

## Nothing Ever Happens OnThe Moon

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### FOREWORD

This story was written twenty-one years before Dr. Neil Armstrong took “one short step for a man, a giant leap for mankind”—but in all important essentials it has not (yet) become dated. True, we do not know that formations such as “morning glories” exist on Luna and we do not know that there are areas where footgear midway between skis and snowshoes would be useful. But the Lunar surface is about equal in area to Africa; a dozen men have explored an area smaller thanCapetown for a total of a few days. We will still be exploring Luna and finding new wonders there when the first interstellar explorers return fromProxima Centauri orTauCeti .

This story is compatible with the so-called “Future History” stories. It is also part of my continuing postWar-II attempt to leave the SF-pulp field and spread out. I never left the genrepuips entirely, as it turned out to be easy to write a book-length job, then break it into three or four cliff-hangers and sell it as a pulp serial immediately before book publication. I did this with a dozen novels in the ‘40s and ‘50s. But I recall only one story (GULF) specifically written for pulp, GULF being forAstounding’s unique “prophesied” issue.

Deusvolent , I may someday collect my Boy Scout stories as one volume just as I would like to do with thePuddin ’ stories.

### NOTHING EVER HAPPENS ON

### THE MOON

“I never knew a boy from Earth who wasn’t cocky.”

Mr. Andrews frowned at his Senior Patrol Leader.

“That’s childish, Sam.And no answer. I arrive expecting to find the troop ready to hike. Instead I find you and our visitor about to fight. And both of you Eagle Scouts! What started it?”

Sam reluctantly produced a clipping. “This, I guess.

It was from the Colorado Scouting News and read:

“Troop 48, Denver—LOCAL SCOUT SEEKS SKYHIGH HONOR. BruceHollifield , Eagle Scout, is

moving with his family to South Pole, Venus. Those who know Bruce—and who doesn't—expect him to qualify as Eagle (Venus) in jig time. Bruce will spend three weeks at Luna City, waiting for the Moon-Venus transport. Bruce has been boning up lately on lunar Scouting, and he has already qualified in space suit operation in the vacuum chamber at the Pike's Peak space port. Cornered, Bruce admitted that he hopes to pass the tests for Eagle Scout (Luna) while on the Moon.

"If he does—and we're betting on Bruce!—he's a dead cinch to become the first Triple Eagle in history.

"Go to it, Bruce! Denver is proud of you. Show those Moon Scouts what real Scouting is like."

Mr. Andrews looked up. "Where did this come from?"

"Uh, somebody sent it to Peewee."

"Yes?"

"Well, we all read it and when Bruce came in, the fellows ribbed him. He got sore."

"Why didn't you stop it?"

"Uh... well, I was doing it myself."

"Humph! Sam, this item is no sillier than the stuff our own Scribe turns in for publication. Bruce didn't write it, and you yahoos had no business making his life miserable. Send him in. Meantime call the roll."

"Yes, sir. Uh, Mr. Andrews—"

"Yes?"

"What's your opinion? Can this kid possibly qualify for lunar Eagle in three weeks?"

"No—and I've told him so. But he's darn well going to have his chance. Which reminds me: you're his instructor."

"Me?" Sam looked stricken.

"You. You've let me down, Sam; this is your chance to correct it. Understand me?"

Sam swallowed. "I guess I do."

"Send Hollifield in."

Sam found the boy from Earth standing alone, pretending to study the bulletin board. Sam touched his arm. "The Skipper wants you."

Bruce whirled around, then stalked away. Sam shrugged and shouted, "Rocket Patrol—fall in!"

Speedy Owens echoed, "Crescent Patrol—fall in!" As muster ended Mr. Andrews came out of his office, followed by Bruce. The Earth Scout seemed considerably chastened.

“Mr. Andrews says I’m to report to you.”

“That’s right.” They eyed each other cautiously. Sam said, “Look, Bruce—let’s start from scratch.”

“Suits me.”

“Fine. Just tag along with me.” At a sign from the Scoutmaster Sam shouted, “By twos! Follow me.”

Troop One jostled out the door, mounted across town sidewalk and rode to East Air Lock.

Chubby Schneider, troop quartermaster, waited there with two assistants, near a rack of space suits. Duffel was spread around in enormous piles—packaged grub, tanks of water, huge air bottles, frames of heavy wire, a great steel drum, everything needed for pioneers on the airless crust of the Moon.

Sam introduced Bruce to the Quartermaster. “We’ve got to outfit him, Chubby.”

“That new G.E. job might fit him.”

Sam got the suit and spread it out. The suit was impregnated glass fabric, aluminum-sprayed to silvery whiteness. It closed from crotch to collar with a zippered gasket. It looked expensive; Bruce noticed a plate on the collar: DONATED BY THE LUNA CITY KIWANIS KLUB.

The helmet was a plastic bowl, silvered except where swept by the eyes of the wearer. There it was transparent, though heavily filtered.

Bruce’s uniform was stowed in a locker; Chubby handed him a loose-knit coverall. Sam and Chubby stuffed him into the suit and Chubby produced the instrument belt.

Both edges of the belt zipped to the suit; there were several rows of grippers for the top edge; thus a pleat could be taken. They fastened it with maximum pleat. “How’s that?” asked Sam.

“The collar cuts my shoulders.”

“It won’t under pressure. If we leave slack, your head will pull out of the helmet like a cork.” Sam strapped the air, water, radio, and duffel-rack backpack to Bruce’s shoulders. “Pressure check, Chubby.”

“We’ll dress first.” While Chubby and Sam dressed, Bruce located his intake and exhaust valves, the spill valve inside his collar, and the water nipple beside it. He took a drink and inspected his belt.

Sam and Bruce donned helmets. Sam switched on Bruce’s walkie-talkie, clipped a blood-oxygen indicator

to Bruce’s ear, and locked his helmet on. “Stand by for pressure,” he said, his words echoing in Bruce’s helmet. Chubby hooked hose from a wall gauge to Bruce’s air intake.

Bruce felt the collar lift. The air in the suit grew stuffy, the helmet fogged. At thirty pounds Chubby cut the intake, and watched the gauge. Mr. Andrews joined them, a Gargantuan helmeted figure, toting a pack six feet high. “Pressure steady, sir,” Chubby reported.

Sam hooked up Bruce’s air supply. “Open your intake and kick your chin valve before you

smother,” he ordered. Bruce complied. The stale air rushed out and the helmet cleared. Sam adjusted Bruce’s valves. “Watch that needle,” he ordered, pointing to the blood-oxygen dial on Bruce’s belt. “Keep your mix so that reads steady in the white without using your chin valve.

“I know.”

“So I’ll say it again. Keep that needle out of the red, or you’ll explain it to Saint Peter.”

The Scoutmaster asked, “What load are you giving him?”

“Oh,” replied Sam, “just enough to steady him—say three hundred pounds, total.”

Bruce figured—at one-sixth gravity that meant fifty pounds weight including himself, his suit, and his pack. “I’ll carry my full share,” he objected.

“We’ll decide what’s best for you,” the Scoutmaster snapped. “Hurry up; the troop is ready.” He left.

Sam switched off his radio and touched helmets. “Forget it,” he said quietly. “The Old Man is edgy at the start of a hike.” They loaded Bruce rapidly—reserve air and water bottles, a carton of grub, short, wide skis and ski poles—then hung him with field gear, first-aid kit, prospector’s hammer, two climbing ropes, a pouch of pitons and snap rings, flashlight, knife. The Moon Scouts loaded up; Sam called, “Come

Mr. Andrews handed the lockmaster a list and stepped inside; the three Scouts followed. Bruce felt his suit expand as the air sucked back into the underground city. A light blinked green; Mr. Andrews opened the outer door and Bruce stared across the airless lunar plain.

It dazzled him. The plain was bright under a blazing Sun. The distant needle-sharp hills seemed painted in colors too flat and harsh. He looked at the sky to rest his eyes.

It made him dizzy. He had never seen a wholeskyful of stars undimmed by air. The sky was blacker than black, crowded with hard, diamond lights.

“Route march!” the Scoutmaster’s voice rang in his helmet. “Heel and toe. Jack Wills out as pathfinder.” A boy left the group in long, floating strides, fifteen feet at a bound. He stopped a hundred yards ahead; the troop formed single column fifty yards behind him. The Pathfinder raised his arm, swung it down, and the troop moved out.

Mr. Andrews and a Scout joined Sam and Bruce. “Speedy will help you,” he told Sam, “until Bruce gets his legs. Move him along. We can’t heel-and-toe and still make our mileage.”

“We’ll move him.”

“Even if we have to carry him,” added Speedy.

The Scoutmaster overtook the troop in long leaps. Bruce wanted to follow. It looked easy—like flying. He had not liked the crack about carrying him. But Sam grasped him by his left belt grip while Speedy seized the one on his right. “Here we go,” Sam warned. “Feet on the ground and try to swing in with us.”

Bruce started off confidently. He felt that three days of low gravity in the corridors of Luna City had given him his “legs”; being taught to walk, like a baby, was just hazing.

Nothing to it—he was light as a bird! True, it was hard to keep heel-and-toe; he wanted to float. He gained speed on a downgrade; suddenly the ground

was not there when he reached for it. He threw up his hands.

He hung head down on his belt and could hear his guides laughing. “Wha’ happened?” he demanded, as they righted him.

“Keep your feet on the ground.”

“I know what you’re up against,” added Speedy, “I’ve been to Earth. Your mass and weight don’t match and your muscles aren’t used to it. You weigh what a baby weighs, Earth-side, but you’ve got the momentum of a fat man.”

Bruce tried again. Some stops and turns showed him what Speedy meant. His pack felt like feathers, but unless he banked his turns, it would throw him, even at a walk. It did throw him, several times, before his legs learned.

Presently, Sam asked, “Think you’re ready for a slow lope?”

“I guess so.”

“Okay—but remember, if you want to turn, you’ve got to slow down first—or you’ll roll like a hoop. Okay, Speedy. An eight-miler.”

Bruce tried to match their swing. Long, floating strides, like flying. It was flying! Up! . . . float . . . brush the ground with your foot and up again. It was better than skating or skiing.

“Wups!” Sam steadied him. “Get your feet out in front.”

As they swung past, Mr. Andrews gave orders for a matching lope.

The unreal hills had moved closer; Bruce felt as if he had been flying all his life. “Sam,” he said, “do you suppose I can get along by myself?”

“Shouldn’t wonder. We let go a couple o’ miles back.”

“Huh?” It was true; Bruce began to feel like a Moon hand.

Somewhat later a boy’s voice called “Heel and toe!”

The troop dropped into a walk. The pathfinder stood on a rise ahead, holding his skis up~The troop halted and unlashd skis. Ahead was a wide basin filled with soft, powderystuff.

Bruce turned to Sam, and for the first time looked back to the west. “Jee.. .minyCrickets!” he breathed.

Earth hung over the distant roof of Luna City, in half phase. It was round and green and beautiful, larger than the harvest Moon and unmeasurably more lovely in forest greens, desert browns and glare white of cloud.

Sam glanced at it. "Fifteen o'clock."

Bruce tried to read the time but was stumped by the fact that the sunrise line ran mostly across ocean. He questioned Sam. "Huh? See that bright dot on the dark side? That's Honolulu—figure from there."

Bruce mulled this over while binding his skis, then stood up and turned around, without tripping. "Hmmm—" said Sam, "you're used to skis."

"Got my badge."

"Well, this is different. Just shuffle along and try to keep your feet."

Bruce resolved to stay on his feet if it killed him. He let a handful of the soft stuff trickle through his glove. It was light and flaky, hardly packed at all. He wondered what had caused it.

Mr. Andrews sent Speedy out to blaze trail; Sam and Bruce joined the column. Bruce was hard put to keep up. The loose soil flew to left and right, settling so slowly in the weak gravity that it seemed to float in air—yet a ski pole, swung through such a cloud, cut a knife-sharp hole without swirling it.

The column swung wide to the left, then back again. Off to the right was a circular depression perhaps fifty yards across; Bruce could not see the bottom. He paused, intending to question Sam; the Scoutmaster's voice prodded him. "Bruce! Keep moving!"

Much later Speedy's voice called out, "Hard ground!" Shortly the column reached it and stopped to remove skis. Bruce switched off his radio and touched his helmet to Sam's.

"What was that back where the Skipper yelled at me?"

"That? That was a morning glory. They're poison!"

"A 'morning glory'?"

"Sort of a sink hole. If you get on the slope, you never get out. Crumbles out from under you and you wind up buried in the bottom. There you stay—until your air gives out. Lot of prospectors die that way. They go out alone and are likely to come back in the dark."

"How do you know what happens if they go out alone?"

"Suppose you saw tracks leading up to one and no tracks going away?"

"Oh!" Bruce felt silly.

The troop swung into a lope; slowly the hills drew closer and loomed high into the sky. Mr. Andrews called a halt. "Camp," he said. "Sam, spot the shelter west of that outcropping. Bruce, watch what Sam

does.

The shelter was an airtight tent, framed by a half cylinder of woven heavy wire. The frame came in sections. The Scoutmaster's huge pack was the air bag.

The skeleton was erected over a ground frame, anchored at corners and over which was spread an asbestos pad. The curved roof and wall sections followed. Sam tested joints with a wrench, then ordered the air bag unrolled. The air lock, a steel drum, was locked into the frame and gasketed to the bag. Meanwhile, two Scouts were rigging a Sun shade.

Five boys crawled inside and stood up, arms stretched high. The others passed in all the duffel except skis and poles. Mr. Andrews was last in and closed the air lock. The metal frame blocked radio communication; Sam plugged a phone connection from the lock to his helmet. "Testing," he said.

Bruce could hear the answer, relayed through Sam's radio. "Ready to inflate."

"Okay." The bag surged up, filling the frame. Sam said, "You go on, Bruce. There's nothing left but to adjust the shade."

"I'd better watch."

"Okay." The shade was a flimsy venetian blind, stretched over the shelter. Sam half-opened the slats. "It's cold inside," he commented, "from expanding gas. But it warms up fast." Presently, coached by phone, he closed them a bit. "Go inside," he urged Bruce. "It may be half an hour before I get the temperature steady."

"Maybe I should," admitted Bruce. "I feel dizzy."

Sam studied him. "Too hot?"

"Yeah, I guess so."

"You've held still in the Sun too long. Doesn't give the air a chance to circulate. Here." Sam opened Bruce's supply valve wider; "Go inside."

Gratefully, Bruce complied.

As he backed in, and straightened up, two boys grabbed him. They closed his valves, unlocked his helmet, and peeled off his suit. The suit traveled from hand to hand and was racked. Bruce looked around.

Day lamps were strung from air lock to a curtain at the far end that shut off the sanitary unit. Near this curtain suits and helmets were racked. Scouts were lounging on both sides of the long room. Near the entrance a Scout was on watch at the air conditioner, a blood-oxygen indicator clipped to his ear. Nearby, Mr. Andrews phoned temperature changes to Sam. In the middle of the room Chubby had set up his commissary. He waved. "Hi, Bruce! Sit down — chow in two shakes."

Two Scouts made room for Bruce and he sat. One of them said, "Y'ever been at Yale?" Bruce had not. "That's where I'm going," the Scout confided. "My brother's there now." Bruce began to feel at home.

When Sam came in Chubby served chow, beef stew, steaming and fragrant, packaged rolls, and bricks of peach ice cream. Bruce decided that Moon Scouts had

it soft. After supper, the Bugler got out his harmonica and played. Bruce leaned back, feeling pleasantly drowsy.

“Hollifield!” Bruce snapped awake. “Let’s try you on first aid.”

For thirty minutes Bruce demonstrated air tourniquets and emergency suit patches, artificial respiration for a man in a space suit, what to do for Sun stroke, for anoxia, for fractures. “That’ll do,” the Scoutmaster concluded. “One thing: What do you do if a man cracks his helmet?”

Bruce was puzzled. “Why,” he blurted, “you bury him.”

“Check,” the Scoutmaster agreed. “So be careful. Okay, sports—six hours of sleep. Sam, set the watch.”

Sam assigned six boys, including himself. Bruce asked, “Shouldn’t I take a watch?”

Mr. Andrews intervened. “No. And take yourself off, Sam. You’ll take Bruce on his two-man hike tomorrow; you’ll need your sleep.”

“Okay, Skipper.” He added to Bruce, “There’s nothing to it. I’ll show you.” The Scout on duty watched several instruments, but, as with suits, the important one was the blood-oxygen reading. Stale air was passed through a calcium oxide bath, which precipitated carbon dioxide as calcium carbonate. The purified air continued through dry sodium hydroxide, removing water vapor.

“The kid on watch makes sure the oxygen replacement is okay,” Sam went on. “If anything went wrong, he’d wake us and we’d scramble into suits.”

Mr. Andrews shooed them to bed. By the time Bruce had taken his turn at the sanitary unit and found a place to lie down, the harmonica was sobbing: “Day is done Gone the Sun. . . .”

It seemed odd to hear Taps when the Sun was still overhead. They couldn’t wait a week for sundown, of

course. These colonials kept funny~ hours. . . . bed at what amounted to early evening, up at one in the morning. He’d ask Sam. Sam wasn’t a bad guy—a little bit know-it-all. Odd to sleep on a bare floor, too—not that it mattered with low gravity. He was still pondering it when his ears were assaulted by Reveille, played on the harmonica.

Breakfast was scrambled eggs, cooked on the spot. Camp was struck, and the troop was moving in less than an hour. They headed for Base Camp at a lope.

The way wound through passes, skirted craters. They had covered thirty miles and Bruce was getting hungry when the pathfinder called, “Heel and toe!” They converged on an air lock, set in a hillside.

Base Camp had not the slick finish of Luna City, being rough caverns sealed to airtightness, but each troop had its own well-equipped troop room. Air was renewed by hydroponic garden, like Luna City;

there was a Sun power plant and accumulators to last through the long, cold nights.

Bruce hurried through lunch; he was eager to start his two-man hike. They outfitted as before, except that reserve air and water replaced packaged grub. Sam fitted a spring-fed clip of hiking rations into the collar of Bruce's suit.

The Scoutmaster inspected them at the lock. "Where to, Sam?"

"We'll head southeast. I'll blaze it."

"Hmm—rough country. Well, back by midnight, and stay out of caves."

"Yes, sir."

Outside Sam sighed, "Whew! I thought he was going to say not to climb."

"We're going to?"

"Sure. You can, can't you?"

"Got my Alpine badge."

"I'll do the hard part, anyhow. Let's go."

Sam led out of the hills and across a baked plain. He

hit an eight-mile gait, increased it to a twelve-miler. Bruce swung along, enjoying it. "Swell of you to do this, Sam."

"Nuts. If I weren't here, I'd be helping to seal the gymnasium."

"Just the same, I need this hike for my Mooncraft badge."

Sam let several strides pass. "Look, Bruce—you don't really expect to make Lunar Eagle?"

"Why not? I've got my optional badges. There are only four required ones that are terribly different: camping, Mooncraft, pathfinding, and pioneering. I've studied like the dickens and now I'm getting experience."

"I don't doubt you've studied. But the Review Board are tough eggs. You've got to be a real Moon hand to get by."

"They won't pass a Scout from Earth?"

"Put it this way. The badges you need add up to one thing, Mooncraft. The examiners are old Moon hands; you won't get by with book answers. They'll know how long you've been here and they'll know you don't know enough."

Bruce thought about it. "It's not fair!"

Sam snorted. "Mooncraftisn't a game; it's the real thing. 'Did you stay alive?' If you make a mistake, you flunk—and they bury you."

Bruce had no answer.

Presently they came to hills; Sam stopped and called Base Camp. "Parsons and Hollifield, Troop One—please take a bearing."

Shortly Base replied, "One eight. What's your mark?"

"Cairn with a note."

"Roger."

Sam piled up stones, then wrote date, time, and their names on paper torn from a pad in his pouch, and laid it on top. "Now we start up."

The way was rough and unpredictable; this canyon

had never been a watercourse. Several times Sam stretched a line before he would let Bruce follow. At intervals he blazed the rock with his hammer. They came to an impasse, five hundred feet of rock, the first hundred of which was vertical and smooth.

Bruce stared. "We're going up that?"

"Sure. Watch your Uncle Samuel." A pillar thrust up above the vertical pitch. Sam clipped two lines together and began casting the bight up toward it. Twice he missed and the line floated down. At last it went over.

Sam drove a piton into the wall, off to one side, clipped a snap ring to it, and snapped on the line. He had Bruce join him in a straight pull on the free end to test the piton. Bruce then anchored to the snap ring with a rope strap; Sam started to climb.

Thirty feet up, he made fast to the line with his legs and drove another piton; to this he fastened a safety line. Twice more he did this. He reached the pillar and called, "Off belay!"

Bruce unlinked the line; it snaked up the cliff. Presently Sam shouted, "On belay!"

Bruce answered, "Testing," and tried unsuccessfully to jerk down the line Sam had lowered.

"Climb," ordered Sam.

"Climbing." One-sixth gravity, Bruce decided, was a mountaineer's heaven. He paused on the way up only to unsnap the safety line.

Bruce wanted to "leapfrog" up the remaining pitches, but Sam insisted on leading. Bruce was soon glad of it; he found three mighty differences between climbing on Earth and climbing here; the first was low gravity, but the others were disadvantages: balance climbing was awkward in a suit, and chimney climbing, or any involving knees and shoulders, was clumsy and carried danger of tearing the suit.

They came out on raw, wild upland surrounded by pinnacles, bright against black sky. "Where to?"

asked Bruce.

Sam studied the stars, then pointed southeast. "The photomaps show open country that way."

"Suits me." They trudged away; the country was too rugged to lope. They had been traveling a long time, it seemed to Bruce, when they came out on a higher place from which Earth could be seen. "What time is it?" he asked.

"Almost seventeen," Sam answered, glancing up.

"We're supposed to be back by midnight."

"Well," admitted Sam, "I expected to reach open country before now."

"We're lost?"

"Certainly not! I've blazed it. But I've never been here before. I doubt if anyone has."

"Suppose we keep on for half an hour, then turn back?"

"Fair enough." They continued for at least that; Sam conceded that it was time to turn.

"Let's try that next rise," urged Bruce.

"Okay." Sam reached the top first. "Hey, Bruce—we made it!"

Bruce joined him. "Golly!" Two thousand feet below stretched a dead lunar plain. Mountains rimmed it except to the south. Five miles away two small craters formed a figure eight.

"I know where we are," Sam announced. "That pair shows up on the photos. We slide down here, circle south about twenty miles, and back to Base. A cinch—how's your air?"

Bruce's bottle showed fair pressure; Sam's was down, he having done more work. They changed both bottles and got ready. Sam drove a piton, snapped on a ring, fastened a line to his belt and passed it through the ring. The end of the line he passed between his legs, around a thigh and across his chest, over his shoulder and to his other hand, forming a rappel seat. He began to "walk" down the cliff, feeding slack as needed.

He reached a shoulder below Bruce. "Off rappel!" he called, and recovered his line by pulling it through the ring.

Bruce rigged a rappel seat and joined him. The pitches became steeper; thereafter Sam sent Bruce down first, while anchoring him above. They came to a last high sheer drop. Bruce peered over. "Looks like here we roost."

"Maybe." Sam bent all four lines together and measured it. Ten feet of line reached the rubble at the base.

Bruce said, "It'll reach, but we have to leave the lines behind us."

Sam scowled. "Glass lines cost money; they're from Earth."

“Beats staying here.”

Sam searched the cliff face, then drove a piton. “I’ll lower you. When you’re halfway, drive two pitons and hang the strap from one. That’ll give me a changeover.”

“I’m against it,” protested Bruce.

“If we lost our lines,” Sam argued, “we’ll never hear the last of it. Go ahead.”

“I still don’t like it.”

“Who’s in charge?”

Bruce shrugged, snapped on the line and started down.

Sam stopped him presently. “Halfway. Pick me a nest.”

Bruce walked the face to the right, but found only smooth wall. He worked back and located a crack. “Here’s a crack,” he reported, “but just one. I shouldn’t drive two pitons in one crack.”

“Spread ‘em apart,” Sam directed. “It’s good rock.” Reluctantly, Bruce complied. The spikes went in easily but he wished he could hear the firm ring that meant a piton was biting properly. Finished, he hung the strap. “Lower away!”

In a couple of minutes he was down and unsnapped the line. “Off belay!” He hurried down the loose rock at the base. When he reached the edge of it he called, “Sam! This plain is soft stuff.”

“Okay,” Sam acknowledged. “Stand clear.” Bruce

moved along the cliff about fifty feet and stopped to bind on skis. Then he shuffled out onto the plain, kicked turned, and looked back. Sam had reached the pitons. He hung, one foot in the strap, the bight in his elbow, and recovered his line. He passed his line through the second piton ring, settled in rappel, and hooked the strap from piton to piton as an anchor. He started down.

Halfway down the remaining two hundred feet he stopped. “What’s the matter?” called Bruce.

“It’s reached a shackle,” said Sam, “and the pesky thing won’t feed through the ring. I’ll free it.” He raised himself a foot, then suddenly let what he had gained slip through the ring above.

To Bruce’s amazement Sam leaned out at an impossible angle. He heard Sam cry “Rock!” before he understood what had happened—the piton had failed.

Sam fell about four feet, then the other piton, connected by the strap, stopped him. He caught himself, feet spread. But the warning cry had not been pointless; Bruce saw a rock settling straight for Sam’s helmet. Bruce repeated the shout.

Sam looked up, then jumped straight out from the cliff. The rock passed between him and the wall; Bruce could not tell if it had struck him. Sam swung in, his feet caught the cliff—and again he leaned out crazily. The second piton had let go.

Sam again shouted, "Rock!" even as he kicked himself away from the cliff.

Bruce watched him, turning slowly over and over and gathering momentum. It seemed to take Sam forever to fall.

Then he struck.

Bruce fouled his skis and had to pick himself up. He forced himself to be careful and glided toward the spot.

Sam's frantic shove had saved him from crashing his helmet into rock. He lay buried in the loose debris, one leg sticking up ridiculously. Bruce felt an hysterical

desire to laugh.

Sam did not stir when Bruce tugged at him. Bruce's skis got in his way; finally he stood astraddle, hauled Sam out. The boy's eyes were closed, his features slack, but the suit still had pressure. "Sam," shouted Bruce, "can you hear me?"

Sam's blood-oxygen reading was dangerously in the red; Bruce opened his intake valve wider—but the reading failed to improve. He wanted to turn Sam face down, but he had no way of straightening Sam's helmeted head, nor would he then be able to watch the blood-oxygen indicator unless he took time to remove the belt. He decided to try artificial respiration with the patient face up. He kicked off skis and belt.

The pressure in the suit got in his way, nor could he fit his hands satisfactorily to Sam's ribs. But he kept at it—swing! and one, and two and up! and one, and two and swing!

The needle began to move. When it was well into the white Bruce paused.

It stayed in the white.

Sam's lips moved but no sound came. Bruce touched helmets. "What is it, Sam?"

Faintly he heard, "Look out! Rock!"

Bruce considered what to do next.

There was little he could do until he got Sam into a pressurized room. The idea, he decided, was to get help—fast!

Send up a smoke signal? Fire a gun three times? Snap out of it, Bruce! You're on the Moon now. He wished that someone would happen along in a desert car.

He would have to try radio. He wasn't hopeful, as they had heard nothing even from the cliff. Still, he must try— He glanced at Sam's blood-oxygen reading, then climbed the rubble, extended his antenna and tried. "M'aidez!" he called. "Help! Does anybody hear me?" He tried again.

And again.

When he saw Sam move he hurried back. Sam was sitting up and feeling his left knee. Bruce touched helmets. "Sam, are you all right?"

"Huh? This leg won't work right."

"Is it broken?"

"How do I know? Turn on your radio."

"It is on. Yours is busted."

"Huh? How'd that happen?"

"When you fell."

"Fell?"

Bruce pointed. "Don't you remember?"

Sam stared at the cliff. "Uh, I don't know. Say, this thing hurts like mischief. Where's the rest of the troop?"

Bruce said slowly, "We're out by ourselves, Sam. Remember?"

Sam frowned. "I guess so. Bruce, we've got to get out of here! Help me get my skis on."

"Do you think you can ski with that knee?"

"I've got to." Bruce lifted him to his feet, then bound a ski to the injured leg while Sam balanced on the other. But when Sam tried shifting his weight he collapsed—and fainted.

Bruce gave him air and noted that the blood-oxygen reading was still okay. He untangled the ski, straightened out Sam's legs, and waited. When Sam's eyes fluttered he touched helmets. "Sam, can you understand me?"

"Yeah. Sure."

"~You, can't stay on your feet. I'll carry you."

No.

"What do you mean, 'No'?"

"No good. Rig a toboggan." He closed his eyes.

Bruce laid Sam's skis side by side. Two steel rods were clipped to the tail of each ski; he saw how they were meant to be used. Slide a rod through four ring studs, two on each ski; snap a catch—so! Fit the other rods. Remove bindings—the skis made a passable narrow toboggan.

He removed Sam's pack, switched his bottles around in front and told him to hold them. "I'm going

to move you. Easy, now!" The space-suited form hung over the edges, but there was no help for it. He found he could thread a rope under the rods and lash his patient down. Sam's pack he tied on top.

He made a hitch by tying a line to the holes in the tips of the skis; there was a long piece left over. He said to Sam, "I'll tie this to my arm. If you want anything, just jerk."

Okay.

"Here we go." Bruce put on his skis, brought the hitch up to his armpits and ducked his head through, forming a harness. He grasped his ski poles and set out to the south, parallel to the cliff.

The toboggan drag steadied him; he settled down to covering miles. Earth was shut off by the cliff; the Sun gave him no estimate of hour. There was nothing but blackness, stars, the blazing Sun, a burning desert underfoot, and the towering cliff—nothing but silence and the urgency to get back to base.

Something jerked his arm. It scared him before he accounted for it. He went back to the toboggan. "What is it, Sam?"

"I can't stand it. It's too hot." The boy's face was white and sweat-covered.

Bruce gave him a shot of air, then thought about it. There was an emergency shelter in Sam's pack, just a rolled-up awning with a collapsible frame. Fifteen minutes later he was ready to move. One awning support was tied upright to the sole of one of Sam's boots; the other Bruce had bent and wedged under Sam's shoulders. The contraption looked ready to fall apart but it held. "There! Are you okay?"

"I'm fine. Look, Bruce, I think my knee is all right now. Let me try it."

Bruce felt out the knee through the suit. It was twice the size of its mate; he could feel Sam wince. He touched helmets. "You're full of hop, chum. Relax."

Bruce got back into harness.

Hours later, Bruce came across tracks. They swung in from northeast, turned and paralleled the hills. He stopped and told Sam.

"Say, Sam, how can I tell how old they are?"

"You can't. A track fifty years old looks as fresh as a new one.

"No point in following these?"

"No harm in it, provided they go in our direction."

"Roger." Bruce went back to towing. He called hopefully over the radio every few minutes and then listened. The tracks cheered him even though he knew how slim the chance was that they meant anything. The tracks swung out from the hills presently or, rather, the hills swung in, forming a bay. He took the shorter route as his predecessor had.

He should have seen what was coming. He knew that he should keep his eyes ahead, but the need to watch his instruments, the fact that he was leaning into harness, and the circumstance that he was following tracks combined to keep his head down. He had just glanced back at Sam when he felt his skis

slipping out from under him.

Automatically he bent his knees and threw his skis into a “snowplow.” He might have been able to stop had not the toboggan been scooting along behind. It plowed into him; boy, skis, and toboggan went down, tangled like jackstraws.

He struggled for footing, felt the sand slip under him. He had time to see that he had been caught—in daylight!—by that lunar equivalent of quicksand, a morning glory. Then the sifting dust closed over his helmet.

He felt himself slip, slide, fall, slide again, and come softly to rest.

Bruce tried to get his bearings. Part of his mind was busy with horror, shock, and bitter self blame for having failed Sam; another part seemed able to drive

ahead with the business at hand. He did not seem hurt—and he was still breathing. He supposed that he was buried in a morning glory; he suspected that any movement would bury him deeper.

Nevertheless he had to locate Sam. He felt his way up to his neck, pushing the soft flakes aside. The toboggan hitch was still on him. He got both hands on it and heaved. It was frustrating work, like swimming in mud. Gradually he dragged the sled to him—or himself to the sled. Presently he felt his way down the load and located Sam’s helmet. “Sam! Can you hear me?”

The reply was muffled. “Yeah, Bruce!”

“Are you okay?”

“Okay? Don’t be silly! We’re in a morning glory!”

“Yes, I know. Sam, I’m terribly sorry!”

“Well, don’t cry about it. It can’t be helped.”

“I didn’t mean to—”

“Stow it, can’t you!” Sam’s voice concealed panic with anger. “It doesn’t matter. We’re goners—don’t you realize that?”

“Huh? No, we’re not! Sam, I’ll get you out—I swear I will.”

Sam waited before replying. “Don’t kid yourself, Bruce. Nobody ever gets out of a morning glory.”

“Don’t talk like that. We aren’t dead yet.”

“No, but we’re going to be. I’m trying to get used to the idea.” He paused. “Do me a favor, Bruce—get me loose from these confounded skis. I don’t want to die tied down.”

“Right away!” In total darkness, his hands in gloves, with only memory to guide him, and with the soft, flaky dust everywhere, unlash the load was nearly impossible. He shifted position, then suddenly

noticed something—his left arm was free of the dust.

He shifted and got his helmet free as well. The darkness persisted; he fumbled at his belt, managed to locate his flashlight.

He was lying partly out and mostly in a sloping mass of soft stuff. Close overhead was a rocky roof; many

feet below the pile spilled over a floor of rock. Sideways the darkness swallowed up the beam.

He still clutched the toboggan; he hauled at it, trying to drag Sam out. Failing, he burrowed back in. “Hey, Sam! We’re in a cave!”

“Huh?”

“Hang on. I’ll get you out.” Bruce cautiously thrashed around in an attempt to get his entire body outside the dust. It kept caving down on him. Worse, his skis anchored his feet. He kicked one loose, snaked his arm in, and dragged it out. It slid to the base of the pile. He repeated the process, then rolled and scrambled to the floor, still clinging to the hitch.

He set the light on the rock floor, and put the skis aside, then heaved mightily. Sam, toboggan, and load came sliding down, starting a small avalanche. Bruce touched helmets. “Look! We’re getting somewhere!”

Sam did not answer. Bruce persisted, “Sam, did you hear me?”

“I heard you. Thanks for pulling me out. Now untie me, will you?”

“Hold the light.” Bruce got busy. Shortly he was saying, “There you are. Now I’ll stir around and find the way out.”

“What makes you think there is a way out?”

“Huh? Don’t talk like that. Who ever heard of a cave with no exit?”

Sam answered slowly, “He didn’t find one.”

“Look.” Sam shined the light past Bruce. On the rock a few feet away was a figure in an old-fashioned space suit.

Bruce took the light and cautiously approached the figure. The man was surely dead; his suit was limp. He lay at ease, hands folded across his middle, as if taking a nap. Bruce pointed the torch at the glass face plate. The face inside was lean and dark, skin clung to the bones; Bruce turned the light away.

He came back shortly to Sam. “He didn’t make out

sowell,” Bruce said soberly. “I found these papers in his pouch. We’ll take them with us ~so we can let his folks know.”

“You are an incurable optimist, aren’t you? Well, all right.” Sam took them. There were two letters, an oldstyle flat photograph of a little girl and a dog, and some other papers. One was a driver’s license for the Commonwealth of Massachusetts, dated June 1995 and signed Abner Green.

Bruce stared. “1995! Gee Whiz!”

“I wouldn’t count on notifying his folks.”

Bruce changed the subject. “He had one thing we can use. This.” It was a coil of manila rope. “I’ll hitch all the lines together, one end to your belt and one to mine. That’ll give me five or six hundred feet. If you want me, just pull.”

“Okay. Watch your step.”

“I’ll be careful. You’ll be all right?”

“Sure. I’ve got him for company.”

“Well . . . here goes.”

One direction seemed as good as another. Bruce kept the line taut to keep from walking in a circle. The rock curved up presently and his flash showed that it curved back on itself, a dead end. He followed the wall to the left, picking his way, as the going was very rough. He found himself in a passage. It seemed to climb, but it narrowed. Three hundred feet and more out by the ropes, it narrowed so much that he was stopped.

Bruce switched off his light and waited for his eyes to adjust. He became aware of a curious sensation. It was panic.

He forced himself not to turn on the light until he was certain that no gleam lay ahead. Then thankfully he stumbled back into the main cavern.

Another series of chambers led steadily downward. He turned back at a black and bottomless hole.

The details varied but the answers did not: At the furthest reach of the lines, or at some impassable ob

stacle, he would wait in the dark—but no gleam of light ever showed. He went back to Sam after having covered, he estimated, about 1800.

Sam had crawled up to the heap of fallen dust. Bruce hurried to him. “Sam, are you all right?”

“Sure. I just moved to a feather bed. That rock is terribly cold. What did you find?”

“Well, nothing yet,” he admitted. He sat down in the flaky pile and leaned toward Sam. “I’ll start again in a moment.”

“How’s your air supply?” asked Sam.

“Uh, I’ll have to crack my reserve bottle soon. How’s yours?”

“Mine is throttled to the limit. You’re doing all the work; I can save my reserve bottle for you—I think.”

Bruce frowned. He wanted to protest, but the gesture wouldn’t make sense. They would have to finish up all even; naturally he was using much more air than was Sam.

One thing was sure—time was running out. Finally he said, “Look, Sam—there’s no end of those caves and passages. I couldn’t search them all with all the air in Luna City.”

“I was afraid so.”

“But we know there’s a way out right above us.”

“You mean in.”

“I mean out. See here—this morning glory thing is built like an hour glass; there’s an open cone on top, and this pile of sand down below. The stuff trickled down through a hole in the roof and piled up until it choked the hole.”

“Where does that get you?”

“Well, if we dug the stuff away we could clear the hole.”

“It would keep sifting down.”

“No, it wouldn’t, it would reach a point where there wasn’t enough dust close by to sift down any further— there would still be a hole.”

Sam considered it. “Maybe. But when you tried to

climbup it would collapse back on you. That’s the bad part about a morning glory, Bruce; you can’t get a foothold.”

“The dickens I can’t! If I can’t climb a slope on skis without collapsing it, when I’ve got my wits about me and am really trying, why, you can have my reserve air bottle.”

Sam chuckled. “Don’t be hasty. I might hold you to it. Anyhow,” he added, “I can’t climb it.”

“Once I get my feet on the level, I’ll pull you out like a cork, even if you’re buried. Time’s a-wastin’.” Bruce got busy.

Using a ski as a shovel he nibbled at the giant pile. Every so often it would collapse down on him. It did not discourage him; Bruce knew that many yards of the stuff would have to fall and be moved back before the hole would show.

Presently he moved Sam over to the freshly moved waste. From there Sam held the light; the work went faster. Bruce began to sweat. After a while he had to switch air bottles; he sucked on his water tube and ate amarch ration before getting back to work.

He began to see thehole opening above him. A great pile collapsed on him; he backed out, looked up, then went to Sam. “Turn out the light!”

There was no doubt; a glimmer of light filtered down. Bruce found himself pounding Sam and shouting. He stopped and said, "Sam, old boy, did lever say what patrol I'm from?"

"No. Why?"

"Badger Patrol. Watch me dig!" He tore into it. Shortly sunlight poured into the hole and reflected dimly around the cavern. Bruce shoveled until he could see a straight rise from the base of the pile clear to the edge of the morning glory high above them. He decided that the opening was wide enough to tackle.

He hitched himself to Sam with the full length of all the glass ropes and then made a bundle of Sam's pack save air and water bottles, tied a bowline on Sam's

uninjured foot, using the manila line and secured the bundle to the end of that line. He planned to drag Sam out first, then the equipment. Finished, he bound on skis.

Bruce touched helmets. "This is it, pal. Keep the line clear of the sand."

Sam grabbed his arm. "Wait a minute."

"What's the matter?"

"Bruce—if we don't make it, I just want to say that you're all right."

"Uh . . . oh, forget it. We'll make it." He started up. A herringbone step suited the convex approach to the hole. As Bruce neared the opening he shifted to side-step to fit the narrow passage and the concave shape of the morning glory above. He inched up, transferring his weight smoothly and gradually, and not remaining in one spot too long. At last his head, then his whole body, were in sunshine; he was starting up the morning glory itself.

He stopped, uncertain what to do. There was a ridge above him, where the flakes had broken loose when he had shoveled away their support. The break was much too steep to climb, obviously unstable. He paused only a moment as he could feel his skis sinking in; he went forward in half side-step, intending to traverse past the unstable formation.

The tow line defeated him. When Bruce moved sideways, the line had to turn a corner at the neck of the hole. It brushed and then cut into the soft stuff. Bruce felt his skis slipping backwards; with cautious haste he started to climb, tried to ride the slipping mass and keep above it. He struggled as the flakes poured over his skis. Then he was fouled, he went down, it engulfed him.

Again he came to rest in soft, feathery, darkness. He lay quiet, nursing his defeat, before trying to get out. He hardly knew which way was up, much less which way was out. He was struggling experimentally when he felt a tug on his belt. Sam was trying to help him.

A few minutes later, with Sam's pull to guide him, Bruce was again on the floor of the cave. The only light came from the torch in Sam's hand; it was enough to show that the pile choking the hole was bigger than ever.

Sam motioned him over. "Too bad, Bruce," was all he said.

Bruce controlled his choking voice to say, "I'll get busy as soon as I catch my breath."

"Where's your left ski?"

"Huh? Oh! Must have pulled off. It'll show up when I start digging."

"Hmmm.. .how much air have you?"

"Uh?" Bruce looked at his belt. "About a third of a bottle."

"I'm breathing my socks. I've got to change."

"Right away!" Bruce started to make the switch; Sam pulled him down again.

"You take the fresh bottle, and give me your bottle."

"But—"

"No 'buts' about it," Sam cut him off. "You have to do all the work; you've got to take the full tank."

Silently Bruce obeyed. His mind was busy with arithmetic. The answer always came out the same; he knew with certainty that there was not enough air left to permit him again to perform the Herculean task of moving that mountain of dust.

He began to believe that they would never get out. The knowledge wearied him; he wanted to lie down beside the still form of Abner Green and, like him, not struggle at the end.

However he could not. He knew that, for Sam's sake, he would have to shovel away at that endless sea of sand, until he dropped from lack of oxygen. Listlessly he took off his remaining ski and walked toward his task.

Sam jerked on the rope.

Bruce went back. "What's got into you, kid?" Sam demanded.

"Nothing. Why?"

"It's got you whipped."

"I didn't say so."

"But you think so. I could see it. Now you listen! You convinced me that you could get us out—and, by Jimmy! you're going to! You're just cocky enough to be the first guy to whip a morning glory and you can do it. Get your chin up!"

Bruce hesitated. "Look, Sam, I won't quit on you, but you might as well know the truth: there isn't air enough to do it again."

"Figured that out when I saw the stuff start to crumble.

"You knew? Then if you know any prayers, better say them."

Sam shook his arm. "It's not time to pray; it's time to get busy."

"Okay." Bruce started to straighten up.

"That's not what I meant."

"Huh?"

"There's no point in digging. Once was worth trying; twice is wasting oxygen."

"Well, what do you want me to do?"

"You didn't try all the ways out, did you?"

"No." Bruce thought about it. "I'll try again, Sam. But there isn't air enough to try them all."

"You can search longer than you can shovel. But don't search haphazardly; search back toward the hills. Anywhere else will be just another morning glory; we need to come out at the hills; away from the sand.

"Uh. . . look, Sam, where are the hills? Down here you can't tell north from next week."

"Over that way," Sam pointed.

"Huh? How do you know?"

"You showed me. When you broke through I could tell where the Sun was from the angle of the light."

"But the Sun is overhead."

"Was when we started. Now it's fifteen, twenty de

greesto the west. Now listen: these caves must have been big blow holes once, gas pockets. You search off in that direction and find us a blow hole that's not choked with sand."

"I'll do mydarndest !"

"How far away were the hills when we got caught?"

Bruce tried to remember. "Half a mile, maybe."

"Check. You won't find what we want tied to me with five or six hundred feet of line. Take that pad of paper in my pouch. Blaze your way—and be darn sure you blaze enough!"

"I will!"

"Attaboy! Good luck."

Bruce stood up.

It was the same tedious, depressing business as before. Bruce stretched the line, then set out at the end of it, dropping bits of paper and counting his steps. Several times he was sure that he was under the hills, only to come to an impasse. Twice he skirted the heaps that marked other morning glories. Each time he retraced his steps he gathered up his blazes, both to save paper and to keep from confusing himself.

Once, he saw a glimmer of light and his heart pounded—but it filtered down from a hole too difficult even for himself and utterly impossible for Sam.

His air got low; he paid no attention, other than to adjust his mix to keep it barely in the white. He went on searching.

A passage led to the left, then down; he began to doubt the wisdom of going further and stopped to check the darkness. At first his eyes saw nothing, then it seemed as if there might be a suggestion of light ahead. Eye fatigue? Possibly. He went another hundred feet and tried again. It was light!

Minutes later he shoved his shoulders up through a twisted hole and gazed out over the burning plain.

“Hi!” Sam greeted him. “I thought you had fallen down a hole.

“Darn near did. Sam, I found it!”

“Knew you would. Let’s get going.”

“Right. I’ll dig out my other ski.”

“Nope.”

“Why not?”

“Look at your air gauge. We aren’t going anywhere on skis.”

“Huh? Yeah, I guess not.” They abandoned their loads, except for air and water bottles. The dark trek was made piggy-back, where the ceiling permitted. Some places Bruce half dragged his partner. Other places they threaded on hands and knees with Sam pulling his bad leg painfully behind him.

Bruce climbed out first, having slung Sam in a bowline before he did so. Sam gave little help in getting out; once they were above ground Bruce picked him up and set him against a rock. He then touched helmets. “There, fellow! We made it!”

Sam did not answer.

Bruce peered in; Sam’s features were slack, eyes half closed. A check of his belt told why; the blood-oxygen indicator showed red.

Sam’s intake valve was already wide open; Bruce moved fast, giving himself a quick shot of air, then

transferring his bottle to Sam. He opened it wide.

He could see Sam's pointer crawl up even as his own dropped toward the red. Bruce had air in his suit for three or four minutes if he held still.

He did not hold still. He hooked his intake hose to the manifold of the single bottle now attached to Sam's suit and opened his valve. His own indicator stopped dropping toward the red. They were Siamese twins now, linked by one partly-exhausted bottle of utterly necessary gas. Bruce put an arm around Sam, settled Sam's head on his shoulder, helmet to helmet, and throttled down both valves until each was barely in the white. He gave Sam more margin than himself, then settled down to wait. The rock under them was in shadow, though the Sun still baked the plain. Bruce

looked out, searching for anyone or anything, then extended his aerial. "M'aidez!" he called. "Help us! We're lost."

He could hear Sam muttering. "May day!" Sam echoed into his dead radio. "May day! We're lost."

Bruce cradled the delirious boy in his arm and repeated again, "M'aidez! Get a bearing on us." He paused, then echoed, "May day! May day!"

After a while he readjusted the valves, then went back to repeating endlessly, "May day! Get a bearing on us."

He did not feel it when a hand clasped his shoulder. He was still muttering "May day!" when they dumped him into the air lock of the desert car.

Mr. Andrews visited him in the infirmary at Base Camp. "How are you, Bruce?"

"Me? I'm all right, sir. I wish they'd let me get up."

"My instructions. So I'll know where you are." The Scoutmaster smiled; Bruce blushed.

"How's Sam?" he asked.

"He'll get by. Cold burns and a knee that will bother him a while. That's all."

"Gee, I'm glad."

"The troop is leaving. I'm turning you over to Troop Three, Mr. Harkness. Sam will go back with the grub car.

"Uh, I think I could travel with the Troop, sir."

"Perhaps so, but I want you to stay with Troop Three. You need field experience."

"Uh—" Bruce hesitated, wondering how to say it. "Mr. Andrews?"

"Yes?"

“I might as well go back. I’ve learned something. You were right. A fellow can’t get to be an old Moon hand in three weeks. Uh . . . I guess I was just conceited.”

“Is that all?”

“Well—yes, sir.”

“Very well, listen to me. I’ve talked with Sam and with Mr.Harkness . Mr.Harkness will put you through a course of sprouts; Sam and I will take over when you get back. You plan on being ready for the Court of Honor two weeks from Wednesday.” The Scoutmaster added, “Well?”

Bruce gulped and found his voice.“Yes, sir!”