



boy had no money left, but because of a "BOY WANTED" sign in the window.

It was then that he had noticed the reflection of the policeman in the glass.

The boy hesitated, trying to collect his cloudy thoughts. Should he go inside and ask for the job? Or should he saunter past the policeman? Pretend to be just out for a walk?

The boy decided to go on, get out of sight. He signalled the dog to stay close and turned away from the window. Nixie came along, tail high. He did not care where they went as long as he was with Charlie. Charlie had belonged to him as far back as he could remember; he could imagine no other condition. In fact Nixie would not have lived past his tenth day had not Charlie fallen in love with him; Nixie had been the least attractive of an unfortunate litter; his mother was Champion Lady Diana of Ojai—his father was unknown.

But Nixie was not aware that a neighbor boy had begged his life from his first owners. His philosophy was simple: enough to eat, enough sleep, and the rest of his time spent playing with Charlie. This present outing had been Charlie's idea, but any outing was welcome. The shortage of food was a nuisance but Nixie automatically forgave Charlie such errors—after all, boys will be boys and a wise dog accepted the fact. The only thing that troubled him was that Charlie did not have the happy heart which was a proper part of all hikes.

As they moved past the man in the blue uniform, Nixie felt the man's interest in them, sniffed his odor, but could find no real unfriendliness in it. But Charlie was nervous, alert, so Nixie kept his own attention high.

The man in uniform said, "Just a moment, son—"

Charlie stopped, Nixie stopped. "You speaking to me, officer?"

"Yes. What's your dog's name?"

Nixie felt Charlie's sudden terror, got ready to attack. He had never yet had to bite anyone for his boy—but he was instantly ready. The hair between his shoulder blades stood up.

Charlie answered, "Uh. . . his name is 'Spot.'"

"So?" The stranger said sharply, "Nixie!"





Nixie waited, gave him a lick on the face to check his sleeping, then moved to his end of the bed.

Mrs. Vaughn said to Mr. Vaughn, "Charles, isn't there anything we can do for the boy?"

"Confound it, Nora. We're getting to Venus with too little money as it is. If anything goes wrong, we'll be dependent on charity."

"But we do have a little spare cash."

"Too little. Do you think I haven't considered it? Why, the fare for that worthless dog would be almost as much as it is for Charlie himself! Out of the question! So why nag me? Do you think I enjoy this decision?"

"No, dear." Mrs. Vaughn pondered. "How much does Nixie weigh? I . . . well, I think I could reduce ten more pounds if I really tried."

"What? Do you want to arrive on Venus a living skeleton? You've reduced all the doctor advises, and so have I."

"Well. . . I thought that if somehow, among us, we could squeeze out Nixie's weight—it's not as if he were a St. Bernard! —we could swap it against what we weighed for our tickets."

Mr. Vaughn shook his head unhappily. "They don't do it that way."

"You told me yourself that weight was everything. You even got rid of your chess set."

"We could afford thirty pounds of chess sets, or china, or cheese, where we can't afford thirty pounds of dog."

"I don't see why not."

"Let me explain. Surely, it's weight; it's always weight in a space ship. But it isn't just my hundred and sixty pounds, or your hundred and twenty, not Charlie's hundred and ten. We're not dead weight; we have to eat and drink and breathe air and have room to move—that last takes more weight because it takes more ship weight to hold a live person than it does for an equal weight in the cargo hold. For a human being there is a complicated formula—hull weight equal to twice the passenger's weight, plus the number of days in space times four pounds. It takes a hundred and forty-six days to get to Venus—so it means that the calculated weight for each



“Yes and no. They ship them in sleep-freeze of course, and a lot of them never revive. But they cut their losses by butchering the dead ones and selling the meat at fancy prices to the colonists. Then the ones that live have calves and eventually it pays off.” He stood up. “Nora, let’s go to bed. It’s sad—but our boy is going to have to make a man’s decision. Give the mutt away, or have him put to sleep.”

“Yes, dear.” She sighed. “I’m coming.”

Nixie was in his usual place at breakfast—lying beside Charlie’s chair, accepting tidbits without calling attention to himself. He had learned long ago the rules of the dining room: no barking, no whining, no begging for food, no paws on laps, else the pets of his pet would make difficulties. Nixie was satisfied. He had learned as a puppy to take the world as it was, cheerful over its good points, patient with its minor shortcomings. Shoes were not to be chewed, people were not to be jumped on, most strangers must be allowed to approach the house (subject, of course, to strict scrutiny and constant alertness)—a few simple rules and everyone was happy. Live and let live.

He was aware that his boy was not happy even this beautiful morning. But he had explored this feeling carefully, touching his boy’s mind with gentle care by means of his canine sense for feelings, and had decided, from his superior maturity, that the mood would wear off. Boys were sometimes sad and a wise dog was resigned to it.

Mr. Vaughn finished his coffee, put his napkin aside. “Well, young man?”

Charlie did not answer. Nixie felt the sadness in Charlie change suddenly to a feeling more aggressive and much stronger but no better. He pricked up his ears and waited.

“Chuck,” his father said, “last night I gave you a choice. Have you made up your mind?”

“Yes, Dad.” Charlie’s voice was very low.

“Eh? Then tell me.”

Charlie looked at the tablecloth. “You and Mother go to Venus. Nixie and I are staying here.”

Nixie could feel anger welling up in the man. . . felt him control it.

“You’re figuring on running away again?”



***Charlie’s mouth hung open. He managed to say, “But that’s—”***

“That’s dangerous. As near as I remember, it’s about fifty-fifty whether he wakes up at the other end. But if you want to risk it—well, perhaps it’s better than giving him away to strangers, and I’m sure you would prefer it to taking him down to the vet’s and having him put to sleep.”

Charlie did not answer. Nixie felt such a storm of conflicting emotions in Charlie that the dog violated dining room rules; he raised up and licked the boy’s hand.

Charlie grabbed the dog’s ear. “All right, Dad,” he said gruffly. “We’ll risk it—if that’s the only way Nixie and I can still be partners.”

Nixie did not enjoy the last few days before leaving; they held too many changes. Any proper dog likes excitement, but home is for peace and quiet. Things should be orderly there—food and water always in the same place, newspapers to fetch at certain hours, milkmen to supervise at regular times, furniture all in its proper place. But during that week all was change—nothing on time, nothing in order. Strange men came into the house

(always a matter for suspicion), and he, Nixie, was not even allowed to protest, much less give them the what-for they had coming.

He was assured by Charlie and Mrs. Vaughn that it was “all right” and he had to accept it, even though it obviously was not all right. His knowledge of English was accurate for a few dozen words but there was no way to explain to him that almost everything owned by the Vaughn family was being sold, or thrown away. . . nor would it have reassured him. Some things in life were permanent; he had never doubted that the Vaughn home was first among these certainties

By the night before they left, the rooms were bare except for beds. Nixie trotted around the house, sniffing places where familiar objects had been, asking his nose to tell him that his eyes deceived him, whining at the results. Even more upsetting than physical change was emotional change, a heady and not entirely happy excitement which he could feel in all three of his people.

There was a better time that evening, as Nixie was allowed to go to Scout meeting. Nixie always went on hikes and had formerly attended all meetings. But he now attended only outdoor meetings since an incident the previous winter—Nixie felt that too much fuss

had been made about it. . . just some spilled cocoa and a few broken cups and anyhow it had been that cat's fault.

But this meeting he was allowed to attend because it was Charlie's last Scout meeting on Earth. Nixie was not aware of that but he greatly enjoyed the privilege, especially as the meeting was followed by a party at which Nixie became comfortably stuffed with hot dogs and pop. Scoutmaster McIntosh presented Charlie with a letter of withdrawal, certifying his status and merit badges and asking his admission into any troop on Venus. Nixie joined happily in the applause, trying to outbark the clapping.

Then the Scoutmaster said, "Okay, Rip."

Rip was senior patrol leader. He got up and said, "Quiet, fellows. Hold it, you crazy savages! Charlie, I don't have to tell you that we're all sorry to see you go. . . but we hope you have a swell time on Venus and now and then send a postcard to Troop Twenty-Eight and tell us about it—we'll post 'em on the bulletin board. Anyhow, we wanted to get you a going-away present. But Mr. McIntosh pointed out that you were on a very strict weight allowance and practically anything would either cost you more to take with you than we had paid for it, or maybe you couldn't take it at all, which wouldn't be much of a present.

"But it finally occurred to us that we could do one thing. Nixie—"

Nixie's ears pricked. Charlie said softly, "Steady, boy."

"Nixie has been with us almost as long as you have. He's been around, poking his cold nose into things, longer than any of the tenderfeet, and longer even than some of the second class. So we decided he ought to have his own letter of withdrawal, so that the troop you join on Venus will know that Nixie is a Scout in good standing. Give it to him, Kenny."

The scribe passed over the letter. It was phrased like Charlie's letter, save that it named "Nixie Vaughn, Tenderfoot Scout" and diplomatically omitted the subject of merit badges. It was signed by the scribe, the scoutmaster, and the patrol leaders and countersigned by every member of the troop. Charlie showed it to Nixie, who sniffed it. Everybody applauded, so Nixie joined happily in applauding himself.





snatched his hand back and squeaked, "No! We're going to Venus—both of us!"— turned and ran out of the room.

The veterinary spread his hands helplessly. "I tried."

"I know you - did, Doctor," Mr. Vaughn answered gravely. "Thank you."

The Vaughns took the usual emigrant routing: winged shuttle rocket to the inner satellite station, ugly wingless ferry rocket to the outer station, transshipment there to the great globular cargo liner Hesperus. The jumps and changes took two days; they stayed in the deepspace ship for twenty-one tedious weeks, falling in half-elliptical orbit from Earth down to Venus. The time was fixed, an inescapable consequence of the law of gravity and the sizes and shapes of the two planetary orbits.

At first Charlie was terribly excited. The terrific highgravity boost to break away from Earth's mighty grasp was as much of a shocker as he had hoped; six gravities is shocking, even to those used to it. When the shuttle rocket went into free fall a few minutes later, utter weightlessness was as distressing, confusing—and exciting—as he had hoped. It was so upsetting that he would have lost his lunch had he not been injected with anti-nausea drug.

Earth, seen from space, looked as it had looked in color-stereo pictures, but he found that the real thing is as vastly more satisfying as a hamburger is better than a picture of one. In the outer satellite station, someone pointed out to him the famous Captain Nordhoff, just back from Pluto. Charlie recognized those stern, lined

features, familiar from TV and news pictures, and realized with odd surprise that the hero was a man, like everyone else. He decided to be a spaceman and famous explorer himself.

S. S. Hesperus was a disappointment. It "blasted" away from the outer station with a gentle shove, onetenth gravity, instead of the soul-satisfying, bonegrinding, ear-shattering blast with which the shuttle had left Earth. Also, despite its enormous size, it was terribly crowded. After the Captain had his ship in orbit to intercept Venus five months later, he placed spin on his ship to give his passengers artificial weight—which took from Charlie the pleasant new feeling of weightlessness which he had come to enjoy.

He was bored silly in five days—and there were five months of it ahead. He shared a cramped room with his father and mother and slept in a hammock swung “nightly” (the ship used Greenwich time) between their bunks. Hammock in place, there was no room in the cubicle; even with it stowed, only one person could dress at a time. The only recreation space was the messrooms and they were always crowded. There was one view port in his part of the ship. At first it was popular, but after a few days even the kids didn’t bother, for the view was always the same: stars, and more stars.

By order of the Captain, passengers could sign up for a “sightseeing tour.” Charlie’s chance came when they were two weeks out—a climb through accessible parts of the ship, a quick look into the power room, a longer look at the hydroponics gardens which provided fresh air and part of their food, and a ten-second glimpse through the door of the Holy of Holies, the control room, all accompanied by a lecture from a bored junior officer. It was over in two hours and Charlie was again limited to his own, very crowded part of the ship.

Up forward there were privileged passengers, who had staterooms as roomy as those of the officers and who

enjoyed the luxury of the officers’ lounge~ Charlie did not find out that they were aboard for almost a month, but when he did, he was righteously indignant.

His father set him straight. “They paid for it.”

“Huh? But we paid, too. Why should they get—”

“They paid for luxury. Those first-class passengers each paid~ about three times what your ticket cost, or mine. We got the emigrant rate—transportation and food and a place to sleep.” -

“I don’t think it’s fair.”

Mr. Vaughn shrugged. “Why should we have something we haven’t paid for?”

“Uh, . . . well, Dad, why should they be able to pay for luxuries we can’t afford?”

“A good question. Philosophers ever since Aristotle have struggled with that one. Maybe you’ll tell me, someday.”

“Huh? What do you mean, Dad?”





well as the first class passengers, even though not with fine service and fancy surroundings. When Slim was ready he opened a shutter in the galley partition and Charlie dealt out the wonderful viands like chow in a Scout camp to passengers queued up with plates. Charlie enjoyed this chore. It made him feel like a member of the crew, a spaceman himself.

Charlie almost managed not to worry about Nixie, having told himself that there was nothing to worry

about. They were a month past midpoint, with Venus only six weeks away before he discussed it with Slim. “Look, Slim, you know a lot about such things. Nixie’ll make it all right. . . won’t he?”

“Hand me that paddle; Mmm. . . don’t know as I ever ran across a dog in space before. Cats now. . . cats belong in space. They’re clean and neat and help to keep down mice and rats.” -

“I don’t like cats.”

“Ever lived with a cat? No, I see you haven’t. How can you have the gall not to like something you don’t know anything about? Wait till you’ve lived with a cat, then tell me what you think. Until then. . . well, who told you were entitled to an opinion?”

“Huh? Why, everybody is entitled to his own opinion!”

“Nonsense, Bub. Nobody is entitled to an opinion about something he is ignorant of. If the Captain told me how to bake a cake, I would politely suggest that he not stick his nose into my trade . . . contrariwise, I never tell him how to plot an orbit to Mars.”

“Slim, you’re changing the subject. How about Nixie? He’s going to be all right . . . isn’t he?”

“As I was saying, I don’t have opinions about things I don’t know. Happens I don’t know dogs. Never had one as a kid; I was raised in a big city. Since then I’ve been in

space. No dogs.”

“Darn it, Slim!—you’re being evasive: You know about sleep-freeze. I know you do.”

Slim sighed. “Kid, you’re going to die someday and so am I. And so is your pup. It’s the one thing we can’t avoid. Why, the ship’s reactor could blow up and nOne of us would know what hit us till they started



been five months since he had felt Earth gravity and the Hesperus had maintained only one-third gravity in that outer part, where spin was most felt. Consequently Charlie felt heavier than seemed right, rather than lighter—his feet had forgotten full weight.

Nor did he notice the heavy concentration (about 2%) of carbon dioxide in the air, on which Venus's mighty jungles depended. It had once been believed that so much carbon dioxide, breathed regularly, would kill a man, but long before space flight, around 1950, experiments had shown that even a higher concentration had no bad effects. Charlie simply didn't notice it.

All in all, he might have been waiting in a dreary, barracks-like building in some tropical port on Earth. He did not see much of his father, who was busy by telephone and by germproof conference cage, conferring with his new employers and arranging for quarters, nor did he see much of his mother; Mrs. Vaughn had found the long trip difficult and was spending most of her time lying down.

Nine days after their arrival Charlie was sitting in the recreation room of the reception center, disconsolately reading a book he had already read on Earth. His father came in. "Come along."

"Huh? What's up?"

"They're going to try to revive your dog. You want to be there, don't you? Or maybe you'd rather not? I can go. . . and come back and tell you what happened."

Charlie gulped. "I want to be there. Let's go."

The room was like the one back at White Sands where Nixie had been put to sleep, except that in place of the table there was a cage-like contraption with glass sides. A man was making adjustments on a complex apparatus which stood next to the glass box and was connected to it. He looked up. "Yes? We're busy."

"My name is Vaughn and this is my son Charlie. He's the owner of the dog."

The man frowned. "Didn't you get my message? I'm Doctor Zecker, by the way. You're too soon; we're just bringing the dog up to temperature."

Mr. Vaughn said, "Wait here, Charlie," crossed the room and spoke in a low voice to Zecker.





## II

Nixie liked Venus. It was filled with a thousand new smells, all worth investigating, countless new sounds, each of which had to be catalogued. As official guardian of the Vaughn family and of Charlie in particular, it was his duty and pleasure to examine each new phenomenon, decide whether or not it was safe for his people; he set about it happily. -

It is doubtful that he realized that he had traveled other than -that first lap in- the traveling case to White Sands. He took up his new routine without noticing the five months clipped out of his life; he took charge of the apartment assigned to the Vaughn family, inspected it

- thoroughly, then nightly checked it to be sure that all was in order and safe before he tromped out his place on the foot of Charlie's bed and tucked his tail over his nose.

He was aware that this was a new place, but he was not homesick. The other home had been satisfactory and he had never dreamed of leaving it, but this new home was still better. Not only did it have Charlie—without whom

no place could be home—not only did it have wonderful odors, but also he found the people more agreeable. In the past, many humans had been quite stuffy about flower beds and such trivia, but here he was almost never scolded or chased away; on the contrary people were anxious to speak to him, pet him, feed him. His popularity was based on arithmetic: Borealis had fifty-five thousand sand people but only eleven dogs; many colonists were homesick for man's traditional best friend. Nixie did not know this, but he had great capacity for enjoying the good things in life without worrying about why.

Mr. Vaughn found Venus satisfactory. His work for Synthetics of Venus, Ltd. was the sort of work he had done on Earth, save that he was now paid more and given more responsibility. The living quarters provided by the company were as comfortable as the house he had left back on Earth and he was unworried about the future of his family for the first time in years.

Mrs. Vaughn found Venus bearable but she was homesick much of the time.

Charlie, once he was over first the worry and then the delight of waking Nixie, found Venus interesting, less strange than he had expected, and from time to time he was homesick. But before long he was no longer homesick; Venus was home. He knew now what he wanted to be: a pioneer. When he was grown he would head south, deep into the unmapped jungle, carve out a plantation.

The jungle was the greatest single fact about Venus. The colony lived on the bountiful produce of the jungle. The land on which Borealis sat, buildings and spaceport, had been torn away from the hungry jungle only by flaming it dead, stabilizing the muck with gel-forming chemicals, and poisoning the land thus claimed—then flaming, cutting, or poisoning any hardy survivor that pushed its green nose up through the captured soil.

The Vaughn family lived in a large apartment building which sat on land newly captured. Facing their front door, a mere hundred feet away across scorched and

poisoned soil, a great shaggy dark-green wall loomed higher than the buffer space between. But the mindless jungle never gave up. The vines, attracted by light—their lives were spent competing for light energy—felt their way into the open space, tried to fill it. They grew with incredible speed. One day after breakfast Mr. Vaughn tried to go out his own front door, found his way hampered. While they had slept a vine had grown across the hundred-foot belt, supporting itself by tendrils against the dead soil, and had started up the front of the building. -

The police patrol of the city were armed with flame guns and spent most of their time cutting back such hardy intruders. While they had power to enforce the law, they rarely made an arrest. Borealis was a city almost free of crime; the humans were too busy fighting nature in the raw to require much attention from policemen.

But the jungle was friend as well as enemy. Its lusty life offered food for millions and billions of humans in place of the few thousands already on Venus. Under the jungle lay beds of peat, still farther down were thick coal seams representing millions of years of lush jungle growth, and pools of oil waiting to be tapped. Aerial survey by jet-copter in the volcanic regions promised uranium and thorium when man could cut his way through and get at

it. The planet offered unlimited wealth. But it did not offer it to sissies.



“Oh, that! Sure. I mean ‘surely.’ Everybody goes to school until he’s eighteen. That’s to ‘discourage juvenile delinquency,” he quoted.

“I wonder. Nobody ever flunked, I suppose.”

“Sir?”

“Failed. Nobody ever got tossed out of school or left back for failing his studies?” -

“Of course not, Mr. deSoto. You have to keep age groups together, or they don’t develop socially as they should.”

“Who told you that?”

“Why, everybody knows that. I’ve been hearing that ever since I was in kindergarten. That’s what education is for—social development.”

Mr. deSoto leaned back, rubbed his nose. Presently he said slowly; “Charlie, this isn’t that kind of a school at all.”

Charlie waited. He was annoyed at not being invited to sit down and was wondering what would happen if he sat down anyway.

“In the first place we don’t have the eighteen-year rule. You can quit school today. You know how to read. Your handwriting is sloppy but it will do. You are quick in arithmetic. You can’t spell worth a hoot, but that’s your misfortune; the city fathers don’t care whether you learn to spell or not. You’ve got all the education the City of Borealis feels obliged to give you. If you want to take a flame gun and start carving out your chunk of the jungle, nobody is standing in your way. I can write a note to the Board of Education, telling them that Charles Vaughn, Jr. has gone as far as he ever will. You needn’t come back tomorrow.”

Charlie gulped. He had never heard of anyone being dropped from school for anything less than a knife fight. It was unthinkable—what would his folks say?

“On the other hand,” Mr. deSoto went on, “Venus needs educated citizens. We’ll keep anybody as long as they keep learning. The city will even send you back to Earth for advanced training if you are worth it, because we need scientists and engineers. . . and more teachers. But this is a struggling new community and it doesn’t have a penny to waste on kids who won’t study. We do flunk them in this school. If you don’t study, we’ll lop you off so fast you’ll think you’ve been trimmed with a flame gun. We’re not running the sort of

overgrown kindergarten you were in. It's up to you. Buckle down and learn. . . or get out. So go home and talk it over with your folks."

Charlie was stunned. "Uh.. . Mr. deSoto? Are you going to talk to my father?"

"What? Heavens, no! You are their responsibility, not mine. I don't care what you do. That's all. Go home."

Charlie went home, slowly. He did not talk it over with his parents. Instead he went back to school and studied. In a few weeks he discovered that even algebra could be interesting.. . and that old Frozen Face was an interesting teacher when Charlie had studied hard enough to know what the man was talking about.

Mr. deSoto never mentioned the matter again.

Getting back in the Scouts was more fun but even Scouting held surprises. Mr. Qu'an, Scoutmaster of Troop Four, welcomed him heartily. "Glad to have-you, Chuck. It makes me feel good when a Scout among the new citizens comes forward and says he wants to pick up the Scouting trail again." He looked over the letter Charlie had brought with him. "A good record—Star Scout at your age. Keep at it and you'll be a Double Star.. . both Earth and Venus."

"You mean," Charlie said slowly, "that I'm not a Star Scout here?"

"Eh? Not at all." Mr. Qu'an touched the badge on Charlie's jacket. "You won that fairly and a Court of Honor has certified you. You'll always be a Star Scout, just as a pilot is entitled to wear his comet after he's too old to herd a space ship. But let's be practical. Ever been out in the jungle?"

"Not yet, sir. But I always was good at woodcraft~"

"Mmm. . . Ever camped in the Florida Everglades?"

"Well . . . no~ sir."

"No matter. I simply wanted to point out that while the Everglades are jungle, they are an open desert compared with the jungle here. And the coral snakes and water moccasins in the Everglades are harmless little pets alongside some of the things here. Have you seen our dragonflies yet?"

"Well, a dead one, at school."

"That's the best way to see them. When you see a live one, better see it first, . . . if it's a female and ready to lay eggs."

“Uh, I know about them. If you fight them off, they won’t sting.”

“Which is why you had better see them first.”

“Mr. Qu’an? Are they really that big?”

“I’ve seen thirty-six-inch wing spreads. What I’m trying to say, Chuck, is that a lot of men have died learning the tricks of this jungle. If you are as smart as a Star Scout is supposed to be, you won’t assume that you know what these poor fellows didn’t. You’ll wear that badge. . . but you’ll class yourself in your mind as a tenderfoot ,all over again, and you won’t be in a hurry about promoting yourself.”

Charlie swallowed it. “Yes, sir. I’ll try.”

“Good. We use the buddy system—you take care of your buddy and he takes care of you. I’ll team you with Hans Kuppenheimer. Hans is only a Second Class Scout, but don’t let that fool you. He was born here and he lives in the bush, on his father’s plantation. He’s the best jungle rat in the troop.”

Charlie said nothing, but resolved to become a real jungle rat himself, fast. Being under the wing of a Scout who was merely second class did not appeal to him.

But Hans turned out to be easy to get along with. He was quiet, shorter but stockier than Charlie, neither unfriendly nor chummy; he simply accepted the assignment to look after Charlie. But he startled Charlie by answering, when asked, that he was twenty-three years old.

It left Charlie speechless long enough for him to realize that Hans, born here, meant Venus years, each only two

hundred twenty-five Earth days. Charlie decided that Hans was about his own age, which seemed reasonable. Time had been a subject which had confused Charlie ever since his arrival. The Venus day was only seven minutes different from that of Earth—he had merely had to have his wristwatch adjusted. But the day itself had not meant what it used to mean, because day and night at the north pole of Venus looked alike, a soft twilight.

There were only eight months in the year, exactly four weeks in each month, and an occasional odd ‘~.Year Day” to even things off. Worse still, the time of year didn’t mean anything; there were no seasons, just one endless hot, damp summer. It was always the same time of-







isn't faked. 'Thrifty'—well, we can hardly expect him to have a savings account."

"He buries bones."

"Mmm, I suppose that's the canine equivalent. Brave?"

"I think he is. I've seen him tackle a dog three times his size—and chase it out of our yard, too, back home— back Earthside."

"Clean?"

"Smell him. He had a bath just yesterday. And he's perfectly housebroken."

"All that is left is 'Reverent'—and I don't intend to try to discuss that with him. I rule that Nixie is at least as reverent as the rascals I've heard cussing around here when they didn't think I was listening. How about it, boys? Does he pass?"

Nixie was voted into Troop Four in his tenderfoot status unanimously. . . Alfred Rheinhardt, Tenderfoot abstaining.

After the meeting the troop treasurer buttOnhole Charlie. "You want to pay your dues now, Chuck?"

"Huh? Oh, yeah, sure—I brought some money."

"Good." The other Scout accepted payment. "Here'~ your receipt."

***"Just mark it down in your book."* -**

"Take it. No tickie, no washee. I'm nasty about it—that's why they made me treasurer. Now about Nixie—You pay? Or do I speak to him?"

The other boy was not smiling and Charlie could not decide whether or not he was joking. He decided to play it just as soberly. "I settle for Nixie. You see, he doesn't have pockets." He dug down in his diminishing resources, managed to piece out enough to pay the small amount for Nixie. "Here."

"Thanks." The treasurer handed back a shilling. "Tenderfeet get by cheaper, under Troop by-laws. But every little bit helps. You know, when I took this job, the troop was in the hole. Now we got money in the bank."





The troop set out on the hike. Before they reached~ the jungle at the edge of town Hans said to Charlie, “Better have him heel.”

“Why? He likes to run around and poke his nose into things. But he always stays in earshot. He’ll come if he’s called.”

Hans scowled. “Suppose he can’t? Maybe he goes into bush and doesn’t come out. You want to lose him?”

This was a long speech for Hans. Charlie looked surprised, then called, “Nixie! Heel!”

The dog had been supervising the van; he turned and came at once to Charlie’s left and rear. Hans relaxed, said, “Better,” and placed himself so that the dog trotted between them.

When the jungle loomed up over them, pierced here by a road, Mr. Qu’an held up his arm and called out, “Halt! Check watches.” He held up his wrist and waited; everybody else did the same.

Jock Quentin, an Explorer Scout equipped with twoway radio, spoke into his microphone, then said, “Stand by. . . oh nine eleven.”

“Anybody fail to check?” continued Mr. Qu’an. “All you with polarizers, establish base line.”

Hans took out an odd-looking pair of spectacles with double lenses which rotated and a sighting device which snapped out. “Try it.”

“Okay.” Charlie accepted them gingerly. He did not yet own a light-polarizing sighter. “Why are we going to establish base line if we’re going to stay on marked roads?”

Hans did not answer and Charlie felt foolish, realizing that the time to learn how not to get lost was before you got lost. He put on the polarizers and tried to establish base line.

“Base line” was the prime meridian of Venus, the direction from Borealis of the Sun at noon. To find that direction it was necessary first to find the Sun itself (in a grey, thickly overcast sky), then, using a watch, figure where the Sun would be at noon.

That direction would be south—but all directions from Borealis were south; the city lay on the north pole of the planet. The mapmakers used Borealis as a zero point and the direction of the Sun at noon as a base line. With the aid of transceivers, radar beacons, and radi compass, they were gradually establishing a grid of reference points

for the few hundred square mile around Borealis. A similar project was going on at Souti Pole City. But the millions of square miles between pole were unknown country, more mysterious and incredibly vaster than any jungle on Earth. There- was a sayin~ among the Scouts that streams at the equator were “hot enough to boil eggs,” but nobody knew. As yet, no ship had landed near the equator and managed to come back.

The difficulty of telling directions on Venus is very great. The stars are always invisible. Neither magnetic compasses nor gyro compasses were of any use at the poles. Nor is there moss on the north sides of trees, nor any shadows to read—Venus is not only the land that time forgot; it is also the place of no directions.

So the colonists were forced to establish new directions. From Borealis toward the Sun at noon was prime meridian, called “base line,” and any direction parallel to that was “base.”- Back the other way was “reverse”; the two intermediate directions were “Left demi” and “right demi.” By counting clockwise from “base,” any other direction could be named.

It was not a perfect system since it used square coordinates for a spherical surface. But it was better than nothing in a place where the old directions had turned slippery—where all directions away from the city were “south” and where east and west, instead of being straight lines, were circular.

At first, Charlie could not see why, if they were going to use four directions, they didn’t call them “north,” “south,” “east” and “west,” instead of ringing in these silly names, “base,” “reverse,” “right demi,” and “left demi.” It was not until he saw in school a map of the colony, with the old familiar directions, north, south, east, west, on it and a “base line” grid drawn on top of it that he realized that the problem was not that simple. To

go east on that map you went counterclockwise on one of those little circles—but how could you tell what direction “east” was unless you knew where you were? And how could you tell how much to curve left in order to keep going east? When compasses were no good and the Sun might be in any direction, north, south, east, or west, depending on which side of the city you were on?

So he buckled down and learned the new system.









































“Now, Nixie!” Charlie whispered.

Nixie jumped off the chair, trotted forward, sat at attention and saluted, trembling.