths died as air left the Moon and their bodies are frozen solid in all those places where sunlight never reaches."

"It's certainly a theory," Eva agreed. "But how did the moths get there? Surely they are not peculiar to every planet in the System, except Earth? Until we took them there, that is."

Max was thoughtful. "No, I don't think Nature would ever create such a destructive insect on several worlds: it would defeat her own plan of development. My guess is that they are normal to Mars, but in some way they also reached the Moon. We may not discover the answer to that; but I certainly do think we have the answer to the Moon's devastated condition. For ourselves, we've proved that meteorite bombardment is not so very tremendous."

"Do you think the moths might be able to travel through the void?"

"I don't think so for a moment, otherwise they would not have died on the Moon. No, they must have air to live."

Since the problem seemed to lack solution, Eva turned her attention to the radio and switched it on. After careful tuning, Earth came in, furry with solar static.

"Eva Harborn calling," the girl said. "We are beyond the Moon on our way to Venus. How are things with you? Over."

While she waited the few seconds for the communication to hurtle to Earth and back, Eva glanced at Max.

"Do you want me to mention your lunar theory?"

Max shook his head. "Never mind. Before we land back on Earth I might have thought, or discovered, more about it."

"Earth replying, Central London transmitter," came the voice from the loudspeaker. "We are glad to hear that your journey is being made successfully, and you are urged to do all you can. Moth attacks are reported from the United States, Canada and China. In each case, towns have been attacked with severe devastation and loss of life."

Max said: "Ask them how long they're going to be making a search of the Earth's mountain ranges. That's where those infernal things are hiding out."

Eva asked the question and then waited for the reply.

"Complete search is in progress, and many attacks have been made on mustering and breeding grounds in the Alps, Himalayas and other mountain regions, but it takes times, and the moths breed faster than they can be destroyed. Dr. Mason, the physicist, is working hard on an electrical weapon. Over."

Max put in the automatic pilot while they had a meal, after which their experiences were simply a repetition of their Martian journey. They took the controls in turn, during which period there was little to do except gaze out on the inconceivable vastness of infinity and hold the vessel true to the course, counteracting what few surgings of distant gravitational fields presented themselves.

When they were only two million miles from Venus, a world of brilliantly white vaporing clouds, reflecting the sunshine with intense brightness, Eva made another attempt to call Earth, but evidently the greater nearness of the sun and consequent solar static prevented communication, for there was no reply.

* * *

Max made the descent into Venus' atmosphere cautiously, by no means sure what he was going to encounter. Of all the planets in the System, it was the most difficult one to tackle, there being no prior information as to what it contained. It might even be molten chaos beneath the clouds: that was one of the risks which had to be taken.

He brought the flyer to rest in the midst of saffron yellow plants which looked like glorified rhubarb.

None of the plants was more than two feet high, and in a variety which was astounding. Nowhere was there a sign of animal or human life: only these varied multicolored creations standing motionless in the blazing heat beneath a sky which was white with cloud yet through which canopy the furious sun hurled all his overpowering radiations.

Max commented: "This is the first place I've ever struck where no two plants are alike. Does it occur to you how utterly peculiar that is?"

"I suppose it is," Eva admitted, puzzled.

"On Earth we get plenty of varieties, but there are thousands of one species. Like beeches, elms, oaks and so forth. Nothing here is repeated." Max turned from the window. "From the look of things, there's no sign of intelligent life. We'll make a round trip of the planet."

At 1,000 miles an hour he sent the flyer hurtling through the dense Venusian air, but there was nothing to suggest intelligent life. On the daylit side the scene alternated between bright green oceans and flamboyant verdure, and on the night side there was pretty much the same aspect, the plants leaping into vivid spots of color as the machine's searchlights fell upon them. Here and there

were massive mountain ranges and rubbly areas, but on the whole all Venus could be summed up as a world of brilliant hues, totally devoid of reasoning intelligence.

"A pity," Eva sighed. "This makes our efforts to trace the vanished Martians very tough. If they migrated to one of the outer worlds — Jupiter, Saturn, or one of those — we might spend the rest of our lives looking for them."

"They wouldn't take any of those worlds with this one so close," Max answered. "In any case, Jupiter and those worlds are probably ammonia-atmosphere planets, and utterly useless for Martian, or our own, type of life. No, I think the only thing we can do is return to Mars and make a more careful study of that world. It's possible that there might be a Martian civilization underground, hidden away from the thin air."

Eva said: "Surely before we start off we can take a few moments' fresh air and exercise outside? These plants fascinate me."

Max nodded and opened the airlock. Warm, heavily scented air drifted into the control room, rather like the perfume of mimosa, only very much heavier.

"Smells like a salon," Max said.

He helped the girl out through the airlock and they paused for a moment, doing their best to assimilate themselves to the crushing heat and completely still air. Then they surveyed the plants and, taking care to walk in the spaces between the vegetation, they moved forward.

"Adam and Eve, up to date," Eva commented presently. "Just the same, this perfume is a bit overpowering. Don't know how it affects you, but it's making me feel sleepy."

"I thought it was the heat," Max answered, but as they continued wandering he began to realize that Eva was probably right. With every breath he took of the heavily laden air he felt even more the inclination to lie down, disregard everything, and sleep like a log.

Then he abruptly realized the danger as he saw Eva yawn widely and draw a hand over her forehead. He caught at her arm quickly.

"We'd better get back to the ship right away! These plants may be narcotic. If we fall asleep here we may never wake up. Quickly! And stop yourself inhaling this perfume if you can. Hold your breath."

He did his best to set the example as, still holding on to Eva, he led the way back through the plants—but to try to hold their breath amid such stifling surroundings and exerting themselves as they were, was practically impossible. So they drew in more scented essence until, when they were within 50 feet of the spaceship they felt utterly unable to flog themselves any farther.

Eva was the first to drop, flat on her face on the heavily perfumed ground between a scarlet and an amethyst plant. Max looked at her stupidly, made an effort to raise her; then he, too, felt his head spinning and dropped heavily beside her.

He noticed immediately, however, that he was not unconscious within the strict meaning of the word. Certainly he was motionless, and most of his normal senses were not operating. He could no longer smell the perfume, see his surroundings, or feel the intense heat of the clouded sun. But his mind was not blank. He was listening to something, or somebody. A voice—not very audible at first, but presently gaining in clearness.

". . . urge you to have no fear of what has happened to you. You and your companion are perfectly safe, and both of you can hear me. It was necessary to throw you into a state of hypnosis in order to make ourselves intelligible to you. You are listening to mental waves, my friends, which form into your own language, the only one which makes sense to you. I select you, the male, to ask what questions you will. It will not be possible for you to do so audibly: you have merely to think of your question, or answer, and we shall understand. Now, whence come you?"

"From Earth," Max answered, speaking purely within his thoughts. "We are seeking, if possible, the last of the race of Mars, the fourth planet from the sun, but evidently we were mistaken."

"You are not mistaken. We are from the fourth planet from the central luminary, which is what we assume you mean by 'sun.'"

CHAPTER XII

"YOU mean you are plants?"

"Yes. At one time we were physical, as you and your colleague, but with the advancement of evolution we found that physique was no longer necessary when our sole occupation was—and is—that of absorbing mental waves from the cosmos, forever enlarging our concept of infinity. For that one does not require movement, or cities, or the so-called amenities of civilization. We are able to draw our life sustenance from the cosmic forces themselves, so all we needed to do was alter our physical vestment, by a long process of biological and botanical experiment, until we became vegetational. We also have the advantage that, upon being disturbed, we can disseminate an intensely narcotic vapor which can either kill, or reduce an unwanted visitor to insensibility. This we decided upon as a protection against the ungaf."

"The ungaf?" Max repeated.

"A species of insect which drove us from our world and very nearly from this one—"

"You mean a black-winged moth with a striped body?" Max broke in.

"Your description is accurate, though 'moth' is not our name for it, but ungaf. When we had physical vestment, the ungaf almost destroyed us, so we fled to another world—this one. Unfortunately for us, certain of the ungaf were among the possessions we brought with us and, when liberated, they started to breed as on the world we had left. However, by a concerted effort, and using all the forces of science we then had at our command, we succeded in destroying the ungaf. To make doubly sure, however, we fired the space machines in which the ungaf had been found, into space, out to the moon of this world."

"But this world—Venus, as we call it—has no moon," Max observed.

"Which shows you the devastating power of the ungaf. We could see through our telescopes that the ships we'd jettisoned on this world's moon had evidently contained one or two ungaf which we'd missed, for presently breeding began and entirely covered that verdure-covered moon. With the passage of time that moon was eaten to pieces and became cosmic dust."

"So that's where Venus' moon went to! Can you account for the fact that we found traces of the ungaf on the moon of Earth as well?"

"Very easily. When we left our own world we went first to your world, but found it unsuitable. Then we flew to your moon, which in those days had water, air and verdure. Again it was unsuitable. Since we stayed there for a time, debating our next move, it is more than possible that some of the ungaf, which we found when we came here, also escaped on your moon, to breed. But at last we are free of them, even though our own world, your moon, and the moon of this world, have been devastated by them."

"And now it's our turn," Max explained, and gave the details of what was happening on Earth and the reason for his and Eva's plunge into space.

"We felt that the original race who had encountered the ungaf might have some suggestions," he finished.

"Unfortunately we have none. Our science was powerless against them—not because we couldn't find an electrical remedy but because they breed faster than they can be killed. Our only hope was to evacuate our planet, and that we did. I am afraid you will have to do the same."

"And go where?"

"That is for your scientists to decide. I am very sorry, my friends, but there is nothing we can do for you."

"Can you tell me," Max asked, "why it is that on your world the ungaf are now so few in number?"

"We were not aware that that was so. They were in their multimillions when we had to depart, and we have been expecting to see our home world crumble into dust at almost any time."

"That will not happen. Your world was very solid when last we saw it, not very long ago, although, of course, all trace of civilization has vanished into ferrous oxide."

There was a long pause before Max's thoughts came again.

"I assume that each one of you is different, with different mental conceptions, that none of these plants is alike?"

"That is the reason, yes. And now, my friends, since there is nothing more we can tell you, we will release you from the narcotic hypnosis so that you may decide upon your next move."

The mental message had hardly died away before Max became aware once more of the wilderness of superb flowers, the hot air, the brilliantly diffused sunlight. He stirred, then helped Eva to her feet.

"You heard that?" he asked her, as she looked about her.

"Well, I — I 'sensed' it," she answered. "Just as though it were some kind of vivid dream."

"It was real enough, Eva, even though it does transcend any method of communication to which we are accustomed. Best thing we can do is get on our way to Mars. We're certainly not going to find anything here."

He took her arm, and together they made their way amid the vegetation. The mysterious heady perfume had gone now. Instead there was just the suggestion of a fragrance without the former dulling, overpowering miasma.

So presently they regained the space machine and stood for a moment looking almost with regret on the flowers.

"A pity they couldn't tell us more," Max sighed. "It looks as though the moth is winning. We'd better see if we can get any more information from Earth."

He moved into the control room and applied himself to the radio. Several times he sent forth the signal, but the response did not come through. He was just beginning to wonder if perhaps Earth's radio stations had indeed succumbed to the depredations of the moth when, faint and blurry, an answer came.

"Harborn calling Earth," Max intoned quickly. "I am speaking from Venus. No success yet in overcoming moths, though Martian race has been traced. Over."

There was a long interval, then: "Congratulations on your voyage. Situation here desperate. Over."

"Tell me exactly how things are," Max ordered. "We are completely out of touch. Over."

The reply which presently came was distinctly disquieting:

"We have lost two good men, Mr. Harborn. Unfortunately, Mr. Stone and Dr. Mason, the physicist, have both been killed. In a recent attack which the moths made on London Dr. Mason tried his new electrical device, but something went wrong and there was a devastating explosion. Twenty-five scientists and naturalists were killed, including Morton Stone. In consequence, the moths got through our defences and devastated a quarter of the city. Despite all our efforts to destroy them in their mountain retreats, they keep on multiplying. Their progeny are also thriving in the open country around the cities and towns and staple food supplies are being consumed. Not only that, but the very ground itself is being slowly eaten away. It's absolute corrosion and we're powerless to stop it. Over."

Max said: "That places the onus on myself and my wife. Our experiences here on Venus have been profoundly interesting though not very helpful." He sketched them briefly. "All we can do now is depart for Mars and see if there is something there which we missed last time. We'll communicate again when we reach there—probably with less interference since Mars is a good deal farther from the sun. Communication ends."

The radio died out and Eva closed the airlock.

She said, as she crossed to the pressure rack and lay down in readiness for the take-off: "If we don't find anything on Mars to help the situation we ought to think about what we ourselves are going to do. There won't be much point in returning to a stricken world, will there?"

"No, but it will be our duty to return there just the same, if only to help in every way we can to stave off the end."

Max sat at the controls and switched on the power plant. In a matter of moments the jets were at work lifting the machine quickly out of the wilderness of glorious flowers, through the dense atmosphere, and so out into space. Then the tremendous initial speed slackened and the journey of nearly 70 million miles to Mars had begun—70 million miles because at this period Mars was on the opposite side of Earth's orbit.

So matters reverted to their former routine of one at the controls while the other relaxed. When Earth's orbit was reached and they were only a million miles from the home planet they surveyed it telescopically, but as far as the outline of continents and oceans was concerned, there did not appear to be any evidence of moth attack, chiefly because the instrument was not powerful enough to reveal cities utterly ravaged or people on the move with their possessions, heading they knew not where, just as long as they could gain safety, however temporary, from the onslaught of the winged pestilence.

The radio came through strong and clear, but only proceeded to record a further string of disasters. City after city, town after town, was being overwhelmed. Many people had gone underground, but even this was not much use because moth larvae was found in all manner of belongings which quickly flourished and grew once again into the relentless pest.

Then, gradually, Earth was left behind as the space machine hurtled onward to the red planet. Max surveyed it sombrely when, after seemingly endless hours of flight through the void, Mars filled all space ahead.

He brought the machine down through the clear, thin atmosphere, landing gently with only a faint disturbing of the ferrous oxide dust. Outside, it was just after Martian noon, the sun slightly sinking from the zenith. Nowhere a cloud, nowhere a sign of life. Not even of moths.

"Looks as though the moths are even less prevalent than on the last occasion," Max commented, switching off the power plant. "I never thought we'd arrive at the point where we'd want to see them."

He unfastened the airlock, knowing



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DETOUR

by

Helen Nielsen

from previous experience just what kind of conditions to expect. Cool thin air blew into the stuffy control room, air which had the curious constricting quality of a high altitude on Earth.

"Not a moth in sight," Eva said, surveying the scene. "What do we do now?"

"Find some," he answered. "I want to take particular note of their behavior."

Using the normal flying equipment, he sent the machine hurtling to the air. Thereafter he crept along as slowly as possible, no more than 300 feet above the everlasting desert. Then Eva suddenly caught sight of an ebony patch perhaps a quarter of a mile away. Immediately Max changed direction and at length, using the helicopter screws, he had the space machine directly over perhaps 100 of the moths.

"Either they're asleep or dead," Eva said as no movement became apparent, except for the disturbance created in the insects' wings by wind.

Max frowned. "Dead? Surely not."

Nonetheless the fact seemed to be forced upon him as still more time passed and there was no movement.

CHAPTER XIII

"BETTER take a look," Max decided, and he lowered the machine to the sand a few yards away from the insects. Then, opening the airlock door, he stepped outside and advanced cautiously toward them, ready at any moment to get back to the space machine if trouble showed itself—though, as on the last occasion when this planet had been visited, it was possible that the moths, if alive, would not attack human beings. Unlike their fellows on Earth, they had not yet discovered that humans were easy to prey upon.

But the moths did not move when he reached them. Then he realized that they were indeed dead, though probably they had not been dead very long. Their wings, harder than their bodies, had survived the decay which had already set in elsewhere. Something, as yet unexplained, had wiped them out.

"What?" Max questioned, looking about thoughtfully as Eva joined him. "Is it something in this ferrous oxide—a fatal ingredient, maybe—something in the air, or what? Even if I dissected one of these insects I wouldn't be any nearer because by finding out what they had consumed I wouldn't know which was the fatal ingredient."

"You would if you also captured a live one and fed it on various diets, made up of the separated ingredients you might find in one of these dead ones," Eva pointed out. "If at last one of them kills, then maybe we've got it."

"There you've got something," Max said. "Let's get busy."

He returned to the space ship for a pair of forceps and, with them, lifted the least decomposed of the insects and transported it to the machine's laboratory where he placed it in a preservative fluid. This done, the next necessity was to capture a live moth somewhere. Somewhere! It seemed an almost ridiculous thought when back on Earth the hordes were eating the very heart out of the planet.

So again the machine took off, as a normal air flyer, and continued its systematic scouring of the deserts. It was close on sunset when at last three live moths were sighted, flying with that curious leisurely fashion they seemed to adopt on this, their home planet.

"Take over," Max told Eva. "I can capture one of those things from the doorway."

Eva moved to the control board, switching in the helicopter controls. Max took a long-shafted net from a cupboard and stood in the open airlock, awaiting his chance as the machine was gently manipulated lower and lower. Abruptly he swept the net outward, catching the rearmost of the three moths in the folds. Then quickly he had it imprisoned in a ventilated thick glass jar with a metal cap.

This moth made no effort to attack its prison. It seemed quite satisfied to flutter down to the base of the jar and there stop, its wings drooping gently around its beautiful body.

Max said: "These moths on this world all behave as though they're too tired to live—the exact opposite of the way they are on Earth. As though they are doped or something."

Max performed his task with extreme thoroughness, and because of the smallness of the instruments with which he worked, it was two hours before he had drawn from the dead moth all that he required. The result was a grayish looking, powdery substance which he kept isolated on a nickel-steel tray.

"As far as I can tell," he said, "this should comprise the ingredients of the insect's last meal. The next job is the sorting out of all the ingredients and an analysis of what they are . . . And there's also something else I don't quite understand," he added, frowning at the dissected insect.

"For instance?"

"Well, either I got a cramp from working in such a constricted fashion or else that insect gave me one or two electric shocks."

He debated this for a moment, then he set to work with a galvanometer. The needle failed to register in the slightest even though the instrument was designed for the detection of minute electric currents.

He said: "It's time for a meal, some relaxation, and then back on the job. And we need a little exercise, too."

They had the meal, sat for a while afterward just lazing, then they put on warm clothes and went for a walk in the silent Martian desert. They had no fear of doing so, realizing by now that the moths, if any approached, would probably be far too listless to think about attacking.

None of the insects appeared. There was absolute quiet, save for the faint moaning noise of the eternal breeze as, ice-charged now the darkness had come, it swept over the desert.

"Walking as we are now, just two people on an otherwise dead planet—except for moths—I could well think of ourselves as the only two people in the universe," Eva murmured, as Max slipped his arm about her waist. "Look up there! Do you suppose there are intelligences, such as we found on Venus, and such as we know exist on Earth?"

Where the conversation might have ended neither of them could predict, for at that moment Max came to a stop and pointed quickly.

"Moths! The first we've seen here by night."

They were on the ground a few yards away. Eva stopped, too, clinging tightly to Max. They both expected the insects—there seemed to be about six of them—to rise and fly toward them, but nothing happened.

"Asleep," Max said. "I can't understand why they're all so tired on this planet. It can't be the air, surely, otherwise we'd feel it. To me it's exhilarating, like being on top of a mountain. How do you feel about it?"

"That, and the light gravity, make me feel fine," Eva responded; and after a moment or two she added: "They're certainly sleeping soundly. Or are they dead?"

"They're glowing gently, which is only to be expected since they're basically energy eaters."

They advanced again until they were close to the insects. There was little doubt about it as seconds crept into minutes and there was no sign of action. The insects were dead, their ebony wings disturbed by the wind.

Max said: "They're dead, and yet they glow with energy. If it is energy. Come to think of it, rats and mica on Earth glow brightly when they have eaten poison, especially one of the virus variety. It's the heat and radiation of decomposition. Might take one of these for a closer look."

He stooped to pick up the nearest insect and then jumped back, shaking his fingers vigorously.

"Dead it may be but it's got the kick of a mule. Electrical."

That a dead insect could generate enough current to even momentarily hurt was something which brought perplexity into Max's eyes. Then he glanced up sharply as white light suddenly started to flood across the desert. For a second or two his mind revolved around unexpected invaders from outer space; then he sighed with relief. The light was radiating from busy Phobos, the nearer moon of Mars, following its usual west-to-east course.

"A dead insect generating electricity," Max said. "I still don't get it. I can't take this thing. Nothing to get hold of it with. Let's get back to the ship and see what we can discover."

They returned swiftly, then when the airlock was closed and they were warmed up again after their icy trip Max set to work, carefully sifting the various ingredients he had already extracted from the dead moth, afterwards analyzing and weighing them. Eva helped him, making notes as he directed.

"Presumably," he said, when some time later the first stage of the task was completed, "these moths first consume a substance and then their internal structure is such that they can break it up into energy. Now, what have we? Traces of granite, iron, slate, and a mixture of various oxides such as potassium, barium, and so forth, with a good proportion of copper and sulphur. Altogether a nice sort of diet and one calculated to produce a good deal of basic energy. The next thing to do is supply our languishing moth there with a diet of each of these in turn and see which—if any—can kill it."

To commence with, granite was given to the moth in the jar. It seized upon it immediately and in half an hour had disintegrated the lot, presumably consumed it, and extracted the energy therefrom. After this it was left for the night while Max and Eva slept.

The following morning the moth was still alive, though in the same curiously listless condition as the previous day. Max fed it again, this time with iron. Once again the insect made a meal and left no traces—and once again nothing happened as far as killing it was concerned.

So, day by day, this particular moth became perhaps the most important one in the universe, for upon its reactions there depended the fate of a whole planet, still presumably battling with the winged menace 40,000,000 miles away.

Eva could detect in Max's face a deepening anxiety as he fed ingredient after ingredient to the moth, without the least harm, until at last, nearly a week later, he had come to the final one. Potassium.

"If this doesn't have an effect I don't know where we are," he confessed. "It can only mean that it is not an ingredient in the food which kills, but something else."

He put the substance in the jar and he and Eva watched as it was rapidly consumed. The moth seemed satiated afterwards, but it did not die. After about two hours it revived and, from the flutterings it made around its prison, it was evidently ready for another meal. Max looked at it hopelessly.

"I'm stuck," he confessed. "Completely!" After a moment he added, "Better radio to Earth and tell them that so far we haven't had any luck."

Eva switched on the radio. To establish communication with earth was not difficult, mainly because for one thing earth was nearer to Mars than Venus, and also because the sun could not exert its magnetic influence.

"Eva Harborn reporting," Eva said, when at last the answer came. "Speaking from Mars. So far, despite extensive experiments, we have not discovered a solution to the moth problem. How are things with you? Over."

The answer came: "Central London transmitter replying. We are more or less isolated from a city which has now become completely overwhelmed by moths. They no longer retreat to their breeding or mustering grounds in the mountains, but remain where they have alighted. Their progeny grow swiftly and add to their numbers. So far the main utilities of power, light and radio have been kept going, chiefly by the activities of batteries of flame-throwers which keep the insects at bay. But this state of affairs can't continue. We must have help! And quickly! Reports from other regions of the world show that the moths are multiplying in countless multi-millions. It is only a question of time before they cover the whole earth. Over."

Max crossed to the instrument. "Tell the people not to give up hope," he said. "There are possibilities still to be explored, and you can be sure I will leave nothing undone to arrive at a solution. Remember, I am having to start from scratch and cannot produce an answer quickly. Over."

The answer came: "Your message will be relayed to the people, Mr. Harborn. There seems to be a good deal of resentment over the fact that you and your wife are enjoying the comparative peace of another world while everybody else is fighting for life. I would suggest that you and Mrs. Harborn do not return to earth unless you have a definite solution to offer. Enraged people are impossible to control. Over."

"Thanks for the warning," Max answered drily. "And whoever got the idea that we're enjoying comparative peace had better think again. We're on a dead world with an atmosphere like a mountain peak and nothing but everlasting desert to look upon. However, we'll do our best and then call you again. Good-by."

CHAPTER XIV

WHEN he had switched off the apparatus Max sat in silence for a long time, his gaze upon the moth fluttering around its transparent prison. Eva stirred and spoke rather awkwardly.

"Doesn't what earth had to say bear out my own recent remark?" she asked. "That we should think of some way to make ourselves safe now that we've met with failure? There's no common sense in going back to a harried people who are evidently ready to tear us limb from limb."

Max crossed to the wall bunk and stretched himself upon it. There he lay motionless for nearly half an hour, lost in speculations. Eva prepared a meal, but he did not speak while eating. He returned to his former position afterwards and still brooded, Eva taking care not to interrupt him.

Then, at last, he stirred. "Far as I can see," he said, "there's only one conceivable answer. It must lie in the sun."

Eva started. "What! You mean to suggest that we should be such idiots as to fly to the sun and—"

"No, no, nothing like that. I mean that solar radiations may be responsible for the queer effects on moths. One effect is their listlessness; another is their small numbers where there used to be myraids; and yet another is the mysterious but violent energy which they seem to retain even after death. I have proved that it isn't the food which they convert into energy which does it, and it certainly is not the air, or we too would feel it. That only leaves the sun—and don't forget that it shines here with far more intensity than on earth or Venus because the air is so thin and cloudless. In a word, it is possible that certain solar radiations now get through to the Martian surface, whereas in the heyday of the moths none ever did."

"Possible," Eva agreed. "And where does that get us?"

"In the ordinary way," Max continued, "the sun transmits radiations which are either health-giving or destructive according to the quantity in which they are received. One radiation in particular, known to science as the fifth-octave radiation, is especially deadly, which is one good reason why we have all the exterior of a space machine, including the windows, treated with anti-radiation substances. On earth the deflective heaviside layer prevents the fifth octave radiation getting through; and the same may be said for Venus. But as air thins the shield weakens, and gradually this radiation makes itself felt."

"Here on Mars, for instance?"

"That is my belief."

"Then why hasn't it affected us?"

"Because we've hardly been out in it. The longest walk we have taken has been at night. The rest of the time we have more or less been protected by this spaceship. But out in the open it's very different, and I begin to think it is the cause of the slow destruction of moth life."

"And how are we to discover if it is so when the process is obviously so gradual?"

"Only one way. We have instruments here for measuring the intensity of solar radiations. First, we'd better find if there is one additional radiation to those normally reacting."

Max crossed to the apparatus. The sun was by now low in the Martian sky, but that did not make any difference to his radiations. Under Max's control a magnetic attractor moved upward on the space machine's roof, after the fashion of a radio aerial. Thereby the radiations of the sun were captured by it and transmitted to the equipment. In attentive silence Max and Eva watched the opaque screen and the attendant recording apparatus.

Immediately there flashed across it the spraying of electric radiations to which they were accustomed, but there was also something else, defining itself as a particularly vivid streak across the main discharge. It remained more or less steady while the other radiations, variously identified as ultra-violet, infra-red, x-ray, and so forth, constantly vascillated.

"I believe that may be it," Max said presently. "It may be cosmic radiation itself, of course, though I hardly think so. Weak though the atmosphere here is, it is strong enough to partially deflect cosmic waves. I'd better make sure."

He deserted the screen and moved to the recording dials, studying them intently and making notes. Finally he gave a little whoop of delight.

"It is fifth octave radiation!" he exclaimed. "Veering just into the sixth octave as well. The instruments prove it."

"A pity we can't try it separately on a moth," Eva said. "Mixed up with all these other radiations we can't get it in the pure state."

"We can duplicate it," Max answered promptly. "We have machine tools here capable of building almost any instrument we might require."

He switched off the detector apparatus, withdrew the attractor, and then went to work with the machine tools. Eva had only the vaguest idea what he was about, but she helped him—and by degrees, as hour succeeded hour, the outlines of a projector began to appear. This part of the work Eva did herself. The more complicated job of designing the electrical interior was left to Max, his expression one of frozen concentration. It was his job to produce exactly the right kind of transformer to emit, when the projector was attached to the machine's power plant, an electrical radiation corresponding to the one produced by the sun itself. It all lay in the matter of wavelength, and since he had this exactly registered on the meters he was enormously helped in his task.

Eva, her job finished long before his, retired to the bunk for sleep. When she awoke, she found it was dawn and Max was still busy, but this time with the completed projector.

"I've got it," he said. "I had to make readjustments several times, but now there's no doubt about it. Using the power plant as the source of energy, I can project exactly the right wavelength. As soon as we've had a meal, I'll go to work on the moth and see if it works."

During the meal Max spoke little, his mind obviously travelling over all he had done, and must yet do. He ate very little, his whole thought obviously bent upon the experiment which might bring the answer to earth's desperate problem.

The moth, having been given a meal of sand, was fluttering lazily around its prison when Max stood the projector before it. He pondered the controls for a moment or two and then gave a nod to Eva as she stood beside the switchboard. She pulled across a lever and the power plant started into action.

Max switched on the projector, and from its interior there came a deep humming. The actual radiation was not visible to the eye, but the meters showed it was being emanated. Evidently the moth was aware of this, too, for it abruptly stopped its lazy drifting and made frantic efforts to escape from the glass jar.

Its last few moments of life were typified by wild efforts at flight, concussions against the glass walls, and crazy somersaults. Then it fluttered helplessly to the floor of the jar and became still.

"We've got it," Max whispered, switching off. "Seems so, anyway. Better wait a while and see if there is any reaction."

There was not. The moth was dead. Max opened the jar and reached inside, then he jerked his hand out again quickly.

"Some day I'll remember," he gasped. "The electrical power these dead insects possess is nearly unbelievable."

He reached to the insulated pliers and with great care lifted the insect clear, laying it on the instrument bench. Then he put the galvanometer across it, but there was no flicker of a current.

"Queer," he murmured. "Electricity being emanated and yet it doesn't register. However, it's dead, and therefore our problem is solved."

He dropped the moth back in the jar carefully and then put on a sealed lid.

"We'll take this back to earth as a sample," he explained. "It is obvious what is happening on Mars here. The fifth octave wavelength is producing slow death — slow because so many other radiations are being emanated at the same time, many of which are life-giving. But the odds are on death, and it must come eventually, when not a single moth will remain . . . What we have to do on earth is build batteries of projectors like this one and deal with the moths that way. About a couple of thousand of them using the limit of power ought to be able to take care of the hordes and utterly obliterate them."

"Unless there are too many of them," Eva pointed out.

"We'll get round it. Fact remains, this is the only solution."

He went to the radio and sent out the usual call signal, but, though he kept at it steadily for nearly 30 minutes, there came no response. He looked at Eva and saw in her eyes the same thought as his own.

"They must be wiped out," she said. "If the Central London transmitter didn't answer, one of the others surely would? The only thing we can do is get back quickly and see for ourselves."

"And try to contact them during the journey," Max said.

* * *

Hour after hour the space machine hurtled onwards, Max giving it the tolerable limit of speed. Mars receded further and further into the gulf and the green world of earth began to take on general outline, merging from being merely a green planet to a world of continents, oceans and clouds . . . When at last they were within half a million miles of it, Eva turned her attention to the telescopic equipment and searched the landscapes through the drifting clouds.

"There isn't much that seems to be recognizable," she pronounced. "Outlines are changed in some way, and I certainly can't spot any cities. Whether people are on the move or not, I can't tell; this telescope isn't powerful enough to show me."

When the ship reached Earth's atmosphere it began a gradual descent, Max using the ordinary flying equipment the moment the air became dense enough to take it.

"I suppose you're heading for London?" Eva asked.

"Or what's left of it. Try the radio again. It may be possible to pick up something on a low-power transmitter."

Eva switched on the apparatus, and almost immediately an answer came through.

"General Transmitter answering. Come in, Mrs. Harborn. Over."

"What's happened to your Central London Transmitter?" Eva questioned. "We've tried many times to get you, while in space, but there was no reply. Over."

"Central London Transmitter was destroyed—not by moths but by angry people who resented communication being made with you and Mr. Harborn. Feeling is running high against both of you because you have been so long in space, escaping the horrors which have beset us. Over."

"Maybe the people will change their mood when they know we have the answer," Eva replied curtly. "Where do we land? We must make immediate contact with officials. Over."

"You'll be led in on beam nine. Just follow it through. What sector are you in now? Over."

"Forty-two," Max replied, seeing Eva's glance. "Moving into J quadrant."

CHAPTER XV

THE machine descended through the clouds, presently coming into the clear air of an early autumn morning. Below was spread a crazy patchwork which was quite unfamiliar. Normally it should have represented Middlesex, Surrey, Kent, and Essex, with London sprawled in the approximate centre of all four —but instead the whole area seemed to be somehow flowed into one and there were none of the normal outlines associated with London.

"From the look of things," Max said, "things have changed a lot since we've been away—. Great heavens, you don't suppose that view down there, which looks like a sort of patched carpet, is moth larvae, do you?"

Eva hurried to the telescope and focussed it, thereby resolving the uncertainty of everything beneath.

"No, it isn't that," she replied, in some relief. "It's dust and chewed up metal and ground masonry. The remains of moth attacks, I suppose. It would appear that practically all of London has been wiped out. Anyhow, the familiar landmarks are missing."

The machine grounded at last, taxied a few yards, then slowed to a stop. Immediately mechanics hurried forward—and behind them came one or two men recognizable as connected with the Air Corporation.

"Home, sweet home," Max mumured, unfastening the airlock. "Here we go . . ."

He stepped outside and helped Eva to alight, and by this time the officials had arrived.

"Welcome back," greeted one of them, shaking hands. "I'm Wing Commander Dawlish, in charge of most of the London defences. Come along to personnel headquarters."

Max and Eva followed him, and presently found themselves in a fairly comfortable office of the prefabricated type.

"This is Group Captain Edwards," Dawlish said as a second official came in. "With me, he's also responsible for trying to protect London against the pestilence."

"Thanks for the safe in-coming," Max said. "We wish to get in touch with the government immediately; the prime minister for preference."

"I've already arranged that," Dawlish responded. "I gathered you'd want to see him. He'll be flying over here directly. The seat of government has been transferred to the Midlands for the time being, one of the least hard-hit areas. Meanwhile, since I am in charge of defences, you can perhaps tell me what you have to remedy this ghastly business."

"I have fifth-octave radiation, which is the certain cure," Max responded, but he gave only the barest details, feeling that the subject was better placed first before the head of the government.

"Sounds promising," the wing commander observed. "The only trouble will be the delay in getting the projectors manufactured, and every moment counts. You've no idea what it's been like these last few weeks."

"I think we have. We saw the devastation as we came in. From the look of things the moths have about destroyed all of London."

"They have," put in the group captain, his voice grim. "It only took three attacks for them to accomplish it. They came in their tens of millions, devouring everything before them. Fortunately, after the first onslaught, most of the people managed to evacuate. At the moment they are living like troglodytes. It's pretty well the law of the jungle, the only thing one could expect before such a pestilence as this."

"And most of the best scientists have been wiped out?"

"Unfortunately, yes. We'll never know what went wrong with Dr. Mason's electrical device, since he was the only man who understood it."

The prime minister arrived, with a few advisers. There was no lack of cordiality in his handshakes. "So glad you made your difficult journey safely. As you'll have gathered, a great deal has happened since you left. By the way," the P.M. added, glancing at Dawlish, "there is rather an ugly-looking crowd near the west end of this airport. Better have them moved. Evidently they saw the space machine come in."

"I'll attend to it immediately, sir," the wing commander promised, and promptly gave orders into the intercom. By the time he had finished, the P.M. and his advisers had seated themselves.

"From the looks of things," Max remarked, "the people have formed a strong dislike to my wife and myself."

"Very strong," the P.M. assented soberly. "There are always elements, especially at such a terrible time as this, who stir up trouble. Rumors have got around that you and your wife fled into space to escape the moth pestilence. The fact that you had gone to find a way to defeat it was hardly credited in the face of this talk. So the feeling has grown, until now it has reached a point where you must be constantly guarded."

"I see," Max said quietly. "I'm hoping the people will alter their opinion and work wholeheartedly with us when they realize that I have the antidote."

The P.M. said eagerly: "So I understand. What is it exactly?"

Max gave the fifth-octave system in detail, and from his pocket brought the notes he had made, together with a sketch of the projector.

"These gentlemen are scientific experts," the P.M. explained, glancing at them. "They'll be better able to assess the possibilities—"

Max broke in: "The wavelength works, sir. I know, because I have a dead moth in the space ship which died within seconds of the radiation being trained upon it. However, the main point is manufacture. I understand there will be difficulty."

The P.M. said: "In the Midlands and industrial north there are still a great number of electrical factories in operation and they can be turned over to projector construction. For the time being, since your own home has been destroyed, you had better be domiciled in the government buildings we are using on the outskirts of Birmingham and—"

The P.M. broke off and looked up sharply at a sudden series of shots outside, followed by two violent explosions. Instantly Dawlish and the group captain ran to the door, and they went racing away across the field.

"Queer," the P.M. commented, frowning, but by this time Max and Eva were also at the door, surveying the scene.

"The space ship," Max gasped in

alarm. "They've as good as wrecked it!"

He was about to race toward the scene of confusion where militia and yelling crowds were mixed in a seething mob. Then he thought better of it. No good could come of deliberate exposure to danger — so with Eva and the P.M. beside him, the advisers watching in the rear, he waited until the rioters had finally been driven beyond the temporary airport and the armed guard had been greatly strengthened.
back.

The wing commander came hurrying

"Quite an unexpected attack, sir," he said, looking at the P.M. "The guards were not quick enough carrying out my order of a little while ago, and the rioters broke in. It won't happen again . . . Afraid they've damaged the spaceship with a couple of home-made bombs, Mr. Harborn," he added. "They also went inside and did some wrecking. You'd better see what the damage is."

Max nodded and strode across the tarmac, presently scrambling through the airlock. The destruction which had been wrought by the rioters in so short a time was devastating . . . The switchboard, the very heart of the machine, had been battered with the head of an axe—or so it appeared—and wires and delicate terminals were broken or scattered.

The power plant itself, probably because of the tough cowling which protected it, had not been harmed. But in the adjoining laboratory and experimental room bottles were smashed, delicate instruments twisted into shapeless metal, and the experimental projector with its delicate fifth-octave transformer was crushed and broken. The jar, too, which had contained the dead Martian moth, had been shattered to bits, and of the insect itself there was no sign.

"Infernal fools!" Max breathed, his eyes glittering as he glanced at the P.M.

"I wonder," Eva mused, "why those hooligans took that moth? What good could it be to them? And how did they manage it when it has such a powerful electrical kick?"

"The more probable explanation is that it's lying somewhere around here amidst all this debris. Never mind; it doesn't signify anyhow."

A siren started wailing, and instantly the wing commander moved forward.

"Better come immediately," he advised. "That's the warning that a moth attack is imminent — not necessarily aimed at this point, but certainly within the vicinity. Come—we have well-prepared shelters."

In three minutes the shelters were gained. They were surface shelters, fitted with big observation windows, but around the buildings were tall, closely meshed grids over the shelters. At the touch of a button within the shelter the grids began to glow red-hot with electrical energy.

"A sure protection over a small area," the wing commander explained. "There is nothing I can personally do at this juncture. The defence corps have their orders."

It appeared, however, that the defence corps were not doing very well, for despite the weavings of fighter planes and attack by anti-aircraft guns, the moths presently became visible, high over the temporary airport. Max and Eva were amazed at the colossal size of the swarm, far exceeding anything they had viewed prior to their departure from Venus. It darkened three-quarters of the sky, like a dense black thundercloud coming up from the south. Darkness which was commencing to descend.

The target became immediately obvious. It was the space machine's glittering metal which had evidently provided the attraction. In five minutes the vessel was black under the avid horde, and those which could find no foothold inside or outside the vessel turned their attention to the airport buildings.

Here, however, they met with tremendous resistance. Flame throwers on the roofs met them, wiping them out in a deluge of fire. Others flew straight into the glowing network around the shelters and were instantly incinerated.

Finally the attack on the airport buildings ceased, and the survivors flew to rejoin the multimillions still moving overhead in a northerly direction. Those around the spaceship remained. In an hour the space ship was reduced to twisted metal. In another hour it was dust. Gorged insects detached themselves and began to fly away, leaving behind them the usual larvae squirming in the dust. But they did not squirm for long. Flame throwers moved into action and in the space of half an hour the section was wiped clean. There might never have been a spaceship there.

The "all clear" siren sounded and the group emerged from the shelter and looked about them. Far away to the north in the bright sunshine a dense black cloud was vanishing over the horizon.

"Exit one space ship," Max sighed. "It's well the plans of it are safe—I hope."

"Yes, they safe," the P.M. said. "The best thing you can do, Mr. and Mrs. Harborn, is come back with us to government headquarters and there we can see about you being safely housed. After that we will get things on the move for those projectors to be manufactured."

"I'd suggest you delay your departure, sir, until we hear that the moth swarm has cleared," the wing-commander said.

The P.M. nodded and began to lead the way toward the official buildings.

CHAPTER XVI

REPORTS came that the moth swarm had devastated the outer fringe of the Midlands and then headed eastward, leaving the country temporarily free, so the P.M. seized the opportunity and the flight back to the Midlands was made. Thereafter, Max and Eva found themselves more or less comfortable in the suite of rooms assigned to them in a protected hotel. They were given 12 hours in which to rest and recover from their exertions, then they attended the first of many conferences which the P.M. held with manufacturers and scientists, some of them from far distant but just as beleagured countries.

The arrangements for the projector manufacture took several days, communications being so bad in the crumbling business world, but the moment matters were fixed militia were drafted to guard the factories where they were too large to be protected by heat-meshes.

Information of what was being done was given to the world, and world-wide manufacture of projectors was begun. Military leaders, scientists, and geographers met, usually with Max and Eva present as well, and set to work to determine the best positions for the projectors, the roads and routes by which they must be taken with the most safety. Air forces and armies were deployed in the most useful way and, threatened as they were by a common enemy, every country complied to a master plan.

Meanwhile the normal routine work of battering at moth breeding grounds continued, but it was becoming more and more of a futile effort with the enormous increase in the moth population. Cine-film records showed that by this time nearly all the mountain ranges of the world were black half way to their summits with moth mustering bases, and also on the great plateaus of the world, and in the shattered ruins of despoiled cities, there were new mustering grounds coming into being. In matters of mathematics it added up to about a million moths to every human being, a terrific preponderance.

"But we'll beat them," the P.M. declared, on the day the latest figures had been issued. "Thanks to you, Mr. and Mrs. Harborn. The first projectors are coming off the assembly lines and are, of course, being used for the protection of this "transferred' capital of ours."

"That being so," Max said, "I want to be in the front rank."

The P.M. looked surprised. "Front rank?"

"That goes for me too," Eva added.

"Entirely up to you, of course," the P.M. said, "but I had thought you would have preferred to direct some of the operations."

Max shook his head. "Neither my wife nor I understand enough of military strategy to do that. That between us we conceived the projector has nothing to do with it. We're just like the rest of the people and anxious to stand beside them. And besides, it will prove to them that we're not trying to escape anything."

"Very well," the P.M. agreed, and glanced at the general who was responsible for the deployment of projectors around Birmingham. "It is for you, General Carter, to assign Mr. and Mrs. Harborn to their positions."

"Gladly—as soon as they are all worked out."

This proved to be two days later; then Max and Eva took up positions together in what was known as B Unit. Here a battery of projectors stood north of the city, perched at the top of a former radio mast 700 feet high. There were six projectors in the unit, four of them trained to north, south, east and west—and two standbys in case of emergency. At strategic positions around the city other units were in position, though not at such a dominating altitude.

In the unit were six people, including Max and Eva. Four of them were projector operators, and the other two were look-outs and spare projectionists in case anything happened to befall the original workers. The art of projection was simple. A single switch set the current in action and the rest was merely the task of pointing the projector toward the moths when they came.

"First time I ever heard of using a weapon without a preliminary trial," commented Max's co-worker, a man. "Far as I can make out they slapped these things straight off the assembly line."

Max replied, "Nobody wants to go hunting for moths for a try-out when they'll come to us all too quickly."

"They'll work all right," Eva insisted, seeing the man's dubious glance, and that of the other two men and one woman on the platform with them. "We ought to know."

"You ought to, sir," agreed Max's co-worker. "But if you're wrong I wouldn't give a red cent for your chances."

Max glanced at him sharply. "Meaning?"

"Meaning that a lot of people, me included, have been roped in to do this work, on pain of being shot if we don't. If it turns out to be a swindle there'll be the biggest turn around from the people you ever saw. You're not liked much as it is, Mr. Maxwell Harborn, or didn't you know that? Nor is your wife."

"We're aware of it," Max snapped. "And the best thing you can do before you start talking is give us a chance to prove ourselves."

"He's right, Joe," one of the other men said. "Leave him be, can't you?"

Then they saw what appeared to be a long black cloud of smoke rising over the far horizon and spreading rapidly.

"It's an attack!" the lookout man cried, his binoculars to his eyes. "Myriads of 'em and moving fast."

He swung aside and depressed the button which actuated the alarm down in the city. The alert sounded below, and at all the other projector stations those in charge came to attention and looked for the source of the danger. It was easy enough to see now, traveling swiftly toward the city.

"Now for it," Max remarked, taking up position before his projector. "After this, my friend, you probably won't have so much to say."

"For your sake I hope not. What's the range of these projectors?"

"About four miles. The fifth-octave radiation spreads out fan-shaped, like a beam of light, so a large area of the insects will be encompassed at one time."

This time Joe did not appear anxious to argue: he was too busy watching the hordes. In fact, he was realizing, like those around him on the platform, that if the projectors did not do all that was claimed of them, death might be the answer. Stuck up here, absolute targets, the moths would make short work of them and the tower itself if they could.

"Okay, let 'em have it," Max said, as the swarm came within range.

He switched on, and a second later the three other projectors also came into action. As was normal, nothing was visible, but the dials on the back of the instruments showed that everything was working satisfactorily.

The swarm still advanced, the sound of their myriad wings now making a noise like distant bombing planes. . . . They came nearer, two columns of them diving down toward the city. And nearer still.

"Hey!" Joe cried, swinging around to look at Max after he had frantically studied his projector. "We're not getting any effect and these things are nearly upon us!"

Max realized it, and he was too busy examining his own machine to answer. Then Eva deserted her own instrument and grabbed him by the arm.

"No time to look now," she gasped. "We've got to get to safety quickly."

"How?" Joe demanded savagely. "The elevator's at the bottom of the tower. By the time it gets up here we'll be surrounded. Only one place we can take shelter and that's in the cowling around the power unit. Quick!"

He dived across to it, to find himself swung back by Max. For a second it looked as though Joe were going to use his big fists.

"The women first," Max snapped.

Joe scowled but he took no action. He watched grimly as Eva and her woman colleague squeezed themselves into the safety of the cowling; then Max jerked his head. He made himself last, and by the time the cover of the cowling had been closed it was a desperately tight fit for all of them, nor was there any guarantee of safety if the moths chose to attack the tower.

"What kind of a wonder-man are you supposed to be, Harborn?" Joe's voice growled from the gloom. "All over the world they're standing by with these projectors of yours, and they're no use."

"Oh, be quiet, can't you?" Eva demanded. "You don't suppose the projectors have been made wrongly on purpose, do you? There's a fault somewhere: we'll soon locate it."

"Uh-huh. Granting we live that long!"

The argument was dropped, chiefly because of the tenseness of the moment. Inside this cowling there was complete darkness and the queer smell of insulated binding and new copper wire. Outside came the drone of the myriads and the explosion of ack-ack fire. Evidently other projectors had proven useless also since the old methods had been fallen back upon.

Eva would have questioned Max there and then upon the mystery of why the projectors had not acted correctly, but she refrained because of the close proximity of the others. Instead she gripped his hand in the darkness.

It was an hour and a half before the all-clear sounded from the town below and six cramped, weary people dragged themselves out of their hide-out and looked about them. From the look of things, the tower had been attacked. It was pock-marked where the metal had been partially disintegrated, but evidently the attack had ceased when the main cloud of moths had decided to depart. This was the singular thing about the moths. Like bees obeying their queen, when the main hordes departed, every other insect went with them, sometimes leaving a task incomplete. Which seemed to suggest that each horde had a directive leader in their midst.

"You've some explaining to do to the people, Harborn," Joe said, gazing over the town. "Take a look down here. It's been pretty well chewed this time."

"The defences were weak because all faith was pinned on the projectors," Max retorted.

Joe gave a grim look of acquiescence and Max surveyed the scene below for himself. Many buildings had plainly been destroyed and many roads reduced to a tangle heap of half-consumed r u b b l e. In various directions flame-throwing squads were at work mopping up the larvae which had been left behind.

"Time we got below," Max said, turning, and he pressed the button which brought the elevator speeding up the shaft. All the time he waited he fully expected some sudden move by Joe, but nothing happened. Either he was not quite sure of the mood of the others present, or else he had deeper schemes in mind.

The elevator had barely got to the base of the shaft with its passengers before Max realized that several of the big shots from city headquarters were waiting for him. The next thing he knew he and Eva had been whirled to the government buildings, still standing, thanks to their "heat protection," where a troubled general and even more harassed prime minister were engaged in heated argument.

"Ah, here you are, Mr. Harborn!" The P.M. rose quickly. "Thank goodness you survived that attack: we thought you'd be trapped. What's happened? Why didn't the projectors work?"

"I've had no time to find out," Max answered. "As near as I could tell they were perfectly in order. There must be some trifling fault somewhere."

"Trifling fault!" echoed Gen. Carter, astounded. "You take it as calmly as that, Mr. Harborn?"

"I'm not taking anything calmly!" Max snapped. "I just don't know what went wrong until I have the chance to take a projector to pieces and examine it."

"More d a b b l i n g!" the general snorted. "Thousands of lives have been sacrificed, valuable material has been destroyed, and you want to examine a projector! Such a hare-brained scheme should never have been entertained. There'll be a first-class uprising over this, believe me!"

The P.M. motioned Max and Eva to chairs. "I must apologize for the general's outburst," he said. "He is a military tactician, not a scientist, so he has some justification. You'd better make an immediate examination of a specimen projector, Mr. Harborn, and try to trace the fault."

"The sooner the better," Max agreed, jumping to his feet again.

The P.M. led the way into the adjoining sector where the laboratory lay. Scientists were already present within it, some of them examining projectors on their own initiative, but from their expressions it was plain they could not find anything wrong with them.

"Made exactly to specification, Mr. Harborn," one of them said, as Max studied the interior of a dismantled instrument. "Wherever the fault is, it is not in the manufacture but in the plan itself."

"The plan's right," Max insisted. "I know it is. It's an exact duplicate of the step-by-step experimental sketch I made in the first place."

CHAPTER XVII

DECLINING to talk further, he devoted himself to an examination of his projector. He took it apart in every detail, a task which took him over two hours. At the end of that time the experts, the P.M., and Gen. Carter were still present, awaiting information.

"I assume," Max asked at last, "that this machine is an exact duplicate of all the others which have been made?"

"All from the same moulds and assembly lines," the P.M. agreed seriously. "They've been manufactured in their tens of thousands, and are still being made. Don't say there's a mistake in every one of them!"

"Definitely there isn't. They are exact in every detail to the plan I made."

"But they don't work, Mr. Harborn!" the general cried. "What is the explanation? We've even junked a lot of our ordinary defences for smelting purposes, believing they would be of better use as projectors. And now we get this! What's the answer?"

Max gazed troubledly before him. "Since it isn't in the projectors, it must be in the moths themselves."

The assembly looked at each other in amazement. Only the P.M. retained his equanimity.

"I must remind you, Mr. Harborn, that you told me you had quite effectively destroyed a Martian moth with your original model projector."

"He did," Eva verified. "I saw it happen myself."

"Words, words, words!" General Carter threw up his hands. "Why don't we get some action? Mr. Prime Minister, am I to assume that you accepted the claim that these projectors would slay the moths without ever having the fact proved to you?"

"Proof was not possible because vandals wiped out the moth along with a lot of my equipment, including the model projector," Max retorted. "When I say that the answer must lie in the moths themselves, I mean that those which have spawned on earth here must have built up a different kind of resistance to those on Mars. There the moths are half dead anyway, through slow fifth-octave 'poisoning,' but here they have never had such an exposure, which is probably why they don't get extinguished as they should."

General Carter said sourly, "So what do we do after having bent nearly the entire world's resources to making projectors?"

"We stop making projectors until I have determined the new wavelength which must kill these moths here on earth," Max replied.

The general seemed about to completely explode, but the P.M. forestalled him.

"Very well, Mr. Harborn, you will be given every facility, and I'll also give orders for all projector construction to be temporarily suspended. I appreciate the difficulty, and the only way to overcome it is to give you the limit of our co-operation."

"Thanks," Max said gratefully, with a significant glance at Carter as he strode in fury from the laboratory. "The one thing I have to have is a live moth. I don't care who gets it, or how, but one I must have. While that is being done, I'll get to work to try to devise a variation in wavelength."

"Any help required?" one of the scientists volunteered.

Max shook his head. "No thanks. My wife and I will have to work it out together. We're the only ones who know what it's all about."

So Max was left alone, except, of course, for Eva. They looked at each other rather grimly as the laboratory door closed.

"We're certainly in a tight corner now," Eva said. "I hope you've got some idea of what we're looking for, for I certainly haven't."

"The only thing I can try now is cosmic radiation itself," Max replied. "It's the shortest and most penetrative in existence, infinitely more powerful than fifth-octave radiation. The only trouble is it's dangerous to human beings and that will demand special cowling on all the projectors. Since cosmic radiation will go through eight feet of lead, it certainly ought to deal with the moths, in its pure form anyway . . . So the next job is to work out the necessary modifications to the original projector."

He drew a scratch-pad to him and began to figure, after a while turning his attention to the mechanical calculator. Not being a trained physicist, he was slow in his work, but at least he knew the rudiments of radiations and he was nothing if not thorough. Once he got started, he allowed nothing to disturb his concentration. Eva slipped out once and obtained tea and sandwiches, but he practically neglected them, so complete was his absorption.

Interruption came in mid-afternoon when a container, marked "External Electrification," was brought in to him, the official holding it with a heavily insulated handle.

"Special delivery, Mr. Harborn," he explained. "A live moth obtained from one of the larvae which attacked this morning. The external electrification prevents the insect from escaping."

Max did not trouble then to deal with the moth; he was too busy studying the original projector and determining the internal winding.

About 9 o'clock he relaxed a little from his efforts and turned to some of the sandwiches which remained.

"I think I've got it," he said, as Eva came in with some more hot tea. "The windings are extremely complicated and I very much doubt if I'd be able to find them again without that special reading on the calculator. More by luck than judgment that I happened to get it right. The sort of thing that only happens once and if you lose it you might spend the rest of your life trying to recover it—"

He broke off in surprise as the door of the laboratory suddenly flew open, and Joe came in holding a revolver in his hand. Behind him were a number of grim-faced men and women who appeared to stretch into the anteroom beyond.

Max jumped to his feet, pushing Eva behind him.

Joe said: "Now we've got you nailed down. And don't expect the prime minister or anybody else to give you any help. They're out of the way."

"Out—out of the way?" Max repeated, startled. "You mean you've killed them?"

"What's the odds? Thousands die every day. Thousands died today—because of you, master mind! You and your blasted projector! A lot of my best friends perished. So far you've both done very nicely for yourselves. When things got tough with the moths here, you wangled an assignment to Venus and made yourselves safe for as long as you dared. Knowing you had to come back—or had you?—you worked it again to get yourself special protection. Wonderful moth destroyer you'd discovered, and you let dud projectors be manufactured—"

"The reason for this morning's failure is now explained," Max retorted. "We need cosmic radiation instead of fifth-octave, and I'm just about to make the conclusive experiment."

"You've tried once too often, Harborn, and the people think it's about time you were called to account. You seem to have forgotten that you and your wife started the winged pestilence in the first instance. But for you bringing those moths from Mars, the world wouldn't be mourning its dead and its civilizations today."

"We haven't forgotten for a moment that we started the whole tragedy; that's why we've worked so desperately to put things right. Give me the chance to prove that I really have the answer. In that electrified container there is a live moth, and the projector is all set with the necessary modifications. Let me prove to you what I mean."

"To blazes with your stalling!" Joe shouted. "Okay, folks, do your stuff."

Max was seized and dragged out of the laboratory. Eva was bundled after him, but not before she noticed that the modified projector and many of the laboratory instruments had been shattered by the incensed crowd.

The remainder was a scene of blurred remembrances — of being forced down the corridors, out of the building, and into the cold night air. A truck was waiting, and, since all militia had evidently been taken care of, the insurgents had a clear field. Max and Eva, brought together again by brutal hands, were bundled into the truck, and then it made off swiftly into the darkness.

* * *

To Max and Eva, surrounded by their grim-faced men and women captors, vaguely visible in the dim roof light of the covered truck, the journey seemed to cover many miles. It must have been an hour and a half later before a halt was finally made.

Practically thrown out of the truck, Max and Eva looked around in bewilderment. In many directions there were flickering fires and the dark tides of assembled people ebbing and flowing under the pale light of the nearly full moon.

"There's your judge and jury," Joe remarked, coming up and pointing. "The largest surviving party of the country, and all of them sworn against you. Call us the Rebels if you like, but we represent justice."

Max and Eva were shoved over a rough field, then descended a rubbly slope until they were in some kind of ampitheatre. Here they stopped, looking at two tall stakes rearing up against the moonlight.

They were firmly secured, not with rope but fine wire, each to one of the stakes, their hands behind them. It leaped to their terrified minds that burning was intended, but so far there was no sign of wood to make a fire.

The assembled thousands moved in until they had forced a silently watching circle around the tethered two. Then Joe reappeared a little distance away, in the centre of the circle, and his thick, sneering voice broke forth.

"Our plans for you two liars are simple," he said. "We are leaving you here, tied up. This particular region you are in now is rich in copper dust, being the remains of an old copper mining district. The moths are partial to copper dust. They have flown over this area quite a lot and tried to attack it, but we have enough flame throwers to keep them at bay. When they come tomorrow that won't apply. We're leaving this area tonight and taking over Birmingham, which is more or less protected. We belong to the new Citizens' army. While you and the P.M. and sundry other big-wigs were running things there wasn't much we could do. Now it's different."

Max said: "How long do you suppose you'll be able to survive in Birmingham without an effective means of stopping the moths? You'll be wiped out—the lot of you. If you'd only listen to reason, we can put things right."

"Promises wear thin, Harborn," Joe answered. "You're finished, both of you, as finished as the apparatus you monkeyed around with."

Max shouted: "You didn't destroy my laboratory stuff, did you?"

"Why not? You'll have no more use for it!"

"But I'd just got the answer! Everything was worked out on the calculator—"

"Forget it. The calculator, your crackpot projector, and everything connected with your loony scheme have been destroyed, as you will be."

"But, don't you realize—"

"Shut up!" Joe roared. Then he turned to the crowd and shouted: "Let's be on our way!"

For a long time there was an immense stirring of men, women and children in the moonlight, most of them carrying their possessions, some carrying sections of prefabricated huts —then gradually the exodus was complete and the last remnants straggled over the distant side of the valley and were gone.

"And ideas?" came Eva's anxious voice.

"Only one, and I'm working on it," Max answered. "They made one mistake when they fastened us with wire. It may be stronger than cord, but it's much easier to break by bending it back and forth. I'm doing that with the piece between my wrists. It burns like the devil but it's worth it."

Immediately Eva began to try the same action, and then stopped as the heat of the wire singed her skin. When it had abated she tried again—and then again, gritting her teeth as her flesh was seared.

At length Max gave a gasp of delight as his wrists came free. This was not the end of struggle by any means, but by slow degrees he managed to drag himself clear of the remaining coils, until at last he had pulled away from the stake. Immediately he went across to Eva and released her, just as she had reached the point where the wire about her wrists was giving away.

"And now where?" she asked.

Max said: "There must be forces operating somewhere for the government—or what is left of it. We've got to find them and somehow get a modified projector built."

They hurried up the valley side and then had before them open fields. They were hampered by not knowing what particular district they were in. They might run into either friends or enemies—but at least there was one big factor in their favor which both of them appreciated. They would be written off as dead in the minds of their enemies, which would give them comparative freedom to act without harassment if they could only fall among friends.

CHAPTER XVIII

THEY came presently to a main road, and half a mile distant there was a scattering of low white dwellings.

"Might try there," Max said. "It'll be a risk, but we'd better take it."

As they came nearer to the buildings they could discern high wire enclosures and, over the buildings a mesh used as protection from moth attacks. Then a voice barked a challenge.

"Halt and state your business!"

They stopped. The voice had come from a loudspeaker perched high on one of the fence posts.

"Friends," Max replied.

"Anybody can say that. What is your business here? State your names."

"Max and Eva Harborn. We have just escaped from the insurgents and are looking for government forces."

"Enter the enclosure by the main gateway. It will be unlocked for you. If you do not satisfy the commander you will be immediately shot."

Max and Eva found the main gate open, and beside it stood a man wearing the uniform of a government soldier.

"This way," the man ordered, jerking the gun he was holding. "You can explain yourselves to Commander Richardson."

Max and Eva presently found themselves within a low-roofed army build-

ing. Seated at a table strewn with maps, and illumined by two desk lamps, was a pleasant-looking, ginger-haired man with a scrub moustache. Behind him stood a couple of uniformed government men, hands resting on the gun in their belts.

"Reporting visitors, sir," announced the guard, as he brought Max and Eva forward and saluted. "They have given their names as Mr. and Mrs. Harborn."

"And why not, since that's who they are?" Commander Richardson came around the desk and shook hands. "A real pleasure to meet you both. I'd know you anywhere from your photographs. Please sit down."

Richardson dismissed the guard and perched himself on the desk edge.

He said: "Just why you should seek out me in this solitary government unit I do not know. What can I do for you?"

Max told him what had happened to them at the hands of the insurgents. When his story was over, Commander Richardson had risen from the desk edge in sudden urgency.

"You'll get protection — everything you can need," he said quickly, "but first let me get something straight. Do you actually mean that this man Joe, and the hundreds who are evidently under his leadership, believe they can take over control of our temporary capital?"

"Frankly, commander, I can't think why they shouldn't. They have disposed of government leadership—the P.M., Gen. Baxter, and others who were in authority."

"They haven't disposed of me," Richardson said, his big face grim. "You coming here like this may yet save the situation. I am not here for the dealing with insect attacks but for the purpose of suppressing the malcontents, who are almost as big a peril as the insects. My unit is devoted to trying to maintain law and order. The capital has got to be saved at all costs. You say that these insurgents set off for Birmingham about an hour and a half ago?"

"Be about that, yes."

"Since they were on foot they won't have reached Birmingham yet, and before they do they'll be dealt with. My orders are to obliterate all insurgents who defy authority."

Richardson snapped on the intercom. "Dennings?"

"Here, sir."

"An insurgent army is on its way to take over Birmingham. Advise Commander Grayson of the 10th Air Sector to attack them. You will follow up with ground tanks and infantry. Not one of these insurgents must be left alive."

"I understand, sir."

"And have my plane warmed up immediately."

"Right, sir."

Max gave a rather grim look as the commander switched off.

"Your orders sound a bit ruthless, commander," he remarked. "There are women and children among those insurgents."

"I know." Richardson's face was resolute as he put on his cap. "Don't think that I enjoy my job, Mr. Harborn. I just have to follow orders, and it is certainly a fact that in many ways the insurgents are as dangerous as the moths, as wherever they operate they destroy order, property and lives. The edict of headquarters is that they must also be destroyed. Maybe you'd care to come with me in the plane? There is every reason to suppose that Birmingham will again be controlled by government powers once this particular rising has been smashed. You can then continue your experiments."

"We'll come with you," Max said. As for continuing my experiments, that depends on how much the insurgents have left for me to experiment with."

Richardson led the way out of the headquarters into the moonlight, and then to his plane being revved up on the nearby airstrip. He followed Max and Eva into the cabin and they settled down. It was not until radio information was received that Commander Grayson's air fleet had taken off that Richardson gave the order for departure. Thereafter, he, Max and Eva watched intently at the windows, seeing ground forces on the move.

With radio to guide them, it was not long before Richardson's plane joined Grayson's bombing squadron. Below, picked out in the blaze of the planes' searchlights, was the army of which Joe was in charge. Now it was a broken, chaotic mass, hurrying in all directions before the impact of high explosives. Max watched in fascination because he just could not help himself; but Eva kept her attention diverted, meditating meanwhile on the utter callousness of man as a species.

Richardson's craggy face showed the strain he was bearing but he did not for a moment budge from his purpose. He let the attack continue until three-quarters of the insurgents below had been blown out of existence, then he called off the attack as the land army caught up and dealt with the demoralized stragglers.

"A nasty business, but necessary," Richardson said, glancing toward the dawn appearing in the eastern sky. "Now we'll continue to Birmingham and set matters right there."

* * *

By breakfast time Max and Eva were back in their original suite in the temporary capital, rested and refreshed, and aware of the fact that Commander Richardson had, for the time being, taken over control of the city. It appeared from radio reports that many former government members were still alive, in various parts of the country, and these were coming to Birmingham at the earliest moment in an attempt to form a cabinet. The various groups of insurgents appeared to be quiet, an effect probably occasioned by the broadcast news of the destruction of those who had tried to seize control of the country.

When Max saw the damage in the laboratory he stood in dismay. Commander Richardson, who had accompanied him, gave a troubled glance.

He said: "Whatever replacements you need, Mr. Harborn, we'll try and do it. It is generally acknowledged now by all except insurgents that only you can save us from eventual total disaster."

Max replied hopelessly: "The modified projector has been smashed to pieces. The experimental moth and its case are gone, presumably destroyed. And, worst of all, my notes are missing and the computing equipment has been smashed."

The commander glanced about him. "We can't replace your notes, of course, but we can get you a fresh computator."

"It wouldn't be any use. The formula I had worked out on the other machine couldn't be repeated except by accident. I happened on it by chance."

"Then what are we to do, Mr. Harborn? I don't have to tell you that your modified projector was our last hope of winning the battle against the moths."

Max prowled around the shattered laboratory restlessly before he gave an answer.

"Our only hope now is to gather all the trained physicists and see if, between them, they can devise a method of producing cosmic radiation—but it is not exactly the same radiation which pours in from outer space. It has a slightly different wavelength, which I had just discovered when I was interrupted."

"I'll see what I can do to gather them together," Richardson promised: "but isn't it rather like asking them to work in the dark? Without a formula, without a—"

"That's what I keep telling you! I've nothing to go on, and I'm not a trained physicist who might be able to solve the problem. Up to now, everything I have done has been largely by chance and the exercise of common sense."

"Wait!" Eva interrupted, brightening suddenly as she listened to the conversation. "I believe I have something, though whether it's just a glorious theory or a practical idea I don't know. First, can energy be stored?"

"Certainly it can," Max answered her. "A battery is one way of doing it. But what has that—"

"Hear me out! Can cosmic ray energy be somehow gathered and stored up, then released on the moths?"

Max was silent, looking at Eva intently.

"Not exactly as it is, of course," she added. "You say it must be of a slightly different wavelength, but suppose you had the original source of power—cosmic radiation—could you somehow graduate it to what you want?"

"By trial and error I possibly could, but what are you getting at?"

"I'm suggesting that a fleet of space machines be built, the exact number I don't know, which would be floating powerhouses, with quarters for the scientists and crews. These powerhouses, once in space beyond Earth's atmosphere, could store up cosmic radiation in specially devised plants, and, when maximum load had been reached, they could come down to the moth areas and release their energy through special projectors. All of this providing that you can hit the exact wavelength you want."

"This," the commander exclaimed, "sounds uncommonly like a stroke of genius! That way there would be an inexhaustible supply of energy. Space machines on a shuttle service into the void. Back and forth to the moth areas. It's a tremendous idea."

"Tremendous is right, Max agreed. "The thing that bothers me is whether it is practical or not. Better get all physicists together, commander, and see what they think of the theory. Meantime, Eva, take a bow.'

She smiled and did so. "Nice to know my head's useful for something."

Richardson departed immediately and a radio call went out for all trained scientists, particularly the physicists, to present themselves as quickly as possible. Even so there were delays in arrival due to further moth swarms interrupting travel. Several precious days slipped by before the best scientific brains left in the world arrived in Birmingham and held their conference in a temporary government building.

"So to you, ladies and gentlemen, falls the honor of devising a possible power-storage plant for our theoretical defender," Max finished, when Eva herself had outlined her idea. "Is it possible, or not?"

"Frankly, I regard the notion as an extravagance," an American physicist commented. "Cosmic radiation can be produced in the physical laboratory by atomic annihilation. Surely, Mr. Harborn, that was the basis of your own projector?"

"No." Max shook his head. "My projector in its fifth-octave form, used normal electrical energy for its power, and a special transformer for alternating the wavelength emanated by the energy. When I started on the modification I found, purely by applied mathematics and a tremendous stroke of luck, the exact mathematical set-up needed to produce a radiation in the cosmic order. Notice I say cosmic order. I am not seeking pure cosmic waves as such because I do not think they would have the effect we want. It is a variation of them, maybe only a few centimetres this or that side of maximum, but exactly right to obliterate moth life completely."

"Then why don't we create the cosmic radiation in the physical laboratory, store it—as can be done—and then try and find this variant you're seeking?"

"Because," Max answered, "we could not afterwards make projectors capable of producing the wavelength we want without recourse to atomic force within the projectors, and that would be too dangerous, too cumbersome, and probably for the amount of radiation we'd need we wouldn't even have enough basic materials left in the world. This idea of my wife's means that we can absorb pure cosmic radiation from the inexhaustible source of the cosmos itself. Our supply can never run dry. If it can be done, and given enough space machines to keep up a running attack 24 hours of the day, we'll win the battle."

CHAPTER XIX

THE scientists began to converse among themselves. In the normal way they would probably have taken several conferences to arrive at a decision, but in this instance the imminent danger looming was sufficient to make them come to a rapid conclusion.

"I think," said the American, who had been chosen as speaker, "that it can be done. But it will demand enormous resources, labor and money. Everything will have to be sacrificed to the attempt."

"Naturally," Commander Richardson interjected. "We fully expect that. What must be driven home is that this planet of ours is doomed to extinction through insectile blight if we do not throw everything we've got into a counter onslaught. It is for all countries to agree to pool their resources, as I fully believe they will."

The members of the various countries present, given authority by their respective governments, rose, promised support.

"That is all we need to know," Richardson said in satisfaction. "For the time being, with my colleagues, I represent the governing head of Britain, and I take full responsibility. Now to the vital matters. How is this energy to be stored?"

It was on this question that the real business of the conference began as scientist argued with scientist and methods and theories were dispensed or transferred to sketches and formulae. Throughout this deeply technical part Max and Eva took little part, knowing that deeper physics were out of their field.

The conference sat throughout the day until early evening, barring breaks for meals, before a common agreement was arrived at. Then, with the aid of roughly drawn sketch plans and a blackboard the American delegation speaker made the general conclusion clear.

"The only method is a variation of the usual cyclotron equipment," he said. "That is, two spheres on the exterior of the space machine, representing anode and cathode in the normal way, but in this instance to be used as power-storage units. The electrical charges generated by the cosmic radiation, which are excessively minute, will be picked up within both spheres by special equipment and built up, within the spheres, to maximum load, in the region of 17,000,000 cosmic electron volts each. The maximum load to be transported through the transformers—for correction of wavelength—would therefore be in the region of 34,000,000 cosmic electron volts positive. In other words, atom smashing methods done in a different way."

The American scientist continued explaining it for another hour.

The upshot was that various groups of scientists were assigned to the design of different parts of the equipment needed, and once again the engineers and precision-instrument makers of the world were commandeered to throw every resource they possessed into a giant effort.

As the basic movers behind the scheme Max and Eva were given absolute liberty to go wherever they chose to watch developments, an opportunity of which they made full use. In the ensuing days, and weeks — between moth onslaughts in all parts of the world—they flew to the great manufacturing centres where space machines were being specially constructed from the original plans of Holt Laycross. Or else they travelled to the laboratories where the spheres and intricate internal equipment were being assembled.

Seen now, in the rough stages of construction, everything appeared an incomprehensible jumble, but over the apparent chaos a scientist ruled in every instance, co-ordinating his part in the master plan. To Max would fall the final task of discovering the correct variations in wavelength, and to this end he spent the time, when not travelling about, endeavoring to tackle the problem mathematically, and calling on his memory as well as possible to redraft many of the original developments he had conceived.

Hardly a town or a city in the world now escaped a daily visit from the winged pestilence, and beyond the cities, in the great areas which had been utterly devastated, enormous craters were appearing, exactly like those of the moon, in which tens of millions of the insects consumed the very substance of earth itself and converted it into energy.

Mankind had by now, within limits, safeguarded itself. Foodstuffs and essentials were protected now under enormous areas of electrical mesh, and the vital parts of all towns and cities were similarly covered. Even so, the overcrowding, the constant fear of attack, the dangers of travel, the rationing and communal way of living were telling on nerves and tempers.

The insurgents had almost disappeared. Living as they did, in the open away from the protected areas, they had by this time been accounted for by the winged hordes.

It was four weeks later before the very first completed space machine was

ready, and Max and Eva were summoned to pilot it—and not only that. Max had now to make his effort to discover the variation he needed in wavelength.

The space ship itself was little better than a flying laboratory with only enough room for four people. On this experimental flight, besides Max and Eva, there were also Commander Richardson and Dr. Rutter, the American spokesman of the original conference.

Nothing was attempted until the vessel was 200 miles beyond the limit of earth's atmosphere; then Max set the automatic pilot in commission, keeping the vessel moving at just sufficient speed voidward to counteract the pull of earth's gravitation. This done, he was ready to experiment.

"For the test we only need one globe," Rutter explained. "I'll load it up to about 4,000,000 volts, which will be enough for test purposes — and we're picking up the radiation all right," he added, nodding to the instruments. "Look at them. Maximum energy."

Max moved to the transformer, through which the stored energy would presently pass, to be retransmitted through a projection system set in the base of the space machine, not unlike a searchlight in appearance and fixed within universal mountings.

"The transformer is not yet cowled," Rutter explained. "You will notice that the central core windings are only fitted into slots. That is so that adjustments can be made by you to achieve exactly the correct winding. You are, of course, prepared for taking on that task?"

"I'm going to do my best," Max replied. "I've worked it out mathematically as near as I can remember it. The one thing haunting me is that I may not have remembered it correctly. If I haven't—" He stopped, banishing such a speculation.

There was a wait of 20 minutes before the single globe would have built up the required potential, so Max made use of the time in altering the winding of the transformer to what he believed was the correct setup. By the time he had finished, Rutter reported that the required 4,000,000 volts had been obtained and was only awaiting release.

"Okay," Max assented. "The only way to make sure of what we have is to descend to Earth again, find a moth area, and then release some of this slightly altered radiation upon them. If it's not right the first time we can make adjustments until it is. Agreed?"

Rutter and Richardson both nodded, so Max returned to the control board, Eva remaining as before at the radar instruments to guide his course when the Earth's clouds were reached.

Descending in a direct line, the vessel came to Earth over Europe, so Max immediately headed it towards the Alps, using the normal air-flying equipment. Nor was it long before the mustering and breeding grounds of the moths became visible, cloaking the mountain sides in tides of utter darkness. Max surveyed, brought the vessel down to within 500 feet of the largest breeding ground, and then handed over the controls to Eva.

"This is it," he said significantly, moving to the projector end of the cosmic equipment. "Let's see what we get."

He peered through the sighting apparatus and then switched on. The invisible force of the cosmic radiation immediately fanned downwards, and the effect on the gathered multimillions of insects was as though a gale swept among them. They scattered wildly from the fringes of the radiation, but those pinned within it remained motionless, so motionless that they marked out exactly what radius the radiation possessed. Immediately Max swung the instrument slightly, catching many of the moths in midflight. Immediately they ceased moving and fluttered slowly downwards.

"It's it," Rutter whispered, fascinated. "Mr. Harborn, you've got it! You've killed them."

"It looks that way," Max agreed, swinging the instrument again as a resentful horde swept upwards, only to be wiped out by the cosmic power and go quivering back to the mountain side and become inert.

Com. Richardson said: "Look at them wherever the radiation has touched. Not a quiver among them. They're dead."

"We can't take it for granted," Eva said quickly. "Not after the earlier mistakes we made. You'd better grab a specimen, Max, and make sure."

"Just what I was thinking," he agreed. "Lower us down, Eva—by the helicopter screws. I'll net one up and examine it as well as I can."

"Plenty of them still flying around," Rutter pointed out anxiously. "What if they attack us?"

"If they do we have this projector to deal with them. You'd better take charge of it, sir. I've other things to do."

Rutter nodded and took Max's place, thereafter keeping his eyes glued to the sights. It was as well he did for in its slow descent the helicopter became an increasing target for the flying hordes. It was obvious they suspected it was the means of their destruction for time after time they attacked it—but Rutter was always on the alert and everywhere the invisible radiation touched the moths ceased to move and floated helplessly back to the mountain side.

Max was not foolish enough to expose himself in the open airlock. He operated the net through a floor-trap and without difficulty swept up half a dozen or so of the motionless insects. Immediately it was done, Eva wasted no time in lifting the machine quickly to the rarefied heights where no moth could fly. Then she set the automatic pilot in position and came over to watch Max at work, Rutter and Richardson standing nearby, waiting anxiously.

CHAPTER XX

USING insulated forceps, Max selected one of the half dozen moths and then subjected it to careful examination. He used electrical instruments and an x-ray unit, but with the latter he did not take a photograph—he watched, instead, the picture depicted on the barium-sulphide screen.

"No heart beats," he said finally, pointing to the image. "Look for yourselves."

Eva, Rutter and Richardson did so and satisfied themselves.

"No respiration or other signs of life, either," Max added in jubilation, studying the instruments. "Strong electrical reaction, yes, but noticeable only to the fingers when you place them near the insect. Not that there's anything peculiar about that though. Being energy eaters these insects naturally give forth high electric tension even in death. We discovered that much on Mars."

"Which puzzles me," Rutter remarked, frowning. "Surely, if they have an electrical emanation, even in death, it ought to be apparent to a galvanometer?"

"It ought to be, but it isn't. Perhaps because they are actually insects of another world."

Rutter said: "Energy is energy whether it's on Earth or the Pole Star. However, never mind that for the moment. We do know that you have hit the right wavelength, so now we must push on with all speed to complete our plans."

Max turned from tipping the dead moths through the floor traps.

"That's it," he assented. "We can win the battle now without a doubt, and there is also another matter to which we have not paid much attention in our urgency. We need hundreds of trained space pilots to fly the machines. I think, commander, that special bases and training units, in 'protected' areas should be established immediately. Men and women must be pressed into service—all those attaining a required standard of fitness, that is, and my wife and I will train them."

"I'll fix it right now," Richardson promised, and he turned to the radio equipment to give his instructions.

* * *

So in the weeks that followed, in the "protected" areas, young men and women were trained in dummy machines for the work they would be required to undertake. At the same time an ever-increasing supply of spaceships came off the assembly lines and were quickly fitted with the required energy-storing apparatus. Technicians labored in the thousands; ordinary men and women turned into quite skilled machine assemblers; everything that human ingenuity could devise was thrown into the last giant effort to stave off destruction.

For destruction there certainly was, outside the "protected" areas. Almost hourly now the flying hordes were present, gorging on the earth itself, spawning, and gorging again. The skies were nearly always dark with one swarm or other, stretching from horizon to horizon, winging on its journey of death and destruction. The greatest plague ever known in mankind's history was reaching the peak of its violence alongside the means for its destruction.

Then came the time when the first group of fully equipped space machines took off. They departed with only a wish of good luck, for those left behind had their hands full to supervise the trickle which must become an avalanche. War to the death on the winged pestilence had been declared. None the less, Commander Richardson, who in agreement with the other high-ups had taken command of the battle, listened anxiously in his headquarters for reports.

At first they followed the expected pattern — journey into space, storing of cosmic energy, and then return to the nearest breeding ground, in this case the Alps, since it was from there that most of the swarms attacking England came. After this the reports changed abruptly and the commander and his advisers sat listening at the radio in stunned amazement.

"XO-Nine reporting," came the voice of the leading space pilot. "Attempt to approach Alps made impossible at the moment by presence of new type of moth. Very large variety—"

"Headquarters calling," Richardson interrupted urgently. "Explain yourself more fully, man! What's this about a new type of moth? It isn't possible! There's only one on the face of the earth; that's all there can be. Describe this new specimen and make sure you're not looking at birds of some sort. Over."

"XO-Nine replying. These are not birds, commander. They can't be since all birds were destroyed long ago. We are at the moment about 1,000 feet above the lower slopes of the Alps, where the breeding grounds are. From it are rising clouds of moths of immense size. They have a wing span of perhaps three feet and bodies two feet long. Otherwise, in color and contour, they're exactly like the smaller variety. We are about to see if they can be destroyed by cosmic radiation. Will report back in a moment . . . "

The radio deadened temporarily and Richardson shot an anxious glance at his colleagues.

"This is absolutely impossible!" he insisted. "Either that man's seeing things or else cosmic radiation is affecting his sense of balance."

There was a hollow sound in his words, though. He knew perfectly well that the pilots of the space machines, and the leader of them most of all, were far too well protected to be suffering from hallucinations. They had definitely encountered something, but what it was—

"XO-Nine!" announced the loudspeaker. "Attack on the giant variety quite successful. They have fallen back to the mountain side, presumably dead. We are now going in to destroy all the main moth areas. Will report later."

"Good luck," Richardson said briefly, and then he switched on his private line to the operational base where Max was at work training pilots.

Max, when he heard of the call, answered immediately.

"Can you spare time to hop over, Mr. Harborn?" Richardson asked. "Something queer has come up—and I've sent for Dr. Rutter too."

"Queer?" Max asked, anxiety immediately coming into his voice. "How do you mean? The radiation must work! We've proved that it does—"

"It works all right, but there's something else. Better come over. It's too complicated to discuss on the phone."

Max obeyed the summons and handed over his teaching to one of the more advanced student pilots. When he arrived at Richardson's headquarters on the opposite side of the city, he discovered that Rutter also had just put in an appearance.

"What is it, commander?" Max asked urgently. "What's gone wrong?"

"I wish I knew. The cosmic projectors are apparently working all right, but the pilot in charge of this first attack tells me that his fleet is encountering a new species of moth—same as the original one, but immensely larger. Three-foot wing span and two-foot-long bodies. Otherwise all details identical to the smaller breed. Presumably the destructive power of the giants is correspondingly enlarged. However, they are killed by the cosmic radiation."

Max was silent, gazing fixedly before him, wrestling with the difficulty.

"Giant species of the originals," he muttered, half to himself. "But that's impossible! The man must be crazy."

"He's not," Richardson said quietly. "They're there all right, but there's no explanation—"

"I think there may be," Rutter interrupted sharply. "As a physicist a horrible possibility has just presented itself to me. I think we ought to get out there immediately and take a look at these giants for ourselves. We—"

He paused, looking up sharply as alert sirens began to sound. The commander compressed his lips.

"Can't go anywhere for the moment, Dr. Rutter," he said. "Evidently another swarm is about to attack us. We'll be safe enough here anyhow."

He reached to the intercom and spoke briefly: "Close all protective grids immediately and order all outside personnel to shelter."

"Right, sir—and there's a special item of news just come in for relay from the lookout men. This swarm about to attack is different from previous ones and we are not sure if our grid system will fully protect us. These moths are of a new giant variety."

"Take the usual precautions," Richardson answered, switching off; then he looked up into the troubled faces of Max and the physicist.

"At least we're saved a journey," Rutter remarked. "We can probably grab some specimens from this new swarm. I want to see what they look like."

"Best place for that is one of the shelters," Richardson answered. "Come along."

He led the way out of the headquarters and within a few moments he, Max, Eva, and Rutter were safe behind electrified glowing mesh, their attention directed towards the sky in anticipation of the hordes. They were not long in appearing, and while most of them continued on their way northward, one section did detach itself and dscend to investigate in the region of the government buildings.

Rutter whipped out a pair of binoculars and focussed them quickly, then he gave a gasp.

"It's right enough!" he exclaimed in awe. "These things are five and six times as big as the other type."

"Maybe we'd better try to get one for a specimen and see if we can find out what's happened?" the commander suggested.

"No. Never mind." Rutter spoke slowly as he lowered the glasses. "I don't think we need to examine them at close quarters to know what's gone wrong. It's all too obvious—to me anyhow."

"Obvious?" Max repeated, looking at him sharply. "How do you mean? I refuse to believe that I got things all wrong again!"

"No, you didn't do that. This is a development nobody could have foreseen—yet as a physicist I should have. To state it briefly, that radiation is not the one we want. Instead of it producing death, as we fondly hoped and believed, it is producing evolution!"

"What!" Richardson gasped.

"It's the only answer," Rutter insisted. "Science has known for long enough that cosmic radiation, in certain quantity and in a certain wavelength, produces evolution; that it is responsible for the gradual ascent of our living species from the lowly amoeba. It has taken millions of years because the amount of radiation seeping down through our deflective atmosphere belt is so small—but in this instance we evidently have the exact self-same radiation in the undiluted form, and the result of it on these moths is to produce an evolved form of them. They have mutated, in other words, into something far more ad-

vanced, far larger physically, and the danger has correspondingly increased. What is worse, the progeny of these giants will also become giants. That is proven by there already being so many of them."

"But it can't be right," Max insisted. "We killed those moths we attacked in the Alps. Why, we even examined one and proved that its heart wasn't beating."

"Yes." Rutter's face was grave. "The only explanation for that is that the initial shock of the cosmic radiation was stupefying enough to produce an effect closely allied to suspended animation, wherein the heart beats almost but not entirely cease. Had the moth we examined been a human being we would have seen a slight heart action, but in an insect the still operative life current wasn't visible. Later they evidently recovered and the effect of the radiation was that they grew to immense size and probably developed a lot of otherwise latent powers. We have not destroyed the menace," Rutter finished, his voice sinking hopelessly. "We've made it a hundred times worse! And it will become an even more tragic situation as the space pilots keep on using the radiation for attack! All they are doing is producing stupefaction and evolution. All attack must cease forthwith."

Commander Richardson's expression showed how aghast he was.

"If we do that, Dr. Rutter, we're beaten! It's the end!"

"We have to face the situation!" Rutter said impatiently. "These projectors can't be used under the present conditions for it simply means multiplying the enemy. We must cast around for yet another variation of the wavelength. That is our last hope—and if we ever find it we must be sure that it really does kill. For that reason, if none other, we had better have a specimen of this giant moth for testing purposes."

The instant the attack was over he wasted no time. The "mopping-up" squads were given their orders—that a live moth must be captured and submitted for analysis . . . And for Max there began again the desperate struggle to work out new variations on his projector wavelength. In the effort he was assisted by Rutter. Meanwhile, the pilots were ordered to withdraw from the fight pending fresh orders. What they thought was not known, but Commander Richardson knew full well that trouble would blow up very quickly if matters did not get on the move again soon.

The pilots were not told the reason for cancellation of their orders in case unguarded repetition of their information should reach the populace in general and start a panic. Most certainly they were not aware that the "destruction" they fondly imagined they had already caused had only served to stun millions of moths which would later awaken, evolve rapidly, and become giants to swell the tide.

Spaceship construction was not halted, nor for that matter was work on the projectors, as the transformer alteration would not be a difficult task once the right combination of wavelength was found.

Other scientists were brought quickly to Birmingham and the struggle continued almost without ceasing day and night as various wavelengths were tried out on the half dozen living giant moths which had been captured. They lived in transparent reinforced glass jars, electrically protected on the outside so that if they did manage to break out they would be instantly annihilated by the electricity before reaching their human foes.

When Max had the chance he slept fitfully, to immediately plunge back into the struggle the moment he had rested and eaten. The world knew that something was wrong and Richardson, after two more days, was compelled to give out the facts. He did so with the promise that salvation was coming—but he did not say when.

On the third day the men scientists were grim and bearded, their eyes haggard with lack of sleep. The women looked little better.

"There's no use beating about the bush," Max said, throwing down his pencil on the stacks of useless notes and computations. "We're licked! This radiation just can't be rediscovered. I had it once, as you know, but that was by accident. It may take years to rediscover it, and there's no guarantee even of that."

CHAPTER XXI

COMMANDER RICHARDSON was silent, unable to absorb the awful calamity which had descended.

Rutter said: "We can't blame Harborn. He's done his best, and so have we."

"I daren't tell this to the world," Richardson said.

"Then I will," Max replied. "I'll take the blame. I might as well. I've done it all along—"

"And you'll do it no more," Rutter interrupted. "You and your wife have taken more than your share of punches. We're all in this together. I agree that we cannot drop this ghastly verdict on the world without suggesting a way out. There is one only; make use of the thousands of space machines which have been built and leave Earth behind."

"And go where?" Max asked. "I thought of that long ago, but it doesn't seem reasonable. Mars is almost dead; Mercury is useless, and the Venusians—otherwise Martian plants—won't have us."

"For the time being I'm afraid they'll have to," Rutter answered. "Judging from your report of them, Harborn, they are not hostile. They know themselves the ghastly menace of the moth which originated on their world. They will allow us sanctuary, surely, while we make fresh plans. Later, maybe, we can create a world of our own somewhere by synthetic means. It shouldn't be beyond possibility. However, that is in the future. The immediate task is to get away from here, and the people must be told."

"Then we stand by for trouble," Richardson said. "Very well, I'll make an announcement, and I shall expect you, Dr. Rutter, and you, Mr. Harborn, to back me up. I daren't take this load by myself."

He left the laboratory and headed for the department where the radio equipment was housed. So the edict went forth to the world and at first there was no immediate reaction. It came finally in the evening when outraged hordes did their best to mob the government buildings; yet oddly enough, it was an ugly mood of desperate despair which soon passed as saner spirits got the situation in hand. Exodus was seen to be the only answer—to take a chance on the torrid, strange world of Venus.

Plans were hastily switched around and the populace of the world, by this time not so very large, was indexed and broken up into groups, after which a time and departure point had to be determined for each group. It was a vast, complex job of arrangement which occupied many weeks, and much of the work was upset and lost altogether by ever-increasing moth attacks of both the large and small variety.

It was toward the close of the fourth week, and matters were still not sufficiently advanced to permit of a general departure when it became startlingly apparent that it might not be possible to leave after all. The reason lay in the colossal increase of moths, their enlarged size, and the devastating frequency of their attacks. Nobody except the scientists was aware of the fact that the initial cosmic ray attack which had been made upon them had not only produced giantism, and consequent giant progeny, but also enormously stimulated the larvae themselves, resulting in a triple product.

The skies were thick with them from morning until night. Movement could only be made at all with a flame-throwing battery as protection. The space fields from which the vessels were to leave were infested with the insects, and their corrosive effect was everywhere. Communications were hampered, departure bases for the people were being destroyed, and the people themselves were being wiped out in areas where until now no moths had ventured. It was the giants which were doing the damage. They were fearless, ruthless, and as destructive as nitric acid and rampant decay.

"I think," Dr. Rutter said, as the utter hopelessness of the position became obvious, "that the best thing mankind can do is prepare for the end. The position is beyond us. We can never get clear without meeting death on the way. It is the end of the world as we know it and the complete triumph of the moth. We can hold out for a time, but it can only be short."

Nobody spoke. The gathering in the big central office with its exterior protective mesh comprised Commander Richardson, Max, Eva, Rutter, and a gathering of experts and scientists who had thrown their all into the fight and lost. They stood looking through the window where the skies were hazed over by the scudding multimyriads.

Some in the room prayed. Others sat morosely and tried as best they knew how to conform their minds to the prospect of death. So it was everywhere human beings still survived. They knew they were doomed.

But, peculiarly, something happened. It came after four days of incessant onslaught by the hordes as they hurtled about the world. At first it seemed impossible, and yet there was evidence of it. The hordes were becoming definitely less dense!

The weary, frightened men and women in the government buildings realized that on the fourth day there were long spells of sunshine when the sky was clear. Radio experts, still functioning, announced that in many parts of the world there were similar quiet periods. And on the ground lay moths to a depth of six feet in some places, and in others piled up to nearly 20 feet.

And they were dead! That was the glorious thing. Dead! It sent a thrill throughout the world. The pestilence was collapsing in all directions into a deluge of dying and withering moths who buried the ruins of cities under their expiring bodies.

By the fifth day there were no attacks at all. Max, Rutter, Eva and the others emerged from their security, determined to discover what miracle had brought the salvation about. Everywhere, waist-deep in places, were moths really dead. And they gave forth no electric current either.

Space ships that still operated were sent out to investigate. Similar reports came from all over the world. The mustering and breeding grounds were absolutely still as death cloaked the pestilence. It was over, finished, and the skies were clear. But it took a stupefied humanity, afraid to be jubilant, several days to realize the fact.

Then indeed joy went around the world in a frenzy of celebrations and orgy of burnings of the mountains of insects which had mysteriously passed away at the very zenith of their terrible power.

But it was the reason for this mysterious cessation which haunted the scientists. There seemed no reasonable cause for it. Cosmic radiation had increased their power, not lessened it. What then had finally killed them? To the laboratories were taken scores of the insects, giants and midgets alike, and the biggest investigation in scientific history began.

It was not a problem to be solved in days, or even weeks. Indeed, civilization was growing up again quite respectably and space travel to the outer planets had been comfortably established before the answer was found—and it was the then aging Dr. Rutter who discovered it. He, of all the scientists, had made it his life's work to explain why the pestilence had ceased, and in face of the evidence he had accumulated there was no doubt about it.

Max, to his surprise, found himself asked to attend the scientist's explanatory lecture when he gave it to a huge public meeting and to the world by radio-television. Just why he should be called into it Max had no idea, and neither had Eva—beside him as usual.

"Tonight," Dr. Rutter said, "I come to the consummation of many years of careful analysis in the mystery of the winged pestilence's extinction, and my findings show that the much vilified Capt. Harborn of the Space Service—or Mr. Harborn, as he was in earlier days—can now be completely vindicated. For it was he who destroyed the menace after all, without him being aware of it. His efforts to save us, though they seemed hagridden with failure at the time, actually did bear fruit in the strangest way."

"I can't credit that," Max remarked, shaking his head. "We just couldn't find the right wavelength and—"

"But you did once!" Rutter interjected. "You killed a Martian moth completely with fifth-octave radiation when you were on Mars, and you brought the moth back as a sample."

"And it was lost or destroyed when the insurgents attacked the spaceship," Max pointed out.

"It was not lost. I am convinced of it. According to your notes, that moth, in death, emanated a terrific electrical current, just as did the other dead moths on Mars itself."

"Yes, that's right," Max said. "I couldn't make out why. And it didn't register on the galvanometer."

"No, because it was pure negative energy!" Rutter exclaimed in triumph. "Our instruments are only made to register positive energy, not negative, hence there was no reaction. Negative energy is a form of energy which could only be built up by the peculiar system inside the moths themselves. In other words, the death of a moth changes its natural positive energy state to negative. It is a similar thing to a human being decaying once he dies instead of adding cells. Understand?"

Max said: "You mean, that being energy consumers, they transmit and contain positive energy while alive, but when they die—as from fifth-octave radiation—that energy becomes negative?"

"That's it. And now here is the vital point. That negative energy is what we might call contagious, almost to the point of chain-reaction. What actually happened, I believe, is that the dead moth you brought back was somehow liberated from its jar but remained unfound. Later, some of the living moths came upon it and the force of that negative energy was quite sufficient to overpower the positive—just as a living human being is overpowered by a lethal gas. In the long run, from the physical science point of view, death is far stronger than life, and to the moths the negative energy of death was much more powerful than the positive energy of life. A few died through contact with their negative-energy fellow moth. That increased the negative preponderance—an invisible thing, remember, and not to be classed as a disease of actual contact—so that, as in the case of a thunderstorm when the lightning seeks a place to discharge its potential, the negative energy slowly built up into its own potential until the field of it was overwhelmingly greater than that of the positive. When that happened, those still alive, though in their myriads, had not enough positive power to support themselves. They died—and still higher went the negative field, until at last all of them succumbed. When that happened the negative field was instantly dissipated into the air and space itself because its opposite had cancelled out and it had nothing more with which to grapple.

"Definitely," Dr. Rutter finished, "that is the answer, and it explains why there was no electrical reaction when the last moth had died. Negative energy only existed in them while the opposite charge was present. On Mars the death from fifth-octave radiation of thousands of moths was causing there a similar negative preponderance. Hence the listlessness of the remaining living moths and the vast thinning in their ranks. Remember, the pestilence was basically electrical even though it was in the form of moths, and to that basis I have reduced the whole business. If that lone moth from Mars, which Capt. Harborn brought back, had not been discovered by the living moths of this world, they'd be with us today. And it was deadly to its living contemporaries because it had died from fifth-octave radiation, synthetically induced, which produced the negative energy reaction, as on Mars itself. Death by other means, as produced on Earth here—crushing, burning, and so forth, would not have produced that effect.

"So, my friends, by reproducing in the moth the death that is striking them down on Mars, Capt. Harborn saved us, and it is to him that we give our thanks."

"And to you, sir," Max smiled when the applause had subsided, "for without your scientific ingenuity and knowledge, the explanation would never have been found."

Rutter laughed. "I think, Capt. Harborn and Mrs. Harborn, that the best thing we can do is forget the whole thing. Agreed, ladies and gentlemen?"

The audience responded in unmistakeable fashion.

"And I solemnly promise," Max concluded, "never to bring specimens from another world again!"

THE END

VIGNETTES OF LIFE

That's Asking For It

BY HARRY WEINERT



