

Lost Race of Mars

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This one is for SCOTT

Chapter 1

"Do you think they've forgotten?" Jim Chambers whispered.

His sister Sally, who was almost eleven, shrugged and shook her red head. "They've never forgotten before, have they?"

"There's always a first time," Jim said gloomily. He was twelve, old enough to know that grownups sometimes forgot the most important things. But would they forget Surprise Day? That was like forgetting Christmas. Still, here it was, eight o'clock, and soon it would be bedtime, and Surprise Day would be over — without any surprise. It was hard to believe they had forgotten.

Surprise Day was a private custom of the Chambers family. Dr. Roy Chambers, the father of Sally and Jim, had always felt it was a pity Christmas came only once a year, so he had set up a special day, exactly midway between one Christmas and the next, for the giving of gifts. Surprise day fell on the twenty-fifth of June.

And that was what today was: the twenty-fifth of June, 2017. But the whole day had gone by, and now it was long after dinner, and still no surprises had appeared. Jim and Sally had their gifts all ready. Jim had bought a pair of magnetic cuff links for his father and a collapsing purse-sized umbrella for his mother. Sally's gifts were a new billfold for Dr. Chambers and, for her mother, a bottle of imported perfume to replace a bottle that had accidentally been spilled. For weeks, Jim and Sally had gone snooping around the house to find out what gifts would be most appreciated.

But the family custom said that Jim and Sally could not give their gifts until last. Also, it was against the rules to remind anyone that it was Surprise Day. It had to be a complete surprise all around.

"Maybe we ought to hint?" Sally suggested.

Jim wrinkled up his face. "Don't be silly. That's against the rules."

"It's against the rules for them to forget, you know."

"The day isn't over yet," Jim said. "Let's not talk about it any more." He walked over to the video set and turned it on. The Chambers family had one of the new video sets that gave the picture in three dimensions. The screen showed a girl playing an electronic piano and singing. As her voice filled the room Chipper, the family cat, woke up and padded out of his corner to sit down in front of the set. Chipper was a big black-and-white tomcat that spent most of his time snoozing, but woke up every time the video was turned on. Jim insisted that Chipper could understand the programs, but nobody else would believe that.

A moment later Dr. Chambers walked into the room. He was a very tall man, and Jim had inherited his lean body, easy smile, and dark brown hair. Sally's red hair came entirely from her mother.

Dr. Chambers was not smiling now. He looked very solemn, in fact. He glanced at the video set and said, "I hope you two are finished with your homework. You know the rules around here."

"Don't you remember, Dad?" Jim said. "The term is over in two days. We don't have any homework to do!"

Dr. Chambers nodded. His mind seemed to be millions of miles away. "Uh-huh. I guess I forgot about that."

"That isn't all he's forgotten," Sally murmured, just loud enough for Jim to hear.

Jim nudged her in the ribs. "You're not supposed to talk about it!"

Jim and Sally turned their attention to the screen. The singing had ended and the commentator was covering the day's news. *Congress votes . . . Debate at the United Nations . . . video star returns from visit to Mars Colony . . . weather bureau prevents heat wave . . .*

They found their minds kept wandering away from the newscast. Jim and Sally told themselves over and over again that it wasn't so. Surprise Day couldn't have been forgotten, *couldn't!*

When the newscast was over, Dr. Chambers said quietly, "Would you mind turning the set off? Your mother and I want to talk to you."

Sally reached forward and switched the video off. Disappointed, Chipped ambled back to his corner and curled up to go to sleep.

Their mother entered the room, taking a seat next to Dr. Chambers. Both of them looked very, very serious. Sally and Jim leaned forward, wondering what was going to happen. Whatever it was, it couldn't be good news.

Dr. Chambers said, "I waited until after dinner to tell you this, kids. I'm going to have to go away for quite a long time."

"Go away, Dad?" Jim asked. "What do you mean?"

"I mean that I have to leave here and travel a great distance, and I won't be coming back home for at least a year."

Jim and Sally exchanged puzzled glances. Was it something bad? An operation, maybe? Or just a teaching appointment? Their father was a professor of biology at Columbia University. Maybe he had lost his job and had to go far away to teach. Whatever it was, it was probably serious. Otherwise they wouldn't both look so grim. Otherwise they wouldn't have forgotten Surprise Day.

"Is it — something you can tell us about, Dad?" Sally asked.

"What do you say, Ethel?" Dr. Chambers said to his wife. "Do you think we can tell them?"

Mrs Chambers shrugged. "You'll have to tell them sooner or later, Roy," she said with a somber voice. "You might as well get it over with now."

Jim moistened his lips. "Tell us, Dad. We're old enough to take bad news."

For the first time, the shadow of a smile appeared on Dr. Chambers' face. "All right, I suppose I ought to tell you. You know the research I've been carrying on, don't you? I've been making biological studies of Mars. I've been examining the reports sent back by the colonists up there, and I've been trying to draw some conclusions. Well, I won't be using secondhand information any more. I'm being sent to Mars for a year to carry out some research up there."

There was a long silence in the Chambers' living room, broken only by the loud sleepy purring of Chipper. The Jim said, "You're going to *Mars*, Dad? Why — that's swell, I guess."

"A whole year?" Sally asked. "We'll miss you!"

"But you'll send us letters," Jim put in. "With Mars Colony stamps on them."

"And a year isn't really so long, after all," Sally added. "It isn't forever, anyway--"

"Whoa! Hold it! Slow down!" Dr. Chambers cried. He was grinning, now. "Whatever gives you the idea that I'm going to Mars all alone?"

Jim gasped. "But — you looked so serious."

"We thought --" Sally blurted.

"I know what you thought," their father said, chuckling. "I wanted you to think I was going by myself. That way this qualifies as a genuine surprise. You see, we're *all* going to Mars for a year — both of you, Mother, and me. The government gave me a family-sized research grant. We'll be leaving next week."

Jim and Sally turned to look at each other. Jim saw that his sister's face was wide-eyed with amazement, and knew that he probably looked just as astonished. Of all the possible surprises there might have been, this was the most flabbergasting. A year on Mars!

It was one of those things too fantastic to even waste time daydreaming about. It cost a great deal of money to go to Mars. The journey would take three weeks by the fastest spaceship. There was a city up there, founded in 1991 — a city of three thousand people

living under an enormous plastic dome. When you went out of the dome, you had to wear a breathing suit because the air on Mars was too thin for human beings to breathe. Jim and Sally knew all about Mars; they had studied it in geography class, of course. But actually to go there —

"And we thought you had forgotten," Jim said. "Because it was past eight o'clock and you hadn't said anything about Surprise Day."

"We were saving it," Mrs. Chambers explained. "It was such a big surprise we wanted to hold it off until nighttime"

"It's the only surprise we have, too," Dr. Chambers added. "It'll have to do — from both of us to both of you."

"Have to do?" Jim echoed. "Why, it's worth five years of surprises!"

"Now *we're* forgetting," Sally reminded him quietly.

"Oh — gosh, yes. Excuse us a second," Jim said.

He and Sally scampered upstairs, took their gifts from hiding places, and ran downstairs. Things like billfolds and cuff links and umbrellas and perfume were not in the same class with trips to Mars, but they were surprises all the same.

There was a flurry of unpacking and examining, and thanking. Everyone laughed when the collapsible umbrella was unpacked. "Here's one thing I won't be taking with me," Mrs. Chambers said.

"I guess you won't, Mom," Jim admitted. It hasn't rained on Mars for thousands of years, and it isn't likely to start now. But how was I supposed to know?"

"You weren't," his father said. "But the umbrella will come in handy when we come back to Earth. We aren't going to be on Mars forever, you know."

"Only a year," Sally said wistfully. "That isn't much time at all."

"It is if it's a Martian year," Jim explained. "A Martian year is six hundred and eighty-seven Earth days long!"

"So it is," Dr. Chambers agreed. "But I'm afraid my grant specifies one old-fashioned Earth year, three hundred and sixty-five years of twenty-four hour days."

"What are we going to do about school?" Sally asked.

"It's all arranged," Mrs. Chambers said. "You'll be going to classes every day at the Mars Colony school. You won't miss any time at all. And when you come back to Earth you'll go right into the grade you're supposed to be in."

A sudden thought occurred to Jim as the cat stirred in his corner and began washing his paws. "Dad — does this grant of yours include cats?"

"I'm afraid not, son," Dr. Chambers said, his smile disappearing. "We'll have to leave Chipper behind. Maybe the Robinsons will agree to take care of him while we're gone."

"But a cat doesn't take up much room," Sally protested.

"That spoiled cat of yours weighs fourteen pounds, Sally. You'd shudder if you knew how much it costs to ship fourteen pounds of cute but useless cat all the way to Mars. And when he's there, he'll have to eat, breathe, and drink, won't he? The Martian Colonists manufacture their own food, air, and water. These are very precious, and they aren't going to like the idea of sharing them with Chipper, no matter how important he may be to you."

Jim scratched the cat behind the ears. This attention usually produced a purr, but now resulted only in a cold stare. "See? He's unhappy already. He knows what we're talking about, Dad."

"It wouldn't matter even if he could read and write, too, Jim. He'll have to stay behind."

"I suppose you're right," Jim admitted. He stroked the tom's silken fur. "So long, old fellow."

We'll be back in a year. I guess we'll miss you as much as you miss us, but it can't be helped, Chipper."

"Mrreow!"

"You know where we're going, Chipper? We're going to Mars. Do you know where that is?"

"Miuouurk!"

"Come on," Jim said. "I'll give you a look at Mars." Scooping the cat up, Jim walked through the front hall and stepped out on the front porch. He was aware that Sally and his parents were coming, too.

Jim searched the skies for a moment, until he found what he wanted, high in the star-dotted blackness. Mars stood out clearly, a gleaming, brick-red ball. Jim pointed to it. "See that up there, Chipper? That red-dish thing? That's Mars. *Mars!* And we're going to be there soon — all of us except you."

"Mmnmeerk," the cat said sadly.

Jim let the cat down. "Sorry, Chipper. There rules are the rules."

The Chamberses went back inside. It was still hard to believe. "Gee, Dad," Jim said, "this is the biggest surprise there could have been. Imagine — we're going to Mars!"

Chapter 2

The next five days were the most hectic the Chambers family had ever known. Many of the preparations for the trip had been made quietly in the past few weeks, ever since Dr. Chambers had known definitely he was getting the grant, but there was still plenty of last-minute work — packing to do, letters to write, bills to pay. Relatives kept coming in person or calling by visiphone to wish the spacefarers a happy blast-off. Reporters came calling. It was a good human-interest story, "Professor and family off to Mars," and every paper wanted to run something about it.

Although the reporters were a nuisance, the newspaper stories came in handy on the final day of school. Jim and Sally had told all their friends and classmates, of course. But not until the papers came out with the headlines about their trip did everyone really believe it. Suddenly Jim and Sally became the most important people in their school. For the first time in their lives Jim and Sally learned what it meant to be a celebrity. They weren't sure they liked being at the center of so much noisy fuss and attention.

Packing was a hard job — not because they had so much to pack, but because they were allowed to take so little. The regulations allowed them only seventy pounds of baggage apiece, which was not very much at all for a year's stay. But it wasn't necessary to take clothes for different seasons because the artificial air of the Mars Colony dome was kept at the same temperature all year round, sixty-nine degrees. So spring clothes were all that they needed. And nothing fancy, either, since the colonists didn't go in for frills and formalities.

Spaceships left for Mars only once a month. They carried mail for the colonists and supplies that were not being produced on Mars, like mustard and grapefruit and other items that were not strictly necessary but made the diet a little more interesting. The monthly spaceship also carried new colonists, if there were any, as well as anyone visiting temporarily.

The trip would take three weeks. The first unmanned spaceship that had ever gone to Mars had required almost nine months to get there, but that had been back in the 1960's. Spaceships were much more efficient now, more than half a century later. They could attain a much greater initial thrust, and the new fuels allowed a longer period of acceleration that reduced flight time tremendously.

The night before they left, Jim and Sally took Chipper down the street to the home of their friends, Ned and Edna Robinson. Ned and Edna were twins, a little younger than Jim. They were in Jim's grade at school. They had a cat of their own, a fluffy Persian named Xerxes, and

also a noisy terrier called Jupiter. Ned and Edna knew how to take care of animals, and Jim and Sally knew that Chipper would be in good hands.

Chipper was suspicious at first. He sniffed at Xerxes and hissed warningly at Jupiter.

"I hope they're going to get along," Sally said anxiously.

"Don't worry," Ned told her. "Give them two days, and they'll be old friends."

"We'll take good care of him," Edna promised. "But it's too bad he can't go with you."

"I wish he could," Jim said.

"What time do you leave tomorrow?" Ned asked.

"Blast-off is at noon," answered Jim.

"Nervous?" Edna wanted to know. "I'd be, if I were going to Mars!"

"That's because you're a girl," her brother snorted. "I wouldn't be nervous. Not at all."

Jim chuckled. He was very nervous, himself. But he didn't want to say that in front of Ned and Edna. "Come on," he said to Sally. "We're not supposed to stay out late tonight, remember?"

So they said good-bye to Chipper, and were told for the fiftieth time by Ned and Edna how lucky they were to be going to Mars, and then they hurried back home. When they came in their father was on the phone, as usual. It seemed he was on the phone all the time, talking to important people, making arrangements.

Everything was packed. The house looked as it did just before a vacation, with everything put away and tidied up and the furniture covered. There was nothing more to do but wait until morning.

Jim and Sally went into the living room. Their mother was there, checking a list. "Cancel visiphone service . . . stop the milk delivery . . . turn off the electricity . . . that's about it, I guess." She looked up. "Oh, there you are! Is Chipper happy in his new home?"

"Not very," Sally said. "But he'll get used to it."

"I feel like a traitor, taking him down the block and just leaving him there," Jim said.

Mrs. Chambers smiled. "But you told him we were coming back, didn't you? After all, you claim he understands what you say to him!"

"I know, Mom, but still --" Jim shrugged. "Well, nothing to do but wait, now."

"It's going to seem like ages till blast-off," Sally put in. "And only seventeen hours from now we'll be on our way!"

"And this is such a terribly important trip for your father," Mrs. Chambers said quietly. "It can mean so much to his career."

"Nobody's really told us what he's going there to study, Mom," Jim said.

"All we know is that he'll be studying Martian life," Sally added.

"Well," Mrs. Chambers explained, "he's been planning this trip for years. Naturally we couldn't afford it ourselves, but Dad's been applying for research grants, seeing people, making contacts. It took him almost a year of steady arguing before he was given enough money to make the trip. You know that no native life bigger than a rabbit has ever been found on Mars."

"That's right," Jim agreed. "All that the colonists have discovered is small animals and plants and bacteria and little things like that."

Mrs. Chambers nodded. "Your father is officially going to study the biology of Mars – how life can exist on a planet that has practically no water. But he'd rather study the way large animals live in the Martian desert than the way small ones live."

"There are all sorts of rumors that the Old Martians are still alive, hidden in the desert," Sally said.

"Sure," said Jim, "but no one's ever seen one. All we have is their bones and their ruined

cities. The Old Martians have been extinct for thousands of years.”

“Maybe not!” Mrs. Chambers suggested. “What your father hopes, anyway, is that while he's there the surviving Old Martians will be found. He has a theory about them, and how they lived, but he needs to find them alive to prove it. And if he does, not only will we know a good deal more than we do know about why Mars is so dry, but we may discover some clues on how to change it's climate to make it more comfortable for humans.”

Jim frowned. “I don't get that. How --”

“Dad thinks that Mars was once a planet with as much water as Earth has today. But over the centuries something happened to make it dry up, and the people adapted to the new conditions. We don't know how. If we could only get hold of some Old Martians and examine them – at least, that's what Dad hopes.”

“Suppose he doesn't find them?” Sally asked.

Mrs. Chambers shrugged her shoulders. “In that case he isn't going to have very interesting results to show the government in return for all the money they've given him to make this trip. The government science agency is going to be unhappy about that.”

“And the next time Dad wants a research grant,” Jim said, “they'll think twice before they give it to him. Is that the story?”

“That's about the way it is.”

“So he's go a year to find what he's looking for, or else,” Sally said. “Golly! I hope he does!”

“So do I,” their mother answered softly. “So do I.”

Bedtime came early that night, but neither Jim nor Sally got much rest. Jim tossed and turned sleeplessly, his mind wide awake and active. He was thinking about what it was like to travel in a spaceship, about what life in the Mars Colony was going to be like – and whether his father was going to succeed in finding the Old Martians. Thoughts whirled half the night in Jim's head. He got out of bed finally – the clock near his bed said it was past once in the morning – and walked to his window, looking out into the night.

There was Mars, glowing dull red against the black velvet backdrop of the sky. Jim felt chills run down his backbone. Tomorrow at this time he would be in a tiny metal cylinder, coursing through the heavens toward that red planet.

He heard someone moving around across the hall in Sally's room. Tiptoeing over, Jim peered in. Sally, too, was out of bed, staring at the sky.

“It's after one!” Jim whispered.

“I know. I can't fall asleep.”

“Neither can I. I'm too keyed-up about tomorrow.”

“We better get back into bed,” Sally said. “Otherwise we may fall asleep at the spaceport.”

There wasn't much chance of that, Jim thought. But he returned to his bedroom, climbed back into bed, and screwed his eyes tight shut. Finally, sleep came.

The alarm went off very early the next morning. Although blast-off was at noon, they had to be at the spaceport by nine, and that meant getting up before seven. All four of them were strangely hushed and untalkative as they went through their morning routine. No one seemed to have much of an appetite for breakfast, either. Mrs. Chambers made no complaint at all, even though Jim left nearly half his bacon and eggs on the plate, and Sally ate even less.

The ride to Long Island Spaceport was made in virtual silence, too. They went by helicab, which was the quickest way; the cab picked them up at the cabport a few blocks from their house just after eight, and deposited them at the arrival-and-departure building of the spaceport fifty minutes later after a smooth flight through light morning traffic.

The spaceport was more than a dozen years old, but it still had a raw, unfinished look to it. There was not much commercial space traveling yet. One ship left every three days for Moonport, and one ship every month for Mars. There was also the monthly excursion trip that was very popular in the billionaire set – it traveled from Venus to Saturn, taking a whole year, circling each planet and giving the passengers a look.

That was all – a total of twelve ships leaving the spaceport each month. Later on, of course, the number would grow much greater. There were plans to build Mars-type colonies on Venus and several of the moons of Jupiter and Saturn, such as Titan, Ganymede, and Callisto. Although it was exactly sixty years since Sputnik had begun the Age of Space, space travel was still very much in its infancy.

The passengers for the Mars ship were clustered together in the arrival-and-departure depot when the Chambers family entered. A smiling man in the uniform of the Space Corps told them, "Take your baggage over to the weighing counter to check in."

At the weighing counter, the Chambers luggage was put in the scale to make sure the family quota of two hundred and eighty pounds was not exceeded. When all of the baggage had been weighed the man said, "All right. Now *you* get on the scales, one at a time."

"Us?" Mrs. Chambers asked. "Is there a maximum weight limit for passengers as well as their baggage?"

"No, but we have to know down to the ounce how much weight the ship is carrying at blast-off."

So they were weighed. Their baggage was ticketed and carted away. Then they finished checking in. It was about twenty past nine.

At nine-thirty, a loudspeaker announcement was heard telling all passengers to report to Gate One for boarding. A Space Corps man was there to lead them out onto the field.

As they passed through the gate Jim and Sally could see the spaceship standing in the middle of a bare field. It stood upright, balanced on its tail, looking like a great gleaming fish as it glittered in the morning sunlight. At its base technicians bustled around, checking the ship as the countdown entered its final hours. Everything had to be just right before the ship would be allowed to leave.

The passengers rode an elevator in a tower next to the ship to reach the entrance, which was nearly twenty feet off the ground. Jim and Sally filed in slowly, following their parents.

Crewmen showed them to the quarters where they would spend the next few weeks. Then all the passengers were called together in a large cabin near the nose of the ship for a briefing session.

There were only twenty-eight passengers. Besides the Chambers family, there were twenty new colonists, two site seers going to Mars for a look around, and two reporters.

For the next hour the crewmen explained what life on the ship was like – how long the trip would take, where and what they would eat on board, and so on.

At eleven-thirty came the signal for all passengers to go to their quarters. The Chambers family settled down in their small but fairly comfortable cabin. At another order from the loudspeaker overhead, they lay down and fastened their safety belts. They were now securely strapped down and padded against the strain of blast-off.

The countdown was proceeding on schedule. Every five minutes a new announcement came: "Twenty minutes to blast-off ... fifteen ... ten ... five ..."

After that, the count was by minutes, and when it got down to "One minute to blast-off" it continued by seconds. The calm voice counted down the final seconds. "Five... four... three... two... one... *mark!*"

Jim felt as if someone had punched him in the stomach. He was flattened back against his seat. The whole cabin seemed to be shaking. He wrenched his head to the left so he could look out the porthole. There was nothing but darkness out there. They had already made the leap into space. The journey was under way.

Chapter 3

Minutes after blast-off the ship cut off its engines. The sudden silence was strange after the steady roar of the rockets. The ship had now reached escape velocity and had broken free of the grasp of Earth's gravity. For the rest of the trip it would simply coast through space, "falling" in a wide curve toward the place where Mars would be three weeks from now.

The first few days of life in space were fascinating. Outside the ports was the marvelous darkness, broken by the bright, hard dots of light which were the stars. Earth was far behind already, a dwindling blue-green globe. The seas and continents could still be made out, though not very clearly. The moon loomed up, pockmarked with crater and enormous mountains. Then the moon, too, was left far behind. Only the immense glory of the Milky Way, spread out along the sky like a torrent of blazing jewels, was visible – and also the sun, too brilliant to be looked at directly, and the planets.

When Jim and Sally finally grew tired of staring at the stars and planets outside, they were allowed to explore the ship. With half a dozen other children they were taken on a tour of the rocket engine room at the rear, and of the control room in the nose. The spaceship carried a crew of seven, and they were all friendly and willing to answer questions, even the captain.

But by the fourth day out Jim and Sally had explored just about every inch of the ship. They had stared at the stars until their eyes tingled and ached. They had played games in the ship's lounge until they were tired of games. The ship carried a big library of books and video tapes, and for a few more days Jim and Sally amused themselves with those. But even that grew boring after a while.

"Who would have believed it?" Jim asked. "Here we are, traveling in space, and we're *bored!*"

"It's almost like being in a prison," Sally said glumly.

It was. The ship was only two hundred feet long, and once you had explored it from end to end there was nothing else to see. Outside, of course, there was the beauty of space, but that never changed much from one hour to the next. Although the ship was moving Marsward at a terrific speed, it seemed as though it were standing still, just hanging against the backdrop of the skies. Jim wondered how the early space explorers had managed to stand the boredom of being cooped up for seven and eight months at a stretch.

Then one day there came a break in the routine. It was Midpoint Day – the day that the ship reached the point where the gravitational pulls of the Earth and Mars exactly balanced each other. Once the ship had passed this point, it would be held in Mars' gravitational grip, with no chance whatever of dropping back to Earth. The initial speed of seven miles a second had guaranteed that Midpoint would be reached. If the ship had started out at a lower velocity, Earth would have been able to pull her back.

All passengers were ordered to their cabins while the ship made turnover. The engines were turned on briefly and the ship turned end over end, so its tail now faced Mars instead of Earth. Then the engines were cut off again and the ship resumed its drop through space toward the red planet.

A gong was sounded. "All passengers report to lounge," came the announcement. The crew waited there, all of them wearing breathing suits. It was time for all greenhorns to be inducted into the Order of Pluto. The ship's artificial gravity was shut off. As the passengers drifted about, floating in mid-air, the crewmen went among them. The crewmen had magnetic soles on their boots, and so did not float. One by one the floundering passengers were dragged down by their feet and tossed around the lounge. It took only the slightest push to send someone drifting halfway across the cabin.

When the horseplay was over the gravity was turned on again. The new members of the Order of Pluto were given a drink of Spaceman's Punch, and a membership card that proved they had passed Midpoint and so had escaped from Earth's gravitational field.

Jim and Sally were allowed to have only one cup each of the Spaceman's Punch, but some of the grownups had a good deal, and began to get silly and frisky. The party went on for most

of the afternoon. It was a welcome change from the daily monotony of the trip.

Mars grew ever closer. It now looked the way Earth had in the days just after blast-off. It was a big disk – dull red, not blue-green as Earth was – with greenish patches here and there, and whitecaps of snow at the poles. As the ship grew nearer, variations in color could be seen. Some areas were vivid scarlet, other yellowish-brown, still others copper-colored. The pale-green patches of vegetation stood out clearly against the various shades of red of the deserts.

From time to time two tiny shapes, barely visible, could be seen flitting rapidly across the face of the red planet. Jim and Sally knew what those were: Deimos and Phobos, the two miniature moons of Mars. Phobos was only ten miles in diameter, Deimos even smaller. They zoomed around Mars like two buzzing little insects, Phobos making two complete circuits every day, Deimos going around once every thirty hours.

The voyage took on fresh interest. It was possible now to see clearly the gradations in color between the different deserts. The famous canals were visible, great lines extending over thousands of miles. Another day, and Sally and Jim could see areas where sandstorms were raging – swirling yellow cloud-mushrooms sprouting on the desert.

And then, finally, on the twentieth day, came the announcement everyone was waiting for: "We will land on Mars tomorrow."

The last day aboard ship was spent mostly in breathing-suit drill. Since a human being forced to breathe the thin Martian air would die of oxygen starvation in a few minutes, it was necessary to wear breathing suits except under the colony dome. The suits were lightweight plastic, with metal heating filaments embedded in them. The arm and leg sections were corrugated to give fairly easy motion. There was a large, clear helmet to wear. The breathing apparatus was worn on the back. A supply of air was constantly circulated, purified chemically, and recirculated. It was possible to exist almost indefinitely in one of the suits without a fresh supply of air.

Controls mounted on the chest of each suit governed the temperature within, switched radio communicators on and off, and regulated the proportion of oxygen being fed into the helmet. A tube of fresh water was placed inside the helmet where it could be reached by turning the head. Life inside a breathing suit was inconvenient, but it could be endured for stretches of about half a day at a time without too much nuisance.

The suits came in only three sizes – large, medium, and small. The biggest suits could hold a man up to six feet four in height, and anyone bigger than that had to be specially provided for. The small size was adjustable for children between three and five feet tall. Children smaller than that rarely went to space. Jim and Sally were given medium-sized suits, as was their mother. Dr. Chambers received a large-sized suit. All the passengers drilled for several hours until everyone knew exactly how to get in and out of the suits and how to operate them.

Mars now bulked enormous in the view ports, taking up the entire sky. It turned slowly beneath them, a vast red-and-green ball. The ship plunged down, tail-first, heading toward Mars at a sharp angle.

With all the passengers once again strapped down, the ship's engines were turned on. The rockets blasted once again to brake the ship's plunge. The thin air of Mars did its part to slow down the fall. Gently, the ship coasted down to its landing spot. The impact of landing was surprisingly mild. The engines were cut off.

The captain's voice came over the cabin loudspeaker. "We have made a successful landing on Mars. Passengers may unstrap. Everyone don breathing suits and report to the lounge when ready."

Jim pointed to the port. "Look!"

Clouds of reddish dust drifted outside. But the surface of Mars could be seen – an endless

expanse of barren-looking desert, brick-red, broken only by the twisted, stumpy wisps of plants.

Two years ago the Chambers family had made a trip out West. "It looks like the Arizona desert," Sally said, "only more so."

Jim wriggled rapidly into his breathing suit and was the first member of his family to climb the spiral stairway to the lounge. About half of the other passengers were there already. The captain was saying, "It's a bit after noon, local time. The temperature out there is fifty-five degrees Fahrenheit. Adjust your heat controls accordingly."

The crewmen circulated through the lounge, making sure all the passengers had put on their breathing suits properly. As each passenger was checked out, he was led to the exit hatch. A collapsible ladder dangled from the rim of the hatch to the ground.

"Be careful when you climb down," Jim was told. "The gravity is only one third what you're used to, but you can still get a nasty bump if you fall off."

He climbed down very carefully, one hand after the other, and jumped off one rung from the bottom. His boots threw up a little cloud of sand.

He looked around. The sky was very blue, almost purple. There were no clouds. A sharp breeze was blowing, sharp enough for him to feel it through his thick suit. The sand, loose and crumbling, danced and swirled.

Four vehicles were parked about a hundred yards from the ship. They looked like metal beetles, low and bullet-shaped. They were half-tracks with sturdy wheels in the rear and tractor treads in front. A few figures in breathing suits stood nearby. The Martian welcoming committee, no doubt.

When all of the ship's passengers had been unloaded and checked against the master list to make sure no one had strayed, they were herded toward the waiting half-tracks. Jim and Sally walked close together, just in front of their parents. Because the gravity was only thirty-eight percent of that on Earth, walking was easy. They felt like skipping and leaping around, but they had been warned not to because it used up energy and air for no good reason.

Each of the half-track sand-crawlers held ten people plus the driver. Three of them were rapidly loaded up. The fourth drove up next to the spaceship. It would be used to carry the cargo back to the colony.

Their Mars Colony driver greeted them with a quick smile. Over his suit radio he said, "This sand-crawler can be made airtight, but it isn't just now. So keep your breathing suits on and don't open your helmets until you're told to."

Jim and Sally had no intention of opening their helmets. They obediently took the seats assigned to them. The sand-crawler began to move. It traveled rapidly but bumpily over the monotonous desert. After about half an hour, the huge plastic dome that covered Mars Colony could be seen shimmering in the sunlight.

The sand-crawler swung round and circled the dome until it came to a shuttered entrance. Jim and Sally could see men within the dome turning big control wheels. The shutter opened, the sand-crawler passed through, and the shutter closed behind them. A door in front of them opened now and the sand-crawler rolled forward into the colony itself. Behind them, the second sand-crawler was repeating the passage through the air lock, and then the third.

The sand-crawler came to a halt. The door opened and the passengers got out. Their driver removed his helmet, indicating to the new arrivals that they could do the same. When everyone was helmet-less he said, "This is Mars Colony. Remove your breathing suits and remain right here, please, until further instructions."

"Smell the air!" Sally cried, as she peeled off the breathing suit. "It's just like Earth air!"

"Not quite," Jim grinned. "But it's better than ship air and breathing-suit air."

It was actually quite pleasant – almost like a spring day, with bright sunshine overhead and the air warm and sweet-smelling. The dome was practically invisible from within. But a glance outside at the weird landscape made everything seem quite different.

The suitless newcomers stood together, looking around uneasily. A tall colonist holding a sheet of paper came over to them and announced, "I'm Dave Rodgers, in charge of new colonists. Those of you who are here as permanent settlers will come with me and I'll assign you to your living quarters."

He called twenty names. The new colonists went off in a truck with him. Of the eight people left, four were the Chambers family. The others included a rich couple who had come to Mars as sightseers, and two reporters who were here to do research for magazine articles about the colony.

A stocky man with gray hair was talking to Dr. Chambers. "Your laboratory and living quarters will be on Lower Level One, Dr. Chambers. We'll give you all the cooperation we can. You have to realize, of course, that we're too busy here to devote much time to impractical things like pure research, though."

"Naturally," Dr. Chambers said. "That was made clear to me before I left Earth."

"Very well, then. Come with me, please."

Chapter 4

The first manned spaceship from Earth had reached Mars in 1970. During the next twenty years, careful preparation had been made for establishing a colony there. The site had been picked – in the region known as the Aurorae Sinus just north of the Martian equator – and the plastic dome had been set up. Tools and oxygen-manufacturing equipment were transported piecemeal by expedition after expedition over the course of two decades. Finally, in 1991, the first permanent settlers were sent.

At first they had lived in temporary pressurized huts. But rapidly the houses rose, row after row of them, two-story metal structures designed for use rather than beauty. Mars Colony's streets were laid out in squares, each street named after a city of Earth, and each cross-running avenue named for a country. Each house was so designed that it could be sealed airtight in case of an emergency. If the dome were pierced by a meteor, few lives would be lost.

The area the colony could cover was limited by the size of the dome. For that reason the Mars Colony was expanding downward instead of out. Already a second level had been completed, a hundred feet down, connected to the surface by many elevators, and work was proceeding on a third. All of the non-residential buildings had already been transferred to Lower Level One. Most of the colonists still lived on the surface, but all new arrivals were given quarters underneath, and when any of the colonists married they, too, set up housekeeping on the lower level. The plan was to build five levels altogether, providing living space for about fourteen thousand people. When that figure had been reached, a second dome would be built fifty or sixty miles away, and Mars Colony Two established.

That figure would be reached in the near future. About three hundred new colonists arrived from Earth every year under the resettlement plan. The Earth government paid passage costs, provided the colonists agreed to remain permanently on Mars. You could return to Earth after thirty days if you found colony life unattractive, but after the thirty days were up you had to repay the government for your passage fare if you decided to call it quits and go home. About one out of every ten new colonists gave up and returned to Earth after seeing what Martian life was like. But those who stayed, stayed for good.

Besides the three hundred new colonists coming from Earth each year, there were hundreds of babies born to the old settlers. Only married couples and their children, if they had any, were allowed to become colonists, and anyone who was born on Mars or who had come as a child was required to marry by the age of twenty-one. There was no room for bachelors or spinsters on a brand-new world. Colonists who had come to Mars as five-year-olds when the colony had first been opened, now had two and three children of their own. The population was expanding rapidly, and was intended. Mars Colony had the busy, bustling atmosphere of a

have of bees. Everyone worked hard. Everyone did his job.

Nothing went to waste in the young colony. The air was forever being purified and recirculated. The sand brought up from the lower-level excavations was broken down, and oxygen and metals were chemically extracted from it. Vegetable gardens grew under artificial light. Water was manufactured chemically.

At first, everything the colony needed had to be brought up from Earth. It was a tremendously expensive process to ship large machines across space. But each year the colony grew a little more self-sufficient. It could now build its own sand-crawlers and trucks. It was tooling up for large industry. Within a few more decades Mars Colony would no longer depend on Earth for anything.

The Chambers family was assigned a two-story dwelling on the lower level. The upper level was set aside for Dr. Chambers laboratory. On the ground floor were three small rooms. The only furniture was four simple beds and a few chairs. There was no kitchen because all colonists ate together in community mess halls.

The were given a small printed booklet called *Information for New Arrivals*. Some of the rules were very interesting.

All permanent colonists over the age of fourteen Earth years had to work eight hours a day, and all settlers between the ages of ten and fourteen were required to put in three hours a day at whatever tasks they were asked to do. Children under ten were exempt from actual labor, but were expected to help out whenever asked. The job of carving a colony out of a barren planet left no room for slackers.

School attendance was required up to the age of fourteen. Those who passed certain tests could continue their education through the college and graduate school level. Others left school and became full-time workers.

Colonists and visitors were on their honor not to smoke more than four cigarettes a day. This was to avoid strain on the air-purifying machinery. The rule did not bother Dr. and Mrs. Chambers since they didn't smoke.

Meals were served at very specific hours at the community mess halls. Food was not sold, but handed out on a work-coupon basis. There was no way to buy extra portions, but you could earn extra coupons as a reward for hard work. Visitors got the minimum coupon allowance, but they could get extra coupons if they volunteered to work.

There was no video in the colony, but films from Earth were shown every night. Four movies were sent up each month, and each was exhibited for a full week. There was also a colony dramatic group that gave plays the first weekend of every month. Admission was free to all these events. There was not yet much use for money on Mars since there was nothing you could buy with it. Everyone worked, and everyone got fed, and so far there were no serious snags in the system.

That evening, the Chambers family had its first taste of Martian food. The nearest mess hall was at the corner of Hong Kong street and Belgium Avenue, which was only a few blocks from their house. A line outside the mess hall had formed when they arrived, but it moved rapidly. Soon they found themselves in a large, well-lighted hall.

It was cafeteria style; you carried a tray and asked the servers for whatever you wanted. A menu posted on the wall listed things such as roast beef, broiled chicken, and baked ham. The vegetables sounded familiar, too – potatoes, asparagus, peas, and carrots.

When they were seated Jim cut off a chunk of roast beef and tasted it. He frowned. "It's just like the real thing! How do they do it?"

"It is the real thing," Dr. Chambers said, laughing.

"You mean they have cows up here, and pigs, and chickens, and all the rest? Where do they keep them?"

"In laboratory flasks, Jim." Dr. Chambers smiled broadly. "They use tissue cultures. A small piece of meat is placed in a chemical bath and stimulated to grow. It keeps on growing indefinitely. They just slice off chunks whenever mealtime comes around."

"The vegetables, too?" Sally asked.

"No, they grow the vegetables here," her father replied. "But they just don't have room for farm animals."

The meat certainly tasted convincing. The vegetables did, too, though there was a difference about them. It was hard to define, but the taste was subtly Martian.

All four members of the Chambers family went to bed early that night. Their handbook informed them that at eleven each night the lights were turned off in all residence quarters to conserve electricity. By that hour they were all sound asleep, anyway.

Breakfast the next morning was almost disappointingly ordinary. Orange juice, toast, bacon and eggs, milk or coffee – there was no hint in the menu that this was an alien world forty million miles from home.

After breakfast Jim and Sally walked to school. The school building was at the far side of Lower Level One. They reported to the principal's office, as they had been told to do, and were assigned to classes – Jim to the seventh grade and Sally to the sixth.

There were thirty boys and girls in the classroom Jim entered, many more than in his class on Earth. He realized that up here classes had to be bigger because there were fewer teachers.

"You're James Chambers?" the teacher asked as he came in.

"Yes, ma'am," Jim said. The teacher was young and very pretty. He reminded himself that nobody over forty was allowed to come here as a permanent settler, so there were few really old people here. Even the oldest settlers, who had come to Mars back in 1991, were only in their fifties and sixties now. Most of the people were much younger.

"I'm Mrs. Cartier," the teacher said. "You'll find a desk at the side of the room with your textbooks on it." Turning to the class, she said, "James is going to be with us for a year. His father is a biologist from Earth who is doing research here."

Finding his desk, Jim examined the books piled on it. There were all printed on the rough paper manufactured on Mars. He was relieved to find that they were no very much different from the ones he had left behind on Earth. There was an English grammar book. There was a history book, but none on geography – Earth geography didn't matter very much up here. The history book was easier than his old one, but the math looked a lot tougher. He had had some algebra, but this book went well into geometry. The science book looked advanced, too. There was one other textbook labeled "citizenship." He flipped quickly through it. It was all about Mars Colony, how it was governed, and what goals it had.

The citizenship lesson seemed to be going on right then. Jim leaned forward to listen. Mrs. Cartier was saying, "We on Mars govern ourselves and are governed by Earth at the same time. Paula, explain that."

A tall girl with a deep tan rose and said, "The Colony Council governs Mars, and the council is elected every year by popular vote. Everybody over the age of eighteen votes. The council makes all the decisions, but they have to be approved by the governor, who is appointed by the United Nations on Earth. The governor serves for five years. When he vetoes a decision of the council, the council can still appeal to the United Nations to overrule him."

Jim followed the lesson carefully. He saw the picture of Mars as a hard-working place where everyone pulled together. Nobody seemed to be interested just in making money or having a good time. Everyone carried his share of the load.

After the citizenship lesson there came English grammar. When the colony was started, it was decided to limit to only one language. English was picked because more people on Earth spoke it, either as their native language or as a second language, than any other. It was the only one taught on Mars. Some fields of knowledge had to be sacrificed so that more useful ones could be taught.

After grammar came the history lesson, and then lunch. Jim filed out with the rest of his class. No one said much to him. They didn't seem interested in making friends.

He met Sally in the hall, and they went down to the school cafeteria together. "Having any trouble with the lessons?" Jim asked.

"Some, but I'll catch up. Are you getting the cold shoulder from your classmates?"

Jim nodded. "You too?"

Jim and Sally decided that the colonists were being unfriendly. Maybe it was the treatment handed out to all new arrivals, they decided.

There were two hours of classes after lunch. At two o'clock the dismissal bell rang. Everyone from the fifth grade up was dismissed to go to work. They had no heavy labor to do, of course. Their daily three hours of work was mainly errand-running and small jobs. The grownups handled the heavy work of excavating the new levels and constructing the new homes.

As they left school, Jim tried to buddy up with the boy at the next desk. Falling in line with him, he said, "My name's Jim Chambers. I live at Copenhagen Street near Romania Avenue. What's your name?"

"Don Bruce," the other boy said. He kept walking.

Jim hustled to keep up with him. "Do you live anywhere near me? Maybe we can get together tonight. I need help to bring me up to date on the classwork."

Don Bruce stopped short and looked coldly at Jim. In a voice without any friendliness in it he said, "Listen, Earth boy, I've got my own friends. Find somebody else to study with."

"But --"

"I can't waste time talking to you. I've got a job to do, Earth boy." And he darted away.

Jim found Sally in front of the school. She looked unhappy. She said, "These Martians aren't very friendly, are they?"

Jim shrugged. "I tried to chum-up with a fellow in my class, but he just told me to leave him alone."

"And I couldn't even get an answer out of them. They walked right past as if I were a ghost," Sally complained.

Jim said, "I think I know what it is. Most or all of them are native-born Martians. We're outsiders, freeloaders from Earth. We eat their food and we breathe their air, but we don't do any work in return."

"We'd work if they asked us to," Sally said. "Anyway, it isn't as if we were here as beggars. Dad's doing some very important research, after all."

"It isn't important to them," Jim replied. "Anything that isn't actually helping to build the colony doesn't matter to them. All they care about is digging more levels and building new houses."

"Well, I hope the freeze thaws out pretty soon," Sally said. "Otherwise it's going to be a pretty miserable year for both of us."

Chapter 5

When they returned to their new home, Jim and Sally saw a truck parked out in front. Nobody was in the downstairs apartment, so they went upstairs. Their mother and father were hard at work setting up the laboratory. The equipment had arrived. There were two microscopes, some collection bottles, a workbench, and three small empty wire cages. The laboratory was far less impressive than the crowded, gadget-packed setup that Dr. Chambers had on Earth – but this wasn't Earth.

"How was school?" Dr. Chambers asked. "Think you'll be able to slip right into the study program?"

"We ought to be able to," Jim said. "It isn't that different from what we were doing."

"And did you make some new friends?" asked their mother.

Jim and Sally eyed each other uneasily. After a short pause Sally said, "We were too busy learning the school routine. But tomorrow--"

She was interrupted by the ringing of the telephone.

"Hello?" Dr. Chambers said, snatching up the receiver. He listened for a few moments. "But I'm going to *need* that centrifuge, don't you see? And what about --" A pause. "Oh, all right. I'll put through a new application." He hung up irritably and paced around the room, muttering, "Red Tape!"

"What's the matter, Dad?" Jim asked.

His father shook his head tiredly. "The Martians cooperate right up to the point where it costs them something and then they stop. They let me have those two microscopes because no one else needed them just now, but when it comes to other lab equipment, they tell me they can't spare it! How am I to carry on delicate research if they don't let me have equipment?"

"Don't worry, dear," Mrs. Chambers said soothingly. "You have a whole year, you know."

"And if I have to wait ten months of it to get the essential equipment? What then?"

"I'm sure the colony authorities will be cooperative, Roy. After all, they must understand that your work will benefit them, too --"

"All they understand is immediate practical results," Dr. Chambers growled. "Not that I'm blaming them, mind you! They have a world to settle, and they want to get on with the job, not divert valuable equipment to pie-in-the-sky biological research. But if they would only look beyond the ends of their noses and realize that science is important, too, just as important as so-called 'practical' things, and that if it weren't for science they'd all be still down on Earth now instead of up here --" He forced a faint smile. "I don't want to lose my temper. Maybe things will improve. Let's finish bringing the equipment up."

The work of setting up the laboratory occupied the Chambers family so thoroughly during the rest of the week that Jim and Sally hardly had time to think about the indifferent treatment they were receiving. Even the newest colonists in the school, boys and girls who had been on Mars only a month or two, looked down on Jim and Sally as "Earthers." They never let Jim and Sally forget that when the year was up, back to Earth they would go.

So every afternoon when the dismissal bell rang, Jim and Sally hurried back to help their parents assemble the lab. Dr. Chambers traveled all over the colony, arranging for equipment. He picked it up piecemeal, a test tube here, a Bunsen burner there. The Earth government had guaranteed to pay his transportation and most of his expenses, but they hadn't agreed to furnish him with his laboratory equipment once he arrived on Mars. He had to use his skill as a talker to persuade the colony hospital and the research center of the colony university to lend him the tools he needed.

Slowly, the laboratory began to look the way it should. Now it was time to start actual research. Dr. Chambers placed an announcement in the colony's daily paper offering extra food coupons to anyone who brought him specimens of Martian wildlife. The colony directors had allowed him a small supply of extra coupons for just such a purpose.

The next day, half a dozen colonists showed up at the laboratory with animals they had trapped on the desert. Jim and Sally found the little creatures caged when they came home from school. Three of them were animals about the size of rats. They had thick red fur and their eyes were protected from sandstorms by transparent flaps of skin. Beneath their chins were big pouches that could be used for storing food or water.

The fourth animal was a kind of sand tortoise. It was about as big as the palm of Dr. Chambers' hand, and its brownish shell could close up tight as a safe – again, protection against sandstorms. It was closed up when Jim and Sally first saw it, and looked like nothing more than a large stone. But after a few hours it worked up the courage to peep out. It had four leathery flippers and a small, wise-looking little head. The big surprise was the extra eye. It had two eyes in the usual locations, on either side of its head, and a third place between them to look straight up.

"Reptiles on Earth once had a third eye, hundreds of millions of years ago," Dr. Chambers said. "But over the course of the ages that middle eye vanished. This little fellow just hasn't heard the news that nowadays only two eyes are fashionable."

"Maybe the middle eye is to let him see birds that might attack from above," Sally suggested.

Dr. Chambers chuckled. "That's a very good idea! The only trouble with it is that there *aren't* any birds on Mars. And as far as we can tell there never have been. The air is so thin that a bird would need enormous wings to be able to stay aloft, and then he wouldn't be able to find enough food to fuel his big body. So birds never evolved on Mars. At least, that's my theory."

Jim and Sally moved on to the last cage. Nestling on a bed of reddish desert sand were two flat, ten-legged creatures who stared at the Earth men out of glittering beads of eyes – two apiece, this time. Their flat bodies were waxy and almost transparent. Their front claws waved slowly about, opening and closing with little clicking sounds.

"What are these?" Jim asked.

"The most common form of life yet found on Mars," Dr. Chambers replied. "Sand spiders. They're more like crabs or scorpions, really, but the colonists call the sand spiders. They can take a good nip out of your finger with those claws. It's partly because of them that everyone wears thick boots when working out in the desert."

"Ugh," Sally muttered. "Nasty-looking things."

"They probably don't think we're very pretty, either," Dr. Chambers said, "if they think anything at all."

Jim glanced at the three cages. "Rats – a turtle – sand spiders. Does anything else live in the desert?"

"I asked the men who brought these in. They say there are smaller ratlike things, and some snakes, and a few more different kinds of crabs. Also some lizards. They promised to bring me other specimens. There are only a few dozen known types of animal life on Mars."

"But most of Mars hasn't been explored yet," Jim said. "There's the entire other hemisphere –"

"I know, Jim. That's what I'm counting on. That something important will turn up in unexplored territory."

"Have you been asking anyone about the Old Martians?" Sally wanted to know.

"Of course I have! But everyone seems to think they're extinct. One of two of the people I spoke to seem to have doubts. The early settlers, mostly. It seems that when the colony was first getting under way, many people thought they saw mysterious figures skulking around outside the dome. But nobody saw them very clearly, and nowadays most colonists think it was just somebody's overactive imagination playing tricks."

"But if more than one saw them --" Jim began.

"I didn't say it *was* imagination, Jim. I just said people today *claim* it was. We'll see, though." Dr. Chambers smiled. "The first step is to investigate the Old Martian ruins, ourselves. I've made arrangements for one of the colonists to take us all to the nearest ruins for a look-see on Sunday."

"Really, Dad?" Jim cried. "All of us?"

"Why not? You aren't going to be on Mars all your life, son. I figure you might as well see as much of it as you can while you have the chance."

The next day, at lunchtime, some of the boys and girls were discussing what they were going to do on Sunday. School on Mars ran six days a week, every week of the year, and Sundays were eagerly awaited.

A husky boy named Ted Navarra, whose slightly slurred accents indicated that he was Mars-born, said, "I'm going out to the space field tomorrow to watch the Earth-bound spaceship take off."

"And I'm going to make a spacephone call to my grandmother on Earth," said a girl named Judy Domanig. "We call her every year on her birthday. She's going to be eighty this time."

"We're going with our father to visit the ruins of the Old Martians," Jim said. He might as well

speak up instead of always sitting like an outcast. "Our whole family's driving out there to see the caves."

"Oh, so what?" Ted Navarra said sarcastically. "Who hasn't done *that*? I guess I've been to the caves a dozen times."

"And I've been there more than that," said another boy.

Still another said, "And I wouldn't even want to go there any more. They're just dusty old caves, anyway. Who cares about that?"

Jim felt his face go red. He wanted to stand up and knock some conceit out of these haughty colonists. But he had been brought up never to strike the first blow, no matter what was said to him in provocation. "Fist fighting," Dr. Chambers had said dozens of time, "never solves any problems."

Choking back his anger, Jim said, "Well, maybe those ruins are old stuff to you, but they aren't to me. I'm looking forward to going there."

Ted Navarra laughed. "Little Earth boy has to run around and see all the sights, huh?"

"Well, wouldn't you?" Jim retorted. "Have you ever been to Earth?"

"What does that have to do with it?"

"Answer me," Jim demanded.

"Of course I haven't been to Earth," Ted replied proudly. "I'm a native-born Martian."

"Well, suppose you *did* go to Earth," Jim went on. "Wouldn't you run around seeing the Empire State Building and the Grand Canyon and all the other sights? *I've* seen them. So has my sister. But you --"

"I wouldn't care," Ted said. "What's so interesting about a big building? Or a bunch of rocks?"

"You don't even know what a mountain is," Jim scoffed. "The biggest mountain on Mars isn't more than a hundred feet high. You can't even imagine what a real mountain is like!" [Hmm, what about Mons Olympus?]

"Listen, Earth boy," said a new voice, belonging to Don Bruce. "Why can't you just sit quiet and eat your lunch? Why do you have to make trouble? What are you doing on Mars, anyway? Besides using up food and air, I mean."

Tightly, Jim answered, "We're here because my father's doing important scientific research, and you know it."

"Important scientific research!" Don repeated mockingly. "Poking at sand spiders and desert turtles! What's he going to learn from them that's worth having four freeloaders here for a full year?"

"Maybe not much," Jim admitted. "But wait till he finds the old Martians --"

"*What?*" half a dozen others asked at once.

"Are you serious?" Judy Domanig smirked.

"The Old Martians are still alive, somewhere," Jim said slowly. "You people have been too busy building your colony to look for them, that's all. But my father's going to find them, and when he does --"

"The Old Martians have been extinct for five or ten thousand years," Ted Navarra said confidently.

"You do *you* know?" Jim shot back. "Have you searched every inch of the desert for them? In the early days of the colony some people saw the Old Martians lurking outside the dome, and --"

Done Bruce interrupted, "Don't tell us that, Earth boy. Those stories are just myths the old people made up to amuse their kids. The Old Martians are extinct."

"I say they're not!" Jim shouted. "I say my dad's going to find them, too!"

"You think you know a lot?" Ted Navarra taunted. "You think you're pretty smart? Well, let me tell you something. You've only been here a week. Most of us have lived on Mars our whole

lives. And you're trying to tell us about our planet? You don't know a thing."

Jim knotted his fists. Sally, who had been silent through the whole argument, kicked him below the table, reminding him to keep his temper. For a moment it looked as though there might be an ugly scene. Then the gong sounded, ending the lunch period and signaling the return to classrooms.

As they filed out of the cafeteria, Jim said, "I guess I was wrong for opening my mouth. But I couldn't sit there listening to them sound off any more!"

"Don't let them get under your skin," Sally whispered. "They think they're big shots just because they've been here longer than we. But just wait. We'll show them. I know we will!"

Chapter 6

The next morning after breakfast Jim and Sally and their parents took the elevator to the surface level and headed, as arranged, for Air Lock Four. There they were met by a young man who had agreed to be their guide to the Old Martian ruins.

He was a lanky, heavily tanned man in his early twenties who was studying to be an engineer. More than half the students at the tiny Mars Colony University were studying engineering. Many of the rest were medical students. A handful studied law, but only on a part-time basis. The single court of Mars Colony had so little activity that the profession of lawyer was not a popular one on the red planet.

Their guide's name was Martin Huber. He was not a native-born colonist, but had come to Mars with his parents when he was only six.

"Everyone ready?" Martin asked. "I hope you've got our lunches in those bags, Mrs. Chambers. You'll find breathing suits in those lockers. Just take any one that fits. Our sand-crawler is already outside the air lock."

Jim and Sally found breathing suits marked "medium" and climbed into them. Martin Huber made a quick check to make sure the suits were properly sealed. Then he gave a signal to the men on duty at the air lock. The inner shutter swung open, and the five of them stepped through into the compartment that led to the outside of the dome. A moment later they emerged into the desert.

Over his suit radio, Martin said, "The temperature is only about twenty-five degrees. It'll get warmer as the day goes along, but be sure to turn up your heating controls for now. The sand-crawler's parked right over there."

The vehicle was very much like the one that had ferried the Chambers family from the spaceport to the dome, except it was much smaller. It held only six, instead of eleven. But the design was the same, with tractor treads in the front and wheels in the back to help propel it through the shifting sand.

They loaded the food in first. By making a request the night before, Mrs. Chambers had been able to get some packed sandwiches for the excursion from the community mess hall. Then they all stepped in, and Martin turned on the motor. The sand-crawler was sealed tight, in case a sandstorm came up suddenly. To be doubly safe they kept their breathing suits on.

The nearest Old Martian caves were about ten miles north of the colony. Martin drove slowly and carefully. There was no real road, but the fierce wind and tumbling sand had worn every hill flat over thousands of years and there were no obstacles. A few rocks studded the desert, sturdy boulders of incredibly brilliant colors – blues and reds and greens – that had somehow resisted the constant weathering process. Occasional larger bluffs jutted up in the distance. Here and there the runty Martian "trees," two or three feet high, thrust upward from the sand.

"Those trees are thousands of years old," Martin said. "Only a little bit of them shows above the sand, but each one has roots going down thirty or forty feet. It's the only way they keep from being blown away in sandstorms."

A few miles from the colony they came upon a small cliff about fifty feet high, fantastically contoured and sculptured by the wind. The exposed rock had a glittery look that indicated the presence of mica. The colors, again, were brilliant. Dr. Chambers asked Martin to stop, and got out to take some photographs. Then they continued onwards.

A few minutes later they reached a point where, by looking to the left, they could make out the bed of one of Mars' dry "seas." The ground dipped unmistakably. Millions of years before, perhaps, a mighty lake had filled that depression in the ground. The only trace that remained, aside from the bed of the lake itself, was a fringe of green vegetation running off to the west.

"There's an underground spring there," Martin said. "It isn't more than a trickle, of course, and it's deep under the surface. But it keeps the ground moist and that's why there's that band of vegetation going off over there."

The sun had risen higher now, and was visible as a small, pale yellow disk in the enormously blue sky. The red sand of the desert took on a yellowish tinge in the sunlight. Everything seemed timeless, frozen as if in a dream. Nothing move on the desert.

Suddenly, Martin brought the sand-crawler to a halt. "We're here," he announced.

"Where?" Jim said. "I don't see anything."

"The entrance to the cave is hard to see. But I know where it is."

Armed with camera and flashlights, they got out of the sand-crawler. Martin led them to a butte that jutted up some fifty yards away. As they drew closer, Sally asked, "Is that the entrance? That dark spot at the base of the cliff?"

"That's right," Martin answered. "The Old Martians all lived underground. Maybe they lived on the surface once, but that was so many millions of years ago that even the ruins are gone. But we've found half a dozen of their underground caves. This one is nearest to the colony, and it's also the most interesting."

They reached the entrance. Jim peered into the darkness and could see nothing. Martin stepped around him and said, "There are steps cut into the rock, leading down. They're very small, so walk carefully."

They were very small steps, indeed, Jim thought. They were so tiny that the Old Martians must have been midgets two or three feet high to have used them. He picked his way down one step after the other, following Martin.

"We're now about forty feet below the surface," Martin announced when they had all reached the bottom. "This particular cave is about five hundred yards long. The ceiling of the passageway is only about six and a half feet high, and in some places it'll be less, so you and I will have to watch our heads, Dr. Chambers."

They began to walk. The flashlight beams cast ghostly flickers on the age-old walls of the cave.

"Look how smooth the walls are," Sally said. "And everything is polished so neatly."

"Yes, the Old Martians must have been great craftsmen," Martin agreed. "Ah – now we come to the first dwelling place." He pointed with his light. An archway about four feet high was cut in the wall of the cave. One by one, the Chamberses crept through the minute opening. They found themselves in a small chamber cut from the rock. It was not more than six feet from floor to ceiling, but it was broad and deep enough to make a good-sized bedroom.

There were faint marks on the wall. "What's this?" Jim asked.

"It's a Martian painting. Most of the paint had flaked off this one, but in some of the others they're still in good shape. The dry climate preserves everything."

They went on to the next chamber. It, too, was empty, but the wall painting was in better condition. It showed a lake surrounded by tall leafy trees. "That was a favorite theme of the Old Martian artists," Martin commented. "All the other paintings we have also show Mars as it must have been millions of years ago – a young planet with water and fertile soil."

Dr. Chambers took a snapshot of the painting, and they continued onward. Another chamber contained several actual mummified Old Martians, well preserved for at least ten thousand years.

There was not much to see – only three Old Martians lying at the rear of the cave. They were wrinkled, withered brown things no more than three feet in length, and it was very difficult to make out much detail. They had two arms and two little pipestem legs, and their heads seemed very large in proportion to their bodies. Their faces, after ten thousand years, were unrecognizable, and if they had ever had hair, they had none now.

For a long moment no one spoke. The sight of the Old Martians made everyone solemn. These people had been civilized when the ancestors of Earth men were still apes swinging through the trees. And now, barring the unexpected, it was safe to say that the last of them had died thousands of years ago. There was nothing left of the once-mighty inhabitants of Mars except a few withered mummies lying in dark caves below the desert.

Once again Dr. Chambers took photographs. Then they all moved on. Some of the other rooms contained pottery and small statues and pieces of abstract sculpture. There were attractive paintings on many walls. But the mustiness of the tomb hung over the entire cave. It had the stillness and the dryness of death.

Finally they reached the end of the tunnel, turned, and retraced their steps. Jim and Sally felt tired, though not so tired as they would have felt on Earth, thanks to the light gravity.

"I'm hungry," Sally announced as they emerged into the sunlight.

"I am, too," Jim chimed in. "What time is it, Dad?"

Dr. Chambers had the only wrist watch in the family that told Mars time. He wore it around the arm of his breathing suit. Their old wrist watches were of no use here, but he had borrowed this one from the colony authorities when they had arrived. The Martian day was about thirty-seven minutes longer than a day on Earth, and so each hour ticked off by a Martian wrist watch was a little more than a minute and a half longer than an Earth hour.

"It's almost two o'clock," Dr. Chambers said. "Time for lunch, sure enough."

They entered the sand-crawler. Then, after making sure it was sealed tight, Martin permitted the emergency supply of air to enter it from the tanks below the seats. Now they could remove the helmets of their breathing suits and eat in the crawler.

After lunch, they headed back to the colony. There was little conversation. All of them felt awed by this glimpse of an age-old race.

Back in their own house, Jim said, "Do you still think there's a chance the Old Martians are alive, Dad?"

Dr. Chambers shrugged. "There's no reason why not. This planet maybe honeycombed with their caves. If they have some way of manufacturing air below the ground, they might very well have survived.

"How will you be able to find them, Dad?"

"The colony has a radar-equipped helicopter that's used for detecting underground metal deposits. I've asked for the use of it. If we flew over the desert, using the radar eye to help us spot underground caves whose entrances aren't visible to the naked eye, we might find something. Trouble is, they don't want to let me have the helicopter."

"Why not, Dad?" Sally asked. "If it's what you need --"

"It's being used for an exploration program right now. I have to wait my turn until they think they can spare it. That might be months."

Jim shook his head bitterly. "You'd think they didn't *want* you to get anywhere in your research, Dad!"

"Remember, son, they have a different idea about what's important. And as long as we're their guests, we have to stay in line and not argue too hard."

Jim said nothing. But privately he found himself almost wishing the year would hurry up and end so he could get back to Earth and his friends and his cat. Poor Chipper! He had hardly

thought about the tomcat since coming to Mars. Chipped was probably terribly lonely down there on Earth.

Two days later, Jim was reminded of Chipper again. It was late in the afternoon, and he and Sally were watching their father testing the metabolism of the desert rats when someone rang the bell below.

"I'll get it," Jim said, and hurried downstairs. He opened the door and looked up at a very tall, muscular colonist who was holding a box under each arm. The boxes had air hold punched in them.

"Your father home?" the man asked. "I have some animals here for him."

"Sure. He's upstairs in the laboratory. Follow me."

The man's name was John Webster. He was a mining engineer and had been searching the area south of the dome, hoping to find a deposit of radioactive metals. "I didn't find any uranium," he said, "but I did find them. They were wandering around in the desert, and they looked pretty lost. I've never seen animals like these before, and I've been here sixteen years last month."

He opened the box on his left and drew out a small animal that kicked its legs friskily.

"A kitten!" Jim and Sally exclaimed at once.

John Webster opened the other box. There were two more of the little creatures in there. Only one empty cage was in the laboratory at the moment. Dr. Chambers gathered up two of the animals and put them inside, while Jim and Sally looked at the third.

It wasn't exactly a kitten. It had the grace and sleekness of a full-grown cat, but it was no bigger than Chipper had been when he was six months old. It resembled a cat only in its liveness and its softness, and in general body shape. It had no claws, though, just flat pads that were probably better for desert travel. Its eyes, which were large and solemn, were protected by the usual transparent eyelids. Its body, beneath the covering mass of dark fur, was lean. It squirmed and wriggled, and then cuddled itself up contentedly in the crook of Jim's arm.

Dr. Chambers gave John Webster food coupons, and when he had gone, Jim said, "Dad, are you going to make experiments on all three of these animals?"

"Why, I suppose so. I want to test their metabolism, see what they eat, find out how they react to oxygen loss – is anything the matter?"

"You don't need all three, do you, Dad?" Sally asked. "I mean, maybe you could spare one--"

Dr. Chambers looked doubtful. Then he began to grin, and a moment later began to laugh. "All right," he answered finally. "I guess the cause of science can get along with only two of these critters instead of three. Let me examine him. If he's harmless and friendly, I guess you can have him."

And that was how Jim and Sally acquired a substitute for Chipper.

Chapter 7

It was another hour before the Mars kitten was officially theirs. First Dr. Chambers gave the little creature a thorough examination to make sure it had no concealed poison fangs or other harmful features. Sometime the most innocent-looking animals contain deadly poison. But the Mars kitten got a clean bill of health. It was as harmless as it looked. And it seemed to take to Jim and Sally at once. Because the air in the laboratory had almost ten times as much oxygen as the Mars kitten was accustomed to breathing, it got "oxygen drunk" and wobbled about in a silly way.

Mrs. Chambers came upstairs to be introduced to the new pet. "What are you going to call him?" she asked.

"We haven't decided that yet," Jim said. The Mars kitten rolled over, sticking his feet up and presenting his stomach to be tickled. The fur on his underside was light orange. Above, he was a very dark maroon-purple that looked nearly black.

"What *would* be a good name for a Mars kitten?" Sally wondered. "Something astronomical sounding, I guess. Like Orbit or Perihelion or something."

Jim shook his head. "Too fancy. You wouldn't call a little ball of fluff like this Perihelion, would you? At least I wouldn't."

"You could call him Chipper," Mrs. Chambers suggested.

"No, that wouldn't do," Sally said. "He isn't anything like Chipper, really. Chipper's fat and sleepy and lazy, and this one isn't."

"I've got it!" Jim announced. "We'll call him Mitten!"

"Mitten?" Sally repeated.

"How come?" Dr. Chambers asked.

Jim grinned. "Two reasons. Look at his feet, with those flat round pads on the bottom. Don't they look like mittens? And also, it's a kind of combination word, show for *Mars kitten*. Mars kitten: Mitten."

Sally held out for a more Martian-sounding name, but nobody could think of anything that seemed to fit. And so, by general agreement, the Mars kitten became Mitten.

Later that evening the colony newspaper called up. John Webster had told them he had discovered a new life form on the desert, and they wanted information. A reporter came over, took some pictures of the Mars kitten, and wrote down what Dr. Chambers told him.

The next morning there was a story about the Mars kitten on the front page.

A new addition to the slim roster of native Martian life has been made. Dr. John Webster of the engineering staff brought back three specimens of a cat-like creature (see photo at left) which he found in the Xanthe region about seventy miles south of the colony. The animals have been turned over to Dr. Roy Chambers, visiting Earth biologist, who is making a study of desert life on Mars. Two of the animals will undergo observation in Dr. Chambers laboratory. The third, according to Dr. Chambers, is not needed for research purposes and will be adopted as a pet by his children, Jim, six and a half, and Sally, six.

When they saw the article, Jim and Sally were surprised to find their ages given as six and a half and six, and wondered how the reporter could have made such a big mistake.

"Maybe he typed it up wrong," Sally said.

Jim shook his head and grinned. He had an idea. He scribbled some figures quickly on a piece of paper. "All they did was convert our ages to Mars years," he said after a moment. "Remember, the Mars year is 687 days long. That's – umm – 1.88 Earth years. And when you divide our Earth ages by 1.88, it comes out that I'm just under six and a half, and you're practically six."

Sally giggled. "That's almost as bad as being born on Leap Year! In Mars Years Dad's only in his twenties, then. And Mom's even younger. I'll bet they must like that!"

The article in the paper attracted attention in school, too. Jim and Sally received a great many curious stares when they arrived that morning. It seemed as if their classmates wanted to ask them about the Mars kitten, but felt ashamed to because of the way they had treated Jim and Sally.

Ten Navarra broke the ice at lunchtime. He deliberately sat down at Jim's side and said, "I hear you've got a pet, Jim." For the first time, his voice did not sound unfriendly.

"That's right," Jim said, and went on eating.

"I was sort of wondering if – well, if maybe I could come over and have a look at it tonight," Ted went on. "I'm interested in animals, you see."

"Even animals that belong to Earthers?"

Ted reddened. "Look, forget that stuff, will you? We were just showing off a little."

"And now that I have something you don't have, you want to make friends? Is that it?"

"Jim, Ted doesn't want to start a quarrel," Sally said. "Why not invite him over to visit Mitten?"

"All right," Jim said. "I guess it won't hurt."

That night Ted, Done Bruce, and two other boys came over to see the new animal. They crowded around the furry creature, stroking and tickling it, while Mitten made a soft rumbling sound that was very much like a purr.

"You're lucky to have a pet like this," Don Bruce said. "I've got a desert tortoise, but he isn't much fun. He just sits there and stares, and when I try to pet him he pulls his head inside his shell and won't come out."

"It's too bad you can't take him back with you when you go to Earth," Ted Navarra said. "It's against the rules to remove native animals from Mars."

"I know that," Jim answered quietly. "But I'll have a year of fun with him before I have to give him away. Anyhow, I've got a pet back on Earth, a *real* cat."

The boys left soon afterward. Dr. and Mrs. Chambers were pleased to see that Jim and Sally had finally been visited by some of their classmates, but Jim was less happy. "They made an awful quick turnabout, didn't they?" he said to Sally. "Yesterday they didn't want anything to do with us, today we're all pals. I'm suspicious."

"Of what?"

"The only reason they're so friendly is because they're each hoping to get Mitten when we have to go back to Earth. Ted Navarra practically came right out and said it. Well, they're all in for a surprise. When we leave, I'm going out in the desert and let Mitten loose. None of them will get him!"

"Maybe they really want to be friends now."

He shook his head. "The quick change is too fishy. They envy us because we have a better per than any of them has."

"I think you've got a chip on your shoulder," Sally scolded him. "How do you know what they think?"

"I can tell," Jim said.

They let the discussion drop there. In the next two weeks it was hard to know whether Jim was right. Most of the time it seemed that Ted and Done Bruce and the others were being honestly friendly. Jim and Sally no longer felt like outcasts. They visited the homes of their classmates and had frequent visitors themselves.

Mitten was always the center of attention whenever anyone came over. The frisky desert kitten performed very well. It was more intelligent than an Earth cat, and quickly learned all kind of tricks. Mitten would stand up to beg for a scrap of food, would roll over when ordered, would even do a little dance on his hind legs. Not even a dog could learn tricks as fast as Mitten did.

But though the colonist boys and girls were nice enough most of the time, it was a different story whenever the topic of the Old Martians came up.

"If any Old Martians were still alive, they would have gotten in touch with us by now, anyway," Don Bruce argued.

"Maybe not," Jim countered. "Maybe they don't want anything to do with the colony."

But the argument always wound up the same way. The colonist children insisted stubbornly that the Old Martians were extinct, and that it was a waste of time and money to bother searching for them. Jim and Sally stoutly maintained that there might be some surprises in store, but the only result was laughter.

At the same time, Jim and Sally began to realize that their father's research was not going

well. He put in much time in the upstairs laboratory, studying the test animals he had acquired, and several times a week he drove out into the desert in a small motorsled to examine living conditions outside the dome. He seemed very busy. But his face was tense and tired-looking. And most important of all, he hardly said anything to Jim and Sally about the work he was doing. That was a clue. When things were going well for him, he always brought them up to the laboratory to explain his experiments. But when he was making no progress, he never seemed to want to talk about his work. He didn't believe in sharing his failures, only his successes.

"If they would only let him have that radar-equipped helicopter," Jim sighed.

"Yes. But they say he can't have it for months."

"We'll be on our way back to Earth before they let him use it," Jim complained gloomily.

"Why can't they bring it back and lend it to him?" Sally asked. "Don't they know he doesn't have much time left on Mars?"

"You know what the Colony Council decided. The helicopter has been sent off on a round-the-globe mapping expedition, searching for underground mineral deposits. It won't be back for a couple of months yet. And they won't cut the expedition short just to let Dad have it."

"Can't he put another radar set in a sand-crawler?"

Jim laughed. "Radar is complicated and expensive. They don't have radar equipment lying around any old place. If there were any way Dad could get some, he would have."

"So he has to sit he making experiments with turtles and rats and cars," Sally said, "while the most important thing is finding the Old Martians."

"He wasn't sent here to find the Old Martians," Jim pointed out. "Only to study Martian desert life!"

"Yes, but if he had Old Martians too –"

"I know," Jim agreed. He reached down, picked up Mitten, and gently stroked the little creatures round, stubby ears. The desert kitten purred. "I wish there was some way we could help him," he added.

"There is," Sally said.

"What do you mean?"

She lowered her voice in case her parents in the next room might be listening. "We could go out in the desert and look for the Old Martians ourselves."

Jim blinked. "Huh? Are you off your trolley, girl?"

"Why not?" Sally persisted. "We could borrow one of those little motorsleds. They aren't hard to operate. We could just go out and cruise around the desert for a day, examining cliffs and things. Who knows? Maybe we'll find a cave full of Old Martians somewhere. At least it's *possible*."

"Dad wouldn't like us going out by ourselves –"

"We wouldn't have to tell him," Sally urged. "We could wait until Sunday, and tell him we were visiting somebody."

Jim was uneasy about telling lies. "I don't know, Sally. It isn't right –"

"But we'd be helping him, after all! Suppose we really *did* find the Old Martians. Wouldn't that be wonderful? Wouldn't Ted Navarra and Don Bruce and all the rest of them feel silly if we actually discovered the Old Martians all by ourselves?"

"It would really show them a thing or two, I guess. But I'm still not sold on the plan. Why should we be able to find the Old Martians in one day when colonists have been exploring the desert around here for years? The place we really ought to look, if we go at all, is over on the other side of the planet. But we can't get there alone."

"I know that. We'd have to stick pretty close to this area," Sally said. "But I want to, Jim. Dad can't get the helicopter he needs, and before we know it the year will be up. The least

we can do is make a *try*."

"Okay," Jim agreed slowly. "We'll probably have our hides tanned, but I'm game. We'll go on Sunday."

"And let's take Mitten along. Maybe he'll bring us good luck."

Jim laughed. "I hope so. We're going to need all we can get, and then some."

Chapter 8

It was not very difficult for Jim and Sally to borrow the motorsled. Several times Jim had been allowed to phone up requesting one for his father when Dr. Chambers was too busy to call, himself. Jim knew exactly what to do.

The colony had plenty of motorsleds, and they were easy to obtain. Jim simply called the Vehicle Department Sunday morning.

"This is Jim Chambers," he said, "Dr. Chambers' son. My father wants a sled for an expedition today."

"Right. What time is he leaving?"

"Oh, about ten o'clock," Jim replied. "I'll pick it up myself."

At quarter to ten, Jim and Sally told their parents they were going to visit their classmates and wouldn't be back until late in the afternoon. They were careful not to say which friend they would be visiting. Dr. Chambers was busy in his laboratory, with Mrs. Chambers helping him. They hardly paid attention to what Jim and Sally were saying.

Taking Mitten with them, Jim and Sally left the house and made their way to the up-level elevator. The motorsled was waiting for them near Air Lock Four. Jim signed for it, saying, "My father is meeting us in a few minutes. We'll suit up and take the sled through the air lock while we're waiting."

The colony men shrugged. It wasn't an concern of theirs.

They went to the lockers and found breathing suits. Then they climbed onto the motorsled. It was a simple vehicle, just an open sled with jet engines mounted in back and a control dashboard in front. Operating it was easy. A starter button got it going; in operation, it was controlled by a steering wheel, and could be slowed or stopped by a hand brake. Children were not usually allowed to drive them, but it was all right for Jim and Sally to get the sled started while waiting for their father.

Jim settled down at the driver's seat, feeling very grown-up and important. He buckled his safety belt. Sally, next to him, strapped herself in, too. She was holding Mitten on her lap.

The air lock men checked the breathing suits and then opened the lock, one door at a time. Jim carefully steered the motorsled through the lock and brought it to a halt just outside the dome.

He looked back. The attendants had closed the inner lock and had gone about their business.

"I guess it's safe," Jim said.

"I'm scared," Sally put in. "I wonder – maybe we shouldn't be doing this."

"It's a fine time to think about backing out! As long as we've gone this far we might as well explore a little."

"But suppose the sled breaks down? Or we might get lost."

"If the sled breaks down," Jim assured her, "we can radio the colony over our suit radios. And we won't get lost. See the compass on the dashboard? All we have to do is keep track of which way we go, and we can find our way back without any trouble."

"All right," Sally agreed, but she still sounded nervous. "Let's start, then. Which direction are we going?"

"We'll go south, toward Xanthe, I think. That's the area where Mitten was found." Jim punched the starter button and the motorsled rumbled to life. It rolled slowly away from the dome. Jim let it pick up speed.

Driving the sled was much safer than driving an automobile would be on Earth. There were no other cars to watch out for because the desert was empty. Jim didn't even have to worry about staying on the road because there wasn't any road – just flat, smooth-packed desert, stretching as far as the eye could see, broken only by widely scattered outcroppings of rock which ended where the rich blue of the sky began.

The day was fairly warm and the sun was bright. It was summer in this part of Mars, a summer that would last nearly half an Earth year. During the Martian summer the daytime temperature usually got as warm as fifty or sixty degrees. At night in the summertime the thermometer generally registered zero to ten degrees on the desert. Real winter never came to this region of Mars because it was on the equator, but near the poles the temperature frequently dropped as low as a hundred degrees below zero, and even lower in the dead of winter.

When the dashboard mileage counter told Jim that he was about ten miles from the colony, he began to search for caves. He had already found out that most of the known caves were near cliffs, so he skirted along the base of every rock formation they came to, looking for a cave entrance. They found none.

An hour went by. They were a considerable distance from the colony. Everywhere, their eyes met only barren sand, multicolored rocks, and bizarre desert plants.

"Maybe we should just turn back," Sally suggested. "We're just on a wild-goose chase. It was silly to think we were ever going to find new caves."

"This trip was your idea," Jim told her firmly. "But we might as well have a look around, now that we're out here. We'll keep going till noon, then turn around and go back. We'll be home in time for lunch."

They had not brought food because it was impossible to eat without opening their helmets, and in an unsheltered sled they could not do that. Jim drove on. A little while later they saw the first sign of life all morning – a desert rat the same color as the sand. It bounded in front of the sled and vanished.

Shortly afterward they passed a sand tortoise. The tortoise had been patiently plodding through the desert and was so startled by the approach of the sled that he forgot to pull in his head. Jim caught a glimpse of the three-eyed creature as they zoomed past.

After that, everything was motionless. Mitten sat patiently in Sally's lap, seemingly asleep, but keeping his large eyes open and alert. Jim was becoming very tired of this expedition. His eyes hurt from staring at the sun-brightened sand, and driving the sled was hard, too. It was eleven-thirty. They had been wandering in the desert almost an hour and a half. The colony was forty miles behind them.

"I'm just about ready to give up," Jim confessed. "There's no sense wandering around any more. I don't know which one of us is dumber – you for thinking up this trip, or me for letting myself be talked into taking it with you."

"Dad would be furious if he knew!" Sally said. "Well, it seemed like a good idea before we left. I guess I expected the Old Martians to stick up a flag or something and say, 'Here we are!'"

"Let's turn around and go back, then."

"Okay."

Jim began to turn the sled. Suddenly Sally pointed toward the west and said, "Look at that big cloud."

"There *aren't* any clouds in the desert, Sally. There isn't enough water vapor here to make a decent cloud."

"I tell you there's a cloud out there," Sally insisted. "Look for yourself!"

Jim glanced over his shoulder, squinting a little. Sure enough, there *was* a cloud out there, and a big one, too. It was not fleecy white, like the clouds of Earth, but yellow. And it kept growing bigger. It looked like a tremendous yellow splotch of paint rapidly spreading over the

deep blue backdrop of the sky.

"What on Mars could that be?" he wondered out loud. "I remember hearing something about yellow clouds – oh, oh!" He gasped. "Now I remember. Sally, it's a sandstorm!"

"No! What are we going to do? Can you outrace it with the sled?"

"Not a chance. The only thing to do when you get into a sandstorm is to huddle down and let it pass over you. Golly, we have all the rotten luck!"

"How soon will it be here?"

"Any minute, looks like," Jim said, peering toward the horizon. The storm was approaching rapidly. Already the advance gusts of wind were beginning to slow around the sled, kicking up dancing swirls of sand. Soon, the entire raging mass of the storm would pass over them driving tons of sand onward toward the east.

Stopping the sled, Jim swiveled his chair around so it faced Sally. They were partly screen by the windshield of the sled, and Jim hoped that their suits would give them the protection they would need. They huddled together, Jim wrapping his arms around Sally's shoulders. The way Jim and Sally were sitting, Mitten was almost entirely sheltered by their bodies.

"Maybe it'll miss us," Sally said.

"I doubt it. It looks like we'll be smack in the middle of it."

The earphones of their suits picked up the wild howling of the onrushing winds. The air was thick with sand now, leaping about wildly as the storm grew nearer.

"Here it comes!" Jim cried.

A solid wall of sand swept toward them in the air.

And then the storm hit them in all its fierce power. It smashed against the windshield, and the sled rocked with the impact. Jim and Sally clung tightly to each other. The sound of the storm roared in their ears. They felt the sand particles striking their suits with terrific force. It felt as if they were being pelted with thousands of tiny pebbles.

Cascades of sand continued to sweep down on them, pounding on the windshield, rattling against their suits. Once, Jim lifted his head, but he could see nothing. It was like being at the bottom of a sea. Sand was everywhere, all around them, sweeping over the sled, half burying them. The sled was moving, blown over the desert. It had turned completely around, and the windshield, instead of providing a barrier against the sand, now made it easier for the wind and sand to push the sled along.

Holding tight to Sally, with Mitten still huddled between them, Jim wondered how much longer this could go on. What if they were buried twenty feet under the dunes? If the sled were ruined? If –

There was suddenly no longer any need to wonder about possibilities. As swiftly as it had overtaken them, the storm was gone. The air was clear; the wind no longer roared, but merely sang and whistled.

Jim lifted his head slowly. The yellow cloud was more than a mile away already, and retreating rapidly. The sled was covered three feet deep with sand. The plastic windshield was pitted and cracked by the force of the trillions of tiny grains that had struck it.

"Whew!" he exclaimed., "Another five minutes and we would have been up to our ears in the stuff." The helmet of his breathing-suit was scratched and scarred, but it was made of an unbreakable plastic.

He and Sally shoveled the sand away from them with both hands. Mitten, unharmed, crept out from between them and began to whimper softly. Sally put him down near the sled.

"Oh, oh," Jim said, as he cleared the sand away from the dashboard. "Now we're really in for it! Look!"

He pointed. The dashboard was ruined. The impact of the storm had smashed most of the dials. The compass was shattered. So was the clock, their only means of knowing the time.

"How will we find our way back?" Sally asked.

"We can't. Not by ourselves. The storm must of flung us a couple of miles. I don't recognize

this place. It certainly isn't where we stopped. We weren't any place near those cliffs over there, for instance. Well, now we'll have to radio the colony and have them come rescue us. Boy, are we going to be in hot water!" He started to finger the chest controls on his suit. By switching a button he could generate a long-distance SOS signal. A rescue party could be sent out. But it would be a waste of the colony's time and man power, and Jim knew they were certain to be very angry about having to come all the way out here for a couple of Earth brats.

Suddenly Sally yelled, "Jim! Mitten's running away!"

Jim turned. The Mars kitten, which had been sitting in the sand near the sled, had abruptly bolted. Thanks to the kitten's dark color, it was easy to see him against the orange sand. He was more than a hundred yards away, streaking at an incredible speed toward the nearby row of low hills.

Quickly, Jim and Sally sprang back into the sled. It would make things even worse if this already disastrous trip saw them losing their pet.

The sandstorm had not damaged the engine, and Jim started it in short order. Mitten was far ahead of them, now. Jim opened the speed wide, but it was impossible to overtake the fleeing Mars kitten.

"Can't you go faster?" Sally asked.

"I'm near the limit now. Look at that kitten run!"

The gap began to close, but now they were very close to the cliff, and Mitten had nearly reached it. Jim urged the sled on. Suddenly, Mitten reached the base of the cliff and vanished.

"Where did he go?" Jim asked.

"Into a hole in the ground. I saw him!"

A moment later they pulled up near the place where Mitten has disappeared. There was a hole only a few feet across at the base of the cliff. It looked just like the mouth of the Old Martian cave Jim and Sally had visited.

Leaping from the sled, Jim ran toward the hole, Sally right behind. He peered in, calling, "Mitten! Mitten!"

His flashlight was attached to the belt of his suit. Unclipping it, he turned it on and shined it into the hole. He saw a row of steps leading diagonally down. And, standing at the bottom of the steps, holding Mitten affectionately in his arms, was a small, gray-skinned, two-legged creature with a large head.

Jim realized with a shock that he was shining his flashlight beam on a living Old Martian.

Chapter 9

Jim was so surprised he nearly dropped his flashlight. Behind him, Sally gasped softly. She had seen it, too. It was not just a prank of imagination.

A soft, feathery voice said, "Come down. There's no need to be afraid of us."

"You speak English?" Jim asked.

"We speak the language of the mind," the Martian replied in the same soft voice. "Mental telepathy knows no language. I am in direct contact with your minds. Please come down. We will not harm you."

Jim glanced at Sally, who nodded slowly. They began to descend the row of tiny steps. Jim's legs felt weak and wobbly. He and Sally were too stunned to have much to say.

When they reached the floor of the cave, they saw that they towered over the Old Martian. The alien being was no more than two and a half or three feet high. He looked like a little gnome. His gray skin was dry and leathery, and his arms and legs were thin and fragile. His head was a large hairless globe that seemed on the verge of toppling right off his thin neck. Two enormous eyes, a tiny nose, and a slit of a mouth made up the Martian's face. His head was completely round. His head was completely round, without any chin. He had no ears – not surprising if he communicated by telepathy.

Mitten wiggled in his arms, but the Martian calmed the little animal, and said, "You have our thanks for taking care of the animal for us."

"He belongs to you?"

"These animals have been pets of our kind since the dim past. A short while ago three of the wandered from our cave and became lost. Now one has returned."

Jim and Sally became aware that eyes were watching them from the darkness. As their own eyesight became accustomed to the dimness in the cave, they discovered that more than a dozen Old Martians had appeared and were studying them curiously. They were all short and big-eyed, and it was hard to tell one from the other.

The Martian who was holding Mitten put him down. The Mars kitten immediately ran to Jim and Sally and began rubbing himself against their feet and legs.

"He is fond of you," the telepathic voice of the Martian observed. "You have been kind to him. That is why you are permitted to visit our dwelling place. You are the first of your people to be allowed to find us. Come – would you like to see how we live?"

Jim and Sally nodded breathlessly. It was like stumbling into fairyland to have come upon this wonderful place. The little people led Jim and Sally deeper into their cave. The roof of the passageway was only a few inches above the top of Jim's helmet, and he kept automatically ducking for fear he would collide with the ceiling.

The general layout of the cave was very much like that of the ancient one that Jim and Sally had visited. But the chambers, branching off the main passageway, had little beds in them made of plan fibers, and there was other furniture in the rooms as well. There were many wall paintings, some of them quite new and bright. One of them showed the colony dome rising from the desert, and so obviously had been painted recently.

A shelf ran along the top of every wall, and growing on this shelf was a grayish plant of a kind that did not live on the surface of Mars. The broad, flat leaves of the plant gave off a faint yellowish glow, and it was this glow that provided what dim light there was in the cave.

Jim and Sally soon learned that not only was illumination supplied by the plants, but that air and water came from vegetation also. They were shown short whitish plants with thick, drooping leaves. "These plants absorb the carbon dioxide we breathe out, and give off oxygen for us. Only because of these plants can we live," their guide explained. "One, in the past, there was enough air on Mars to allow us to live on the surface. But that was many hundreds of thousands of years ago. Now we must live in small caves and breathe the air given off by these plants. We can exist for a little while above ground, but not for long."

They moved on to another chamber of the cave, where a different plant was growing. A great many rope-like stems grew from the center stem, and at the end of each was a swollen pod about the size of Sally's fist. The Old Martian knelt, picked up one of the stems, and pinched the pod from its end. Drops of water ran out. The little being held the pod to his thin mouth and squeezed it.

"The plant stores water in the pods, you see," he told Jim and Sally. "It's roots go far down into the underground springs that lie below the cave and it brings the water up for its own use. But it brings more than it needs, and stores the extra water in these pods. As soon as we break a pod off, a new one begins to grow at the end of the stem. But we must be careful not to use up the water faster than the plant can store it. Since I have had a drink now, I will not be allowed another for three days."

"Don't you get thirsty?" Sally asked.

"Over the centuries our bodies have changed to match the changing conditions of our world," the Martian said. "My body requires very little water. One drink every few days is enough. But

without this plant, we could not survive at all."

Jim and Sally exchanged glances. It was amazing to see how these beings had managed to last. Once, hundreds of centuries ago, these people might have had splendid cities, magnificent buildings, navies and armies, all the pomp and glamor of a mighty civilization. Now they burrowed away in cramped caves, seeing by the dim light of luminous plants, and rationing themselves to one gulp of water every three days.

But they had survived. That was the impressive thing.

"What do you eat?" Jim asked.

"We raise other plants for food," was the telepathic reply. "Our food needs are as limited as our need for water. We can go for a week of your time without eating at all before we begin to feel hungry."

"You're lucky," Sally said. "It's only a few hours since Jim and I had breakfast and we're famished!"

They came to the end of the cave. It widened out here into a larger room that could hold several dozen people. The Martians nearly filled the room. They sat cross-legged, staring at Jim and Sally, who took seats on the floor next to their guide.

Several Mars kittens were wandering around the room. Mitten, who had followed along for the entire tour of the cave, sat down between Jim and Sally and curled himself up comfortably.

Jim said, "You know, all of the Earth people on Mars think that you Old Martians died out long ago."

"Yes. We wanted them to think this."

"Why?" Sally asked.

The mental voice of their guide sounded very old and weary. "We are an ancient people. You Earth men are young. We are small and fragile and helpless. Earth people are large and powerful. We live quietly, by our old ways. You of Earth are energetic and aggressive. We are the race of yesterday, you of tomorrow. We wish no contact with the Earth people. We wish to live our own lives, alone."

"But the colonists wouldn't harm you--" Jim began.

"We wish no contact," repeated the Old Martian and there was a note of stubbornness in the quiet voice. "We fear and mistrust the Earth people. Earth people are so big, so strong, so active."

"If you don't like Earth people," asked Sally, "Then how come you've been so nice to us? We're Earth people, too, you know."

"You were kind to our missing animal," the Old Martian replied. "We know that you are young. We are not afraid for the young ones. It is the older ones who are dangerous, who threaten our age-old peace."

"But supposed we were to go back to the colony and bring the grownups out here to see you?" Jim asked.

"You will not do this," said the Martian. "We have looked into your minds and we know that you will not betray us. But even if you wanted to, it would be impossible."

"Impossible?" Sally questioned.

"Once you leave this cave, you will not be able to find it again. How do you think we have remained hidden from your kind for so long? We use our mental powers to conceal the entrance to the cave. To Earth eyes, no entrance is visible – *unless we wish it to be*. When you came along, following the animal, we allowed the mouth of the cave to be visible because we wished you to see us. But you will not be able to return with other humans."

"Well," Jim said, "we won't try it. We wouldn't do anything you don't want us to do. We promise. We're grateful that you let us come here once, at least."

"And we'd better start back soon," Sally added. "I don't know what time it is, but probably Mom and Dad are wondering what has happened to us."

Jim nodded. "Yes," he said to the Martian, "we'll have to go back now. But we'll have to radio our location to the dome, and they may find out about the cave –"

"No. You will not need to make contact with your people. I will guide you back to the colony myself."

Jim's heart leaped. If they didn't have to ask for a rescue mission, perhaps no one at the colony would be angry about the expedition.

There was one problem, though. As Jim stood up, he picked Mitten up. "Do you think we could possibly keep him longer?" he asked. "We'll promise to take very good care of him. And we aren't permanent settlers on Mars, you know. We'll be leaving in a short time, and when we do, we'll bring him out to the desert and let him go back to you again."

The Martian hesitated. "The animals are needed here. They protect us from vermin of the deserts that sometimes enter the cave."

"But you have so many others," Sally pleaded. "And we like him so much!"

"Very well," the Martian said. "You may keep the creature a while longer. I see that he is happy with you, and you are happy with him. Come, let us leave."

The other Martians watched with the same intense curiosity as Jim and Sally left. They returned to the mouth of the cave and mounted the tiny steps, with their gnomelike guide close behind them and Mitten clutched tight in Sally's arms.

When they reached the surface, they could see by the way the sun had dropped in the sky that it was late. They had spent several hours in the fascinating Martian cave. It was probably three or four in the afternoon by now. They were both tremendously hungry, and they knew they would have some explaining to do when they returned to the dome.

After they had walked a few steps, the Martian said, "Look behind you and see if you can find the entrance."

Jim and Sally turned. "Why, it's right behind us, over – here," Jim said, and frowned. The sand seemed unbroken. There was no even a trace of the mouth of the cave. He retraced his steps, walking very carefully, scuffing the sand with his boots. It seemed solid wherever he went.

"We have had many centuries to develop our mental powers," the Martian said. "This is only a simple illusion. I see the entrance plainly – but, look as long as you wish, you could never find it."

Jim shook his head in wonderment. "It's like magic! I could have sworn I knew where the entrance was!"

The sled still remained where they had left it. Jim and Sally buckled themselves into their seats while Mitten and the Martian sat down at the rear of the sled.

The Martian told Jim in which direction to head. Jim drove quickly, and nobody said much. The sun was dropping fast. Jim and Sally had their suit-heaters turned up high, but still they felt the chill breath of the late-afternoon winds. The sky was rapidly growing dark, and the stars were starting to come out. Large and clear in the sky over their heads was a dot of blue-green light. With a little tingle of awe, Jim realized that the dot of light was Earth, forty million miles away. All of Earth's teeming cities and great oceans and broad jungles were, at this distance, packed away into a tiny speck in the sky.

After some time the dome came into sight, far ahead. Jim was about to tell the Martian that it was no longer necessary for him to accompany them when the droning sound of another motorsled became audible.

"Your friends are searching for you," the Martian said. "I would not want them to see me, I will leave you now. Good-bye, my young Earth friends. Perhaps we will meet again sometime."

"Good-bye," Jim answered. "And thanks for --" [All the fish???

"He's gone," Sally told him.

"Gone?"

"Vanished," she replied, looking back. "He just sort of winked out of sight. Another of his

mental tricks, I guess."

"So the Old Martians do exist!" Jim exclaimed. "And they're so very nice – but I wish they weren't so shy."

"They're small and gentle," Sally agreed. "I suppose they're afraid of Earth men, no matter what mental powers they have."

The motorsled was quite close to them now. The driver was waving his hands for them to pull up. When they came closer, Jim and Sally saw that it was Martin Huber.

"Hello there!" Jim called over his suit-radio.

"Hello yourself!" Martin called back. "Where have you two been? Half the colony is out looking for you!"

Jim gulped. "What time is it?"

"Almost six," Martin said. "Your parents are worried crazy. They've been hunting for you all day."

Chapter 10

Martin broadcast a general announcement telling the other searchers that Jim and Sally had been found, and the two motorsleds headed for the dome. Martin led the way, with Jim driving right behind him.

Dr. and Mrs. Chambers were waiting at the air lock when Jim and Sally arrived. Jim and Sally had never seen their father quite so angry before. His face looked dark and thundery. Their mother did not seem angry as much as frightened. She was very pale.

Jim and Sally hurriedly got out of their breathing suits. Other motorsleds were arriving at the air lock. Obviously quite a large search party had been hunting for them.

"Guess what, Dad," Jim cried. "We found --"

"Never mind what you found, young man," Dr. Chambers interrupted sternly. "Suppose you explain what you and your sister meant by slipping off into the desert without telling anyone!"

"We searched all over for you at lunchtime." Mrs. Chambers was almost weeping. "But nobody had seen you all morning. We were terrified."

Jim nodded. "I know we shouldn't have done it--"

"Just where did you think you were heading?" Dr. Chambers thundered.

"It was my idea, Dad," Sally said. "We were trying to help you. We went looking for the cave of the Old Martians, you see, and this sandstorm came up--"

"Yes, we were caught in the sandstorm," Jim took up, "and the compass and the clock got smashed--"

"Looking for the Old Martians?" their father repeated. Several of the colonists began to laugh. The emergency over, they were interested now in seeing what punishment Jim and Sally would get.

"Yes," Jim shouted. "And we found them! They have a cave about fifty or sixty miles from here! They're little gray gnomish people with big eyes, and Mitten was a pet of theirs – only they let us keep him – and they have plants that give off oxygen and other plants that store up water, and--"

He stopped. He saw that everyone was laughing at him, everyone but Dr. and Mrs. Chambers, who looked very angry.

"He isn't making it up," Sally said stoutly.

"Old Martians, yet," one of the colonists chuckled. "Next he'll tell us he found a plutonium mine out there, too!"

"If any son of mine tried to tell me a whopper like that," added someone else, "I'd make the

seat of his pants plenty warm. Old Martians indeed!"

"We *did* find them!" Jim yelled. "I don't care if you don't believe me! They talk by mental telepathy, and they're very shy, and --"

"That's enough," Dr. Chambers exploded. "It's bad enough that you and your sister went on this escapade, without having you embroider fancy lies, too. But this is no place for a family uproar. We'll see about your Martians when we get home."

The colonists were still snickering as Jim and Sally were hustled away toward the elevator. They rode down in silence, and walked quickly in front of their parents, toward their house.

Inside, Dr. Chambers said, more calmly, "Listen to me, you two. You know I don't believe in punishment, but this time you've gone too far."

"We were frightened half out of our minds," Mrs. Chambers murmured, shaking her head. "Why did you do it?"

"We told you," Sally answered. "We wanted to find the Old Martians – for Dad."

"And we did," Jim said. "Honest, we did--"

"That's enough about that!" Dr. Chambers snapped. "Any more talk about the Old Martians and I'm really likely to lose my temper. Do you realize how much trouble you caused today? Dozens of men had to give up their precious time to go cruising around in the desert looking for you. The whole colony was upset and inconvenienced. I have a hard enough time getting any cooperation out of the colony authorities, as it is. And now that they think my children are just a couple of juvenile delinquents who like to run off and take joy rides in the desert, I'll probably have to stand on my head and whistle before I get any more help from the colony! I can't understand how you could have done such a thing. Maybe your mother and I have given you too much freedom--"

"Dad, please listen to me," Jim begged. "We were wrong to go out into the desert without asking permission. We should have asked you. We know. But never mind that for now. *We found the Old Martians*. I swear it – on my word of honor!"

There was silence in the room. Dr. Chambers had said frequently that a man's honor was his most precious possession. Jim's words were very serious.

After a moment his father said quietly, "I'll give you a chance to take that back, Jim. I'll pretend I didn't hear it, this time. If you think you can cover up one bad deed by another, you're mistaken. Lying isn't going to help you."

"I'm not lying, Dad."

"He isn't," agreed Sally earnestly. "Why won't anyone *believe* us?"

Dr. Chambers passed his head wearily over his forehead. "I know you two aren't in the habit of lying. And I trust you both. Go on, then. Tell me about these Old Martians of yours. But if it's all a story you've invented, you'll be very sorry."

"It's the truth, Dad," Jim said. "We headed south, and we were caught in that sandstorm. It busted the compass and the other dials. Then Mitten ran away. We followed in the sled and he led us right to this hole at the base of a cliff."

"And the whole was the entrance to a cave," Sally broke in. "We looked in and saw this Martian. He was a little man with a big head and big eyes, and he told us not to be afraid."

"He *told* you?" Mrs. Chambers repeated. "I'm afraid that's a little unbelievable!"

"He was using telepathy," Jim said. "Talking with his mind, sort of. And we went down into the cave--"

Taking turns, Jim and Sally described their visit to the cave. Interrupting each other every time the other thought of a new point to add, they described the wonderful plants that gave the Martians food, water, light, and oxygen, told why the shy little gnomish people did not want to have anything to do with their new neighbors, the Earth men, and how the mouth of the cave was ordinarily hidden by mental illusion.

"And then we started back to the dome," Jim finally finished. "Old of the Old Martians came with us as a guide. But the moment one of the search sleds came close, he disappeared."

That's the whole story."

Dr. Chambers was silent for a long moment after Jim concluded. At length he said, "It's believable, in a cockeyed sort of way. Plants that liberate oxygen – pockets of air below the ground – beings adapted to get along on practically no food and less water – yes, it's possible! One last time: You aren't making all this up?"

"Of course not, Dad," Jim insisted.

"It's the absolute truth", agreed Sally.

"All right," their father said. "I believe you. If I can't trust my own son and daughter to tell the truth, who *can* I trust? We'll get in touch with Mr. Frahm right away."

"Mr. Frahm? The colony director?" Jim said.

"Who else? He's been telling me ever since we got here that it's impossible for any very complicated life to exist in the desert. He should be the first to know."

He reached for the phone and dialed a number. "Mr. Frahm? Roy Chambers here. Yes, the children are back. And I'm sorry for any trouble they caused. But – yes, I know. Would it be all right if I brought them over to see you now? They've made quite a surprising discovery out there, it seems. I know it's late, but this is really important. Yes – thanks. Thanks very much. We'll be right over."

Fifteen minutes later Jim and Sally and their father were in the office of George Frahm, president of the Colony Council and Director of the Mars Colony. Mr. Frahm was a big, rugged-looking man, entirely bald, with piercing eyes and a booming, commanding voice.

Mr. Frahm glared coldly across his desk at Jim and Sally. They squirmed uncomfortably.

"So these are the troublemakers," he said unpleasantly. "The sightseers who took a little trip into the desert. I hope you're planning to discipline them properly, Chambers. We can't have children doing as they please in this colony. And I don't want your youngsters to set a bad example for our own children."

Dr. Chambers nodded. He hardly seemed to be listening. "Yes, of course, sir. Jim, tell Mr. Frahm what you and Sally discovered today."

"We found a cave, you see," Jim began nervously. "The Old Martians live there. They--"

"What's this?" Frahm snapped. "Chambers, if this is what you dragged me up here for--"

"Please, sir. Listen to them. I believe they are telling the truth."

Mr. Frahm continued to scowl and grimace while Jim and Sally told the story of the Old Martian cave as they had done for their parents. They got as far as telling about the plants that manufactured oxygen when the director shook his head. "I think I've heard about enough, Chambers. These children of yours have very vivid imaginations, I'll admit. But, really, to think that I'm going to swallow a story about fantastic caves and little gnomes--"

"My son and daughter were raised to tell the truth," Dr. Chambers said. There was a touch of anger in his voice.

"You *would* believe them, Chambers. Your whole scientific reputation is staked on finding the Old Martians alive somewhere."

Controlling himself with an effort, Dr. Chambers answered, "I don't think personal matters ought to be brought into this, Frahm. My children have made a major discovery. The least you could do is hear them out."

"Very well," Mr. Frahm said. "You say you've discovered a cave full of Old Martians. If you aren't playing us all for fools, you've made a tremendous find. I'll give you the benefit of the doubt. Tomorrow morning, Dr. Chambers, you and I and your children will make a little trip to this cave, eh? And if the Old Martians are really there, I'll offer a full and sincere apology. But if it turns out there is not cave, we're going to have trouble."

"I'm afraid we can't take you, sir," Jim said.

"Oh? And why not?" the director asked in a heavy voice.

"The Old Martians told us that they didn't want to have any contact with human beings, you

see. They're very shy and very much afraid of us."

"Besides," Sally chimed in, "the entrance to the cave is hidden tele – *telepathically*. It can't be found unless the Martians *want* someone to find it. If we went back ourselves they might let us see the entrance, but if we bring you and our father, they're certain not to unhide it."

Director Frahm's face had turned very red. "They don't want any contact with human beings, eh? And they hide themselves away by mental telepathy? Really, Dr. Chambers. I'm a fairly patient man, but I don't see how I can listen to all this nonsense any longer."

"It *isn't* nonsense!" Jim protested.

"Quiet, Jim," Dr. Chambers warned. "Mr. Frahm, I'll personally vouch for the fact that Jim and Sally are telling the truth – for whatever my voucher may be worth to you right now."

"If they're telling the truth, let them produce these Old Martians of theirs," Mr. Frahm said.

"But we told you that's impossible," Sally insisted.

Mr. Frahm laughed, nastily. "In that case I don't see how this concerns me. Martians who can't be produced aren't any different from Martians who don't exist, so far as I see." He stood up. "It's Sunday night, and I usually spend Sundays with my family. Will you excuse me now, Dr. Chambers? I think I've given quite enough time to this fable."

"I'm sorry if we've wasted you time," Dr. Chambers said.

"In the future, Dr. Chambers, will you try to prevent your children from making unauthorized exploration trips? We can't keep wasting time and man power to rescue them. And you might teach them to keep their negotiations under control, too. Good night."

"Good night, sir."

When they were outside the colony director's office, Jim exclaimed, "Golly! He was really sore, wasn't he?"

"And I don't think he believed a word we were saying, either," Sally put in. "Dad, what are we going to do now?"

"I'm not sure," Dr. Chambers answered sadly. "I've wasted Mr. Frahm's time today. He isn't going to have nice things to say next time the Earth government wants to send a research man up here. And I can't say I blame him for doubting your story."

"*You* believe us, don't you, Dad?" Jim asked.

"Yes, I believe you," Dr. Chambers replied. "Let's get along home now and see if we can figure out where to go from here."

Chapter 11

The story spread around the colony rapidly. Next morning, when Jim and Sally reported to school, they were greeted with sly giggles and sarcastic remarks by their classmates.

"Here come the explorers," Ted Navarra called out.

"Did you bring any Old Martians to school with you?" Don Bruce asked.

"Tell us all about it," Judy Domanig urged. "Tell us about the little green men you found in the desert."

"They weren't green," Jim answered angrily. "They were gray."

Sally nudged him sharply in the ribs. "Don't pay any attention to them!" she whispered.

"They're only trying to tease us and make us angry!"

The day at school seemed very long. Even some of the teachers glanced at Jim and Sally with amusement. It was a miserable day for the Chambers children.

It was the same way that night when the whole family went to the mess hall for dinner. People at other tables could be heard chuckling over the wild story. There were plenty of whispered comments. And, here and there, were some people who were not so amused by the

escapade. They kept telling each other that the Chamberses were being fed and housed for an entire year at the public's expense. They were annoyed to think that public money should be wasted that way.

When they had returned to their own dwelling, it was time for a family conference. The situation was serious.

Dr. Chambers said, "We're in an awkward fix. You two have discovered something big, only you can't prove it – and nobody believes you. This makes us the laughingstock of the colony. There's pressure building up on high colony levels to have us sent home on the rocket that leaves at the end of this month. The argument is that the colony can't afford to support such wild research projects."

"That's terrible, Dad!" Jim explained. "You still have almost eleven months of your grant left!"

"I know," Dr. Chambers said. "And I don't think they'll actually succeed in sending us home. But they might try. They could raise a fuss with the big shots on Earth. It would look very bad for me and for anybody else who wants a grant to do research work on Mars. So – we have to produce results, or else."

"What kind of results?" Sally asked.

"Proof that the Old Martians are really there."

"But they didn't want contact with Earth men, Dad," Jim said. "They just wanted to be left alone. If we go out there and bother them --"

"Not bother them, Jim. I want to talk to them a little, and take a few photographs. I want to find out exactly how they survive under the desert conditions. I want some samples of those plants you say they have growing in their caves."

"That would be up to them. Sally and I could take you to the place where we found the cave, maybe, but if they didn't want to be visited we would just be wasting our time out there."

"We'll give it a try, anyway," Dr. Chambers replied. "First thing tomorrow morning we'll make a little excursion out into the desert. Just the three of us – unless you want to come along, too, Ethel."

Mrs. Chambers smiled. "I'd just as soon stay here," she answered. "And I wonder if it's wise for you to go. If another sandstorm comes up --"

"I've made some inquiries," Dr. Chambers said. "Martin Huber tells me that the chances of two sandstorms in the same area the same week are very slim. So I don't think there's much risk on that score."

"What about school?" Sally asked.

"School can get along fine without you for one day," Dr. Chambers said. "Finding the Old Martians again is more important. It'll write a chapter in the history books that will make your names famous on Mars for centuries."

So it was all decided – Jim and Sally would take their father out into the desert. If they were lucky, perhaps the Old Martians would consent to being visited again. If not, well, then things would be very bad indeed for the Chambers family.

After breakfast the next morning Dr. Chambers phoned the Vehicle Department and requested a motorsled. When he hung up he said, "I suppose that fellow thinks he has a sense of humor. He wanted to know if he should send out a rescue signal for us before we left."

The attendants at the air lock were in a wisecracking mood too. But Jim and Sally and Dr. Chambers pretended not to listen as they quickly put on their breathing suits and climbed aboard the motorsled. Dr. Chambers drove, with Jim sitting next to him. Sally sat in back, guarding the camera and Dr. Chambers' collecting bottles. They had not brought Mitten along on this trip even though the Mars kitten had brought them good luck the last time. If the Martians did not wish to be visited, not even Mitten could help to change their minds.

It was a bright, cool summer morning. The wind blew sharply over the desert. Dr. Chambers drove steadily southward. Jim and Sally peered out, hoping to spy some familiar landmark. But nothing looked familiar. Every part of the desert was very much like every other part. Had

they seen those cliffs before? Or had they come some other way, the last time? It was impossible to tell. Jim and Sally fidgeted.

"Are we getting close?" Dr. Chambers asked, when he had driver more than an hour.

"I don't know," Jim said. "It's so hard to be sure. All I know was we drove south, and then we were mixed up in the sandstorm. And the Martian cave was at the base of a low cliff. Just like that cliff over there --" And he pointed to a little clump of rocks jutting out of the desert not far to the east.

"Or like that one." Sally pointed out another rock formation to the west.

They wandered in the desert for more than half the morning without any luck. They investigated every cliff formation they came across. But each one looked just like the next, and none of them had any sign of an Old Martian cave. Jim and Sally and Dr. Chambers became very discouraged. They would never find the little beings.

And then, suddenly, a soft voice sprang out of nowhere. "You wish to visit us again, Jim and Sally? But you have broken your promise."

"Dad, did you hear that?" Jim asked.

"What?" said their father, puzzled.

"The Martians!" Sally cried. "They spoke to us."

Jim answered to the empty air, "Yes, we *do* want to visit you again! We've been searching for your cave all morning!"

"But you promised not to bring the older Earth people to see us," came the soft, mildly reproachful mental voice. "Yet one of them is with you now."

"He won't make any trouble for you," Sally said. "He's our father. It's all right if *he* comes, isn't it?"

"Jim – Sally – whom are you talking to?" Dr. Chambers asked in bewilderment.

"Can't you hear them, Dad?" Jim questioned.

"No, he cannot hear me," replied the Martian. "I am not making contact with his mind, only with yours."

Dr. Chambers shook his head. "Is this some kind of game you're playing --"

"The Martians are talking telepathically to us," explained Sally.

"Listen to me," Jim said to the distant Martian. "We aren't going to make trouble for you. My father just wants to know a few things about the way you live, and he wants to take a few photographs of you. That's all. You can look into my mind and see that I'm telling the truth."

"We are not afraid of your father," came the Martian's reply. "But he cannot come to our dwelling. You and Sally are welcome always, but you must come along. This is our rule and we will make no exceptions."

"Is that final?" Jim asked.

"It is."

He turned to his father, who was very much mystified by a conversation of which he could hear only one half. "They say we can visit them, but you can't."

"Why not?"

"Because they've made a rule about Earth men, and they won't break it," Jim said.

Dr. Chambers looked doubtful. "I don't want to leave you alone in the desert again, though."

"But otherwise none of us will see the Martians!" Sally protested. "We can't go to them with you along."

Dr. Chambers was silent for a moment. At length he said, "Your mother will skin me alive if anything happens to you. And the colony director will draw and quarter me if he has to send out another rescue party."

"We won't get lost, Dad," Jim explained.

"And even if we do," explained Sally, "they wouldn't have to send out a big rescue team. We could radio for help, and they would figure out our position, and you could come find us. But anyway, we won't get lost."

"All right," Dr. Chambers agreed, "we'll have to chance it. You're sure your Martian friends won't change their minds about letting me visit them?"

"Positive."

Dr. Chambers shook his head. "There are times when I think I'm crazy. Martians in caves, and voices that you can hear but I can't. If you were anybody else's children I wouldn't believe you for a minute."

"So you'll let us go alone?" Jim asked?

"Yes," said Dr. Chambers reluctantly. "I'll drive back to the colony. Might be a good idea to refuel the sled, while we're at it. Then you come back and visit your Martians. Take as many pictures as they'll allow of them, their rooms, and especially those plants."

"Right, Dad."

He swung the motorsled around and headed it back to the colony. It was lunchtime when they got there. They left the motorsled just outside the air lock, asking the attendants to refuel it, and entered the dome.

Mrs. Chambers was horrified to learn that her husband had given Jim and Sally permission to make another solo trip into the desert. But her objections were soon put down. She had been married to Dr. Chambers long enough to realize that, for him, science came before anything else, and that Jim and Sally would not be in any serious danger traveling in the desert.

Jim and Sally left again right after lunch. Dr. Chambers accompanied them as far as the air lock and waved good-bye as they drove off. Jim headed due south again. After an hour of traveling, he said out loud, "Martians? Do you hear me?"

"Yes," came the silent reply. "Our mental perceptions range over vast distances."

"We're along this time, just the two of us. Is it all right if we come to you?"

"You may visit us."

The Martians began to guide Jim. Following their telepathic directions, he turned the sled slightly to the west and continued on in that direction for fifteen more minutes. Every time he got slightly off course, the Martians would let him know. Finally, a cliff formation lay straight ahead, and it looked like the right one.

It was. The Martians told Jim to stop the sled and walk toward the cliff on foot. He and Sally got off and advanced. Jim carried the camera.

"Walk to the left," the Martians said.

Jim and Sally walked to the left.

"Now three paces forward."

They came forward.

"I don't see the cave entrance at all," Sally said. "Do you think there's some mistake?"

"No – look!" Jim cried.

Before their eyes the desert sand seemed to be shifting. What they had thought was solid ground was melting, vanishing like the illusion it was. The cave entrance stood revealed before them.

"Welcome, young friends," came the Martian voice.

Jim and Sally carefully clambered down the steps.

The Martians were waiting on the cave floor. They looked more than ever like friendly gnomes.

"Do you know why we're here?" Jim asked.

"Of course," the mental reply came. "Your minds have no secrets from us."

"And you don't mind if we take pictures?" Sally questioned.

"If it will make you happy, you may take pictures of us. So long as you come alone, you may visit us and take pictures of us whenever you wish. A bond of friendship links you to us, Jim and Sally."

Chapter 12

An hour later, Jim and Sally were on their way back across the desert to the colony. Their hearts were pounding with excitement.

Safe inside the camera were a dozen full-color three-dimensional photographs taken inside the Martian cave. They had also brought away with them small samples of the different cave plants. In the back of the sled lay a piece of the light-giving plant, and a stem of the water-storing plant with an unbroken pod at the end, and a few sprigs of the air-manufacturing plant.

Dr. Chambers was waiting for them at the air lock, pacing up and down anxiously. The moment their sled came through, he ran up to them.

"Well? Did you find them?"

"They found us, Dad," Jim said.

"They guided us right to the cave," added Sally. "And they didn't mind about letting us take photos, or anything. They even gave us little pieces of their plants."

Dr. Chambers took the camera as if it were full of priceless diamonds and rubies. "Hurry up! Get those breathing suits off! We've got to develop these films!"

He did not have a darkroom himself, but Martin Huber had arranged for him to use the photographic equipment at the college. By five in the afternoon the prints had been made. They were beautiful. They showed the Martians in their natural color against the background of their caves.

"This is fantastic!" Martin exclaimed when he entered the darkroom. "It means – the Old Martians are still alive – Jim and Sally were telling the truth all the time --"

"Of course they were," Dr. Chambers said. "Where's a telephone? I want to talk to Mr. Frahm."

A short while later Jim and Sally and Dr. Chambers were once again in the office of the colony director. Mr. Frahm held the twelve photographs carefully on the palm of one big hand. He went through them, looking for a long time at each one, and arranged them on his desk in a row. The expression on his face was strange. He looked astonished and annoyed and pleased all at the same time.

Almost five minutes of uncomfortable silence passed. Then the director said, in his slow, heavy voice, "If these are fakes, they're the cleverest I've ever seen."

"They aren't," Dr. Chambers answered silently.

"That's what I keep trying to tell myself," agreed the director. "But I can't believe it yet. It's absolutely incredible that there should still be a civilization out there! And yet – I can't argue with these pictures." He shook his head sadly. "I owe the three of you an apology. I was very rude to you Sunday night."

"We understand," Dr. Chambers said. "After all, we were asking you to take the word of two children about something fantastic – and we had no proof at all. But now we do."

"Yes. Now you have proof. But we'll never see these Martians with our own eyes."

"Perhaps we will, someday," Dr. Chambers disagreed. "If Jim and Sally can convince the Martians that Earth men won't harm them. It'll take time, but perhaps we can persuade them to trust us, eventually."

"I hope so," Mr. Frahm said.

"and in the meanwhile," added Dr. Chambers, "we have these marvelous plants. Do you know what one of them can do? It grows in desert sand. It doesn't need warmth or sunlight or water. And it breaks down the iron oxide in the sand and releases oxygen! We can plant them all over the desert. And when there are enough of them, releasing oxygen into the air, it will

be possible for Earth men to go outside the dome without breathing suits!"

Mr. Frahm nodded. "And the other plant, the one that sucks up water from deep below the surface and stores it in pods – we can plant that one, too. And in a generation or two we can restore Mars to the way it was before the deserts came."

The news was revealed to the colony the next morning. It caused a sensation. There was cheering and shouting in the streets. Jim and Sally were famous.

By radio beam the startling news was sent to Earth. A few hours later Earth sent back facsimiles of the front pages of several Earth newspapers. Bold black headlines told of the discovery:

MARTIANS FOUND LIVING IN DESERT! BROTHER-SISTER TEAM UNCOVERS LOST MARTIAN RACE!
MARS TO BLOOM AGAIN, SAYS BIOLOGIST.

Jim and Sally were a little dazed by all the excitement. One day they had been outcasts, the next heroes. It was all hard to believe.

"I hope things calm down soon," Sally said, later that night. It was well past bedtime, but there had been visitors and calls and other interruptions.

"If this is what being a hero is like," Jim said, "I don't think I like the idea."

"Don't worry about it," Dr. Chambers advised. "The fuss won't last forever. The importance of your find will."

"Dad," Sally said, "will the plants from the caves really make it possible for men to live on Mars without domes?"

Dr. Chambers shrugged. "We think so, Sally. But not for a long time. First we have to ask the Old Martians for seeds – that will be a job for you and Jim. And then we have to begin growing the plants and helping them spread all over. If each of them releases just a little bit of oxygen, why, once enough plants are growing there'll be air that's fit to breathe. If the Martians had thought of planting the air plants in the desert, they might not have had to live in caves."

"I think they *wanted* to live in caves," Jim said. "They didn't have the energy to go farming all over Mars."

"I suppose you're right, Jim. They're an old and tired race. It takes a lot of get-up-and-go to start a project like this. They don't have what it takes any more. So it's our job to bring Mars back to life."

The telephone rang for the fiftieth time that evening. Dr. Chambers went to answer it. While he was gone, Jim and Sally thought about what their father had said. The Old Martians no longer had the drive and ambition to revive Mars. But the men of Earth, using the plants developed in the caves, could do the job. And some day men and women would walk around on Mars without breathing suits.

Dr. Chambers came back into the room. He was grinning broadly. "I've just had some very good news," he announced. "That was Mr. Frahm calling."

"What did he want, Dad?"

Dr. Chambers beamed. "He just received a message from the Earth government. My research grant has been extended indefinitely."

Mrs. Chambers smiled. "Indefinitely, Roy? Is that what they said?"

"You heard it the first time! Indefinitely! That means we stay here on Mars as long as we want to, and no more deadlines for going home. That is – uh – you *do* want to stay on Mars, don't you?" Dr. Chambers looked at his wife. "Ether – how do you feel about staying here longer?"

"Do I have to answer that, Roy? You know I'll always go wherever your work takes you – even if it's to Mars!"

"And how do you feel about it?" Dr. Chambers said to Jim and Sally. "If you want to go back to Earth at the end of the year, just say the word. But I ought to warn you that you'll make a lot of people on Mars unhappy."

Jim grinned. Mars had become more appealing in the past twenty-four hours. "Of course we'll stay, Dad."

"You didn't have to ask us, really," Sally said.

Then Jim and Sally exchanged glances. They had both thought of the same thing at the same time.

Mitten lay curled at Sally's feet. Jim and Sally glanced down at the Mars kitten.

Jim said hesitantly, "There's one thing, Dad – uh – well, I mean --"

"Yes? What is it?"

Jim fidgeted uncomfortably. He reached down and scratched the Mars kitten behind the ears.

Sally explained, "It's about Chipper, Dad."

"Chipper? Good heavens – I had almost forgotten about him!" Dr. Chambers explained.

"Well, we haven't, Dad," Jim said. "I mean, Mitten here is a good pet, and we like him. But we couldn't just abandon old Chipper, could we? He's probably wondering when we'll come back to get him. And if we never come back --"

"Don't you think they could ship him up here?" Sally asked. "As a special favor to us? He and Mitten would be great friends. And I'm sure old Chipper would love the low gravity here."

Dr. Chambers scratched his head quizzically. "Well, I'm not sure how they'll like the idea – but, tell you what, kids. I'll ask. Fair enough?"

"Okay, Dad."

The next day, everything was settled. Mr. Frahm himself came over to explain the arrangements.

"We're all glad you people have decided to stay," the director said. "I've place you in a special category – you're not temporary visitors, but you're not permanent visitors either, unless you want to be. You're research personnel, here on an indefinite basis."

"That sounds good enough," Dr. Chambers answered.

"About your laboratory," the director continued. "Up till now we've been a little skimpy with your equipment, I know. But things are going to be different from now on. If you need anything, just say the word. If it's available on Mars, you may have it – and if it isn't available, we'll requisition it from Earth."

"I appreciate that very much," Dr. Chambers replied.

Director Frahm looked straight at Jim and Sally. But he was smiling, now, and they didn't squirm. "Now, you two – the key personnel in this operation. You're going to be our ambassadors to the Old Martians. Your job is to visit them regularly, obtain information about them, and try to make them like us. You'll also be in charge of getting seeds from them for the air and water plants. Think you can handle these responsibilities?"

"Yes, sir!" Jim and Sally answered together.

The director said, "The same offer I made for you father goes for you. Anything you need to help you in your work will be made available. I've already received one requisition. Your father tells me that you need a specific large black-and-white tomcat named Chipper. I've checked our inventory and find that we have no such equipment at present on Mars. Therefore I've ordered it from Earth. Chipper will be coming up on the next rocket."

"Yippee!" Jim yelled.

"Of course," Director Frahm went on, "you'll have to continue your schooling. Visits to the Martians must wait for after school. And also, you'll notify the council any time you go out in the desert. No more unannounced trips. You're valuable personnel. We can't take any risks with you." Mr. Frahm chuckled. "I think that's about it. Dr. Chambers, I like to thank you and your wife and Jim and Sally for having come here. You've done us a great service already, and

I'm sure you'll continue to be valuable members of the colony."

"Thank you, Mr. Frahm," Dr. Chambers said.

"Maybe we didn't cooperate with you as much as we should have, but you have to understand our viewpoint, too. We just couldn't see the importance of impractical research – until this stubborn boy and girl of yours showed us. Thanks again. And good night."

It was very late now. But Jim and Sally were too restless to sleep. There had simply been too much excitement during the day.

"Let's go to the surface level," Jim suggested. "I want to take a look at the night sky."

Jim and Sally and Dr. and Mrs. Chambers took the nearest elevator to the upper level. Nearly everyone was asleep. The colony was quiet.

They looked up, through the transparent dome, at the black curtain of the Martian sky. Overhead drifted the tiny moon Deimos. The stars were brilliant sparklers, hardly twinkling at all in the thin atmosphere.

And down toward the horizon a greenish dot could be seen – Earth. Somewhere out there were New York and Paris and London, were the Grand Canyon and the Pyramids and the Taj Mahal. They seemed like phantoms out of a dream. Earth was so terribly far away. All that matter now was Mars, which had once been covered by the cities of little soft-eyed people, and which someday would be thronged with the cities of Earth men.

Jim and Sally and their parents stared for a long while at Earth. Then they turned away. Earth could take care of itself. But here on Mars there was so much work to do. Mars was where they would make their home from now on. They were Earth men no more.

After a while they grew tired of watching the stars. They turned away and went back below to go to sleep. Tomorrow would be a busy day. And so would be all the tomorrows that came after tomorrow, for years to come, out here on this strange, new world in space.

Some Exciting Day - -

Some exciting day men will really land on Mars. Who knows what they will find? Right now we can only use our imaginations.

When Mars swings nearest to us – as it will again in 1971 – it is 35 million miles away! Still scientists keep trying from Earth to find out what they can about the "red planet."

They know that Mars is smaller than Earth. They know the Mars year is longer than ours, for Mars is farther from the sun and so takes longer to go round the sun than Earth does. They know that Mars has seasons just as the Earth does. And through telescopes they have plainly see the two icy polar caps of Mars.

But – is there life on Mars? Can plants grow? Are there any living creatures?

Some exciting day, when we get our space vehicle on Mars, we may know the answer.