

Delilah and the Space-Rigger

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SURE, WE HAD TROUBLE building Space Station One-but the trouble was people.

Not that building a station twenty-two thousand three hundred miles out in space is a breeze. It was an engineering feat bigger than the Panama Canal or the Pyramids-or even the Susquehanna Power Pile. But "Tiny" Larsen built her and a job Tiny tackles gets built.

I first saw Tiny playing guard on a semi-pro team, working his way through Oppenheimer Tech. He worked summers for me thereafter till he graduated. He stayed in construction and eventually I went to work for him.

Tiny wouldn't touch a job unless he was satisfied with the engineering. The Station had jobs designed into it that called for six-armed monkeys instead of grown men in space suits. Tiny spotted such boners; not a ton of material went into the sky until the specs and drawings suited him.

But it was people that gave us the headaches. We had a sprinkling of married men, but the rest were wild kids, attracted by high pay and adventure. Some were busted spacemen. Some were specialists, like electricians and instrument men. About half were deep-sea divers, used to working in pressure suits. There were sandhogs and riggers and welders and ship fitters and two circus acrobats.

We fired four of them for being drunk on the job; Tiny had to break one stiff's arm before he would stay fired. What worried us was where did they get it? Turned out a ship fitter had rigged a heatless still, using the vacuum around us. He was making vodka from potatoes swiped from the commissary. I hated to let him go, but he was too smart.

Since we were falling free in a 24-hour circular orbit, with everything weightless and floating, you'd think that shooting craps was impossible. But a radioman named Peters figured a dodge to substitute steel dice and a magnetic field. He also eliminated the element of chance, so we fired him.

We planned to ship him back in the next supply ship, the R.S. Half Moon. I was in Tiny's office when she blasted to match our orbit. Tiny swam to the view port "Send for Peters, Dad," he said, "and give him the old heave ho. Who's his relief?"

"Party named G. BrooksMcNye ," I told him.

A line came snaking over from the ship. Tiny said, "I don't believe she's matched." He buzzed the radio shack for the ship's motion relative to the Station. The answer didn't please him and he told them to call the Half Moon.

Tiny waited until the screen showed the rocket ship.

C.O. "Good morning, Captain. Why have you placed a line on us?"

"For cargo, naturally. Get your hopheads over here. I want to blast off before we enter the shadow." The Station spent about an hour and a quarter each day passing through Earth's shadow; we worked two eleven-hour shifts and skipped the dark period, to avoid rigging lights and heating suits.

Tiny shook his head. "Not until you've matched course and speed with us."

"I am matched!"

"Not to specification, by my instruments."

"Have a heart, Tiny! I'm short on maneuvering fuel. If I juggle this entire ship to make a minor correction on a few lousy tons of cargo, I'll be so late I'll have to put down on a secondary field. I may even have to make a dead-stick landing." In those days all ships had landing wings.

"Look, Captain," Tiny said sharply, "the only purpose of your lift was to match orbits for those same few lousy tons. I don't care if you land in Little America on a pogo stick. The first load here was placed with loving care in the proper orbit, and I'm making every other load match. Get that covered wagon into the groove."

"Very well, Superintendent!" Captain Shields said stiffly. "Don't be sore, Don," Tiny said softly. "By the way, you've got a passenger for me?"

"Oh, yes, so I have!" Shields' face broke out in a grin.

"Well, keep him aboard until we unload. Maybe we can beat the shadow yet."

"Fine, fine! After all, why should I add to your troubles?" The skipper switched off, leaving my boss looking puzzled.

We didn't have time to wonder at his words. Shields whipped his ship around on gyros, blasted a second or two, and put her dead in space with us pronto-and used very little fuel, despite his bellyaching. I grabbed every man we could spare and managed to get the cargo clear before we swung into Earth's shadow. Weightlessness is an unbelievable advantage in handling freight; we gutted the Half Moon-by hand, mind you-in fifty-four minutes.

The stuff was oxygen tanks, loaded, and aluminum mirrors to shield them, panels of outer skin-sandwich stuff of titanium alloy sheet with foamed glass filling-and cases of jato units to spin the living quarters. Once it was all out and snapped to our cargo line I sent the men back by the same line-I won't let a man work outside without a line no matter how space happy he figures he is. Then I told Shields to send over the passenger and cast off.

This little guy came out the ship's air lock, and hooked on to the ship's line. Handling himself like he was used to space, he set his feet and dived, straight along the stretched line, his snap hook running free. I hurried back and motioned him to follow me. Tiny, the new man, and I reached the air locks together.

Besides the usual cargo lock we had three Kwikloks. A Kwiklok is an Iron Maiden without spikes; it fits a man in a suit, leaving just a few pints of air to scavenge, and cycles automatically. A big time saver in changing shifts. I passed through the middle-sized one; Tiny, of course, used the big one. Without hesitation the new man pulled himself into the small one.

We went into Tiny's office. Tiny strapped down, and pushed his helmet back. "Well, McNye," he

said. "Glad to have you with us."

The new radio tech opened his helmet. I heard a low, pleasant voice answer, "Thank you."

I stared and didn't say anything. From where I was I could see that the radio tech was wearing a hair ribbon.

I thought Tiny would explode. He didn't need to see the hair ribbon; with the helmet up it was clear that the new "man" was as female as VenusdeMilo. Tiny sputtered, then he was unstrapped and diving for the view port. "Dad!" he yelled. "Get the radio shack. Stop that ship!"

But the Half Moon was already a ball of fire in the distance. Tiny looked dazed. "Dad," he said, "who else knows about this?"

"Nobody, so far as I know."

He thought a bit. "We've got to keep her out of sight.

That's it—we keep her locked up and out of sight until the next ship matches in." He didn't look at her.

"What in the world are you talking about?" McNye's voice was higher and no longer pleasant.

Tiny glared. "You, that's what. What are you—a stowaway?"

"Don't be silly! I'm G. B. McNye, electronics engineer. Don't you have my papers?"

Tiny turned to me. "Dad, this is your fault. How in Chr - pardon me, Miss. How did you let them send you a woman? Didn't you even read the advance report on her?"

"Me?" I said. "Now see here, you big squarehead! Those forms don't show sex; the Fair Employment Commission won't allow it except where it's pertinent to the job."

"You're telling me it's not pertinent to the job here?"

"Not by job classification it ain't. There's lots of female radio and radar men, back Earthside."

"This isn't Earthside." He had something. He was thinking of those two-legged wolves swarming over the job outside. And G. B. McNye was pretty. Maybe eight months of no women at all affected my judgment, but she would pass.

"I've even heard of female rocket pilots," I added, for spite.

"I don't care if you've heard of female archangels; I'll have no women here!"

"Just a minute!" If I was riled, she was plain sore. "You're the construction superintendent, are you not?"

"Yes," Tiny admitted.

"Very well, then, how do you know what sex I am?"

"Are you trying to deny that you are a woman?"

"Hardly! I'm proud of it. But officially you don't know what sex G. BrooksMcNye is. That's why I use 'G' instead of Gloria. I don't ask favors."

Tiny grunted. "You won't get any. I don't know how you sneaked in, but get this, McNye, or Gloria, or whatever, you're fired. You go back on the next ship. Meanwhile we'll try to keep the men from knowing we've got a woman aboard."

I could see her count ten. "May I speak," she said finally, "or does your Captain Bligh act extend to that, too?"

"Say your say."

"I didn't sneak in. I am on the permanent staff of the Station, Chief Communications Engineer. I took this vacancy myself to get to know the equipment while it was being installed. I'll live here eventually; I see no reason not to start now."

Tiny waved it away. "There'll be men and women both here some day. Even kids. Right now it's stag and it'll stay that way."

"We'll see. Anyhow, you can't fire me; radio personnel don't work for you." She had a point; communicators and some other specialists were lent to the contractors, Five Companies, Incorporated, by Harriman Enterprises.

Tiny snorted. "Maybe I can't fire you; I can send you home. Requisitioned personnel must be satisfactory to the contractor, meaning me. Paragraph Seven, clause M; I wrote that clause myself."

"Then you know that if requisitioned personnel are refused without cause the contractor bears the replacement cost"

"I'll risk paying your fare home, but I won't have you here."

"You are most unreasonable!"

"Perhaps, but I'll decide what's good for the job. I'd rather have a dope peddler than have a woman sniffing around my boys!"

She gasped. Tiny knew he had said too much; he added, "Sorry, Miss. But that's it. You'll stay under cover until I can get rid of you."

Before she could speak I cut in. "Tiny-look behind you!" Staring in the port was one of the riggers, his eyes bugged out. Three or four more floated up and joined him.

Then Tiny zoomed up to the port and they scattered like minnows. He scared them almost out of their suits; I thought he was going to shove his fists through the quartz.

He came back looking whipped. "Miss," he said, pointing, "wait in my room." When she was gone he added, "Dad, what'll we do?"

I said, "I thought you had made up your mind, Tiny."

"I have," he answered peevishly. "Ask the Chief Inspector to come in, will you?"

That showed how far gone he was. The inspection gang belonged to Harriman Enterprises, not to us, and Tiny rated them mere nuisances. Besides, Tiny was an Oppenheimer graduate; Dalrymple was from M.I.T.

He came in, brash and cheerful. "Good morning, Superintendent. Morning, Mr. Witherspoon. What can I do for you?"

Glumly, Tiny told the story. Dalrymple looked smug. "She's right, old man. You can send her back and even specify a male relief. But I can hardly endorse 'for proper cause' now, can I?"

"Damnation. Dalrymple, we can't have a woman around here!"

"A moot point. Not covered by contract, y'know."

"If your office hadn't sent us a crooked gambler as her predecessor I wouldn't be in this am!"

"There, there! Remember the old blood pressure. Suppose we leave the endorsement open and arbitrate the cost. That's fair, eh?"

"I suppose so. Thanks."

"Not at all. But consider this: when you rushed Peters off before interviewing the newcomer, you cut yourself down to one operator. Hammond can't stand watch twenty-four hours a day."

"He can sleep in the shack. The alarm will wake him."

"I can't accept that. The home office and ships' frequencies must be guarded at all times. Harriman Enterprises has supplied a qualified operator; I am afraid you must use her for the time being."

Tiny will always cooperate with the inevitable; he said quietly, "Dad, she'll take first shift. Better put the married men on that shift."

Then he called her in. "Go to the radio shack and start makee-learner, so that Hammond can go off watch soon. Mind what he tells you. He's a good man."

"I know," she said briskly. "I trained him."

Tiny bit his lip. The C.I. said, "The Superintendent doesn't bother with trivia-I'm Robert Dalrymple, Chief Inspector. He probably didn't introduce his assistant either-Mr. Witherspoon."

"Call me Dad," I said.

She smiled and said, "Howdy, Dad." I felt warm clear through. She went on to Dalrymple, "Odd that we haven't met before."

Tiny butted in. "McNye, you'll sleep in my room-"

She raised her eyebrows; he went on angrily, "Oh, I'll get my stuff out-at once. And get this: keep the

door locked, off shift.'

"You're darntootin ' I will!"

Tiny blushed.

I was too busy to see much of Miss Gloria. There was cargo to stow, the new tanks to install and shield. That left the most worrisome task of all: putting spin on the living quarters. Even the optimists didn't expect much interplanetary traffic for some years; nevertheless Harriman Enterprises wanted to get some activities moved in and paying rent against their enormous investment.

I.T.&T. had leased space for a microwave relay station several million a year from television alone. The Weather Bureau was itching to set up its hemispheric integrating station; Palomar Observatory had a concession (Harriman Enterprises donated that space); the Security Council had, some hush-hush project; Fermi Physical Labs and Kettering Institute each had space-a dozen tenants wanted to move in now, or sooner, even if we never completed accommodations for tourists and travelers.

There were time bonuses in it for Five Companies, Incorporated-and their help. So we were in a hurry to get spin on the quarters.

People who have never been out have trouble getting through their heads-at least I had-that there is no feeling of weight, no up and down, in a free orbit in space. There's' Earth, round and beautiful, only twenty-odd thousand miles away, close enough to brush your sleeve. You know it's pulling you towards it. Yet you feel no weight, absolutely none. You float..

Floating is fine for some types of work, but when it's time to eat, or play cards, orbathe , it's good to feel weight on your feet. Your dinner stays quiet and you feel more natural.

You've seen pictures of the Station-a huge cylinder, like a bass drum, with ships' nose pockets dimpling its sides. Imagine a snare drum, spinning around inside the bass drum; that's the living quarters, with centrifugal force pinch-hitting for gravity. We could have spun the whole Station but you can't berth a ship against a whirling dervish.

So we built a spinning part for creature comfort and an outer, stationary part for docking, tanks, storerooms, and the like. You pass from one to the other at the hub. When Miss Gloria joined us the inner part was closed in and pressurized, but the rest was a skeleton of girders.

Mighty pretty though, a great network of shiny struts and ties against black sky and stars-titanium alloy 1403, light, strong, and non-corrodible. The Station is flimsy compared with a ship, since it doesn't have to take blastoff stresses. That meant we didn't dare put on spin by violent means-which is wherejato units come in.

"Jato"-Jet Assisted Take-Off-rocket units invented to give airplanes a boost. Now we use them wherever a controlled push is needed, say to get a truck out of the mud on a dam job. We mounted four thousand.of them around the frame of the living quarters, each one placed just so. They were wired up and ready to fire when Tiny came to me looking worried. "Dad," he said, "let'sdrop everything and finish compartment D-113."

"Okay," I said. D-113 was in the non-spin part.

"Rig an air lock and stock it with two weeks supplies."

"That'll change your mass distribution for spin," I suggested.

"I'll refigure it next dark period. Then we'll shiftjatos ."

WhenDalrymple heard about it he came charging around. It meant a delay in making rental space available. "What's the idea?"

Tiny stared at him. They had been cooler than ordinary lately;Dalrymple had been finding excuses to seek out Miss Gloria. He had to pass throughTiny's office to reach her temporary room, and Tiny had finally told him to get out and stay out. "The idea," Tiny said slowly, "is to have a pup tent in case the house burns."

"What do you mean?"

"Suppose we fire up thejatos and the structure cracks? Want to hang around in a space suit until a ship happens by?"

"That's silly. The stresses have been calculated."

"That's what the man said when the bridge fell. We'll do it my way."

Dalrymplestormed off.

Tiny'sefforts to keep Gloria fenced up were sort of pitiful. In the first place, the radio tech's biggest job was repairing suit walkie-talkies, done on watch. A rash of such troubles broke out-on her shift. I made some shift transfers and docked a few for costs, too; it's not proper maintenance when a man deliberately busts his aerial.

There were other symptoms. It became stylish to shave. Men started wearing shirts around quarters and bathing increased to where I thought I would have to riganother water still.

Camethe shift when D-113 was ready and thejatos readjusted. I don't mind saying I was nervous. All hands were ordered out of the quarters and into suits. They perched around the girders and waited.

Men in space suits all look alike; we used numbers and colored armbands. Supervisors had two antennas, one for a gang frequency,one for the supervisors' circuit. With Tiny and me the second antenna hooked back through the radio shack and to all the gang frequencies-a broadcast.

The supervisors had reported their men clear of the fireworks and I was about to give Tiny the word, when this figure came climbing through the girders, inside the danger zone. No safety line. No armband. One antenna.

Miss Gloria, of course. Tiny hauled her out of the blast zone, and anchored her with his own safety line. I heard his voice, harsh in my helmet: "Who do you think you are?A sidewalk superintendent?"

And her voice: "What do you expect me to do? Go park on, a star?"

"I told you to stay away from the job. If you can't obey orders, I'll lock you up."

I reached him, switched off my radio and touched helmet."Boss!Boss!" I said. "You're broadcasting!"

"Oh-" he says, switches off, and touches helmets with her. We could still hear her; she didn't switch off. "Why, you big baboon, I came outside because you sent a search party to clear everybody out," and, "How would I know about a safety line rule? You've kept me penned up." And finally, "We'll see!"

I dragged him away and he told the boss electrician to go ahead. Then we forgot the row for we were looking at the prettiest fireworks ever seen, a giant St. Catherine's wheel, rockets blasting all over it. Utterly soundless, out there in space-but beautiful beyond compare.

The blasts died away and there was the living quarters, spinning true as a flywheel-Tiny and I both let out sighs of relief. We all went back inside then to see what weight tasted like.

It tasted funny. I went through the shaft and started down the ladders, feeling myself gain weight as I neared the rim. I felt seasick, like the first time I experienced no weight. I could hardly walk and my calves cramped.

We inspected throughout, then went to the office and sat down. It felt good, just right for comfort, one-third gravity at the rim. Tiny rubbed his chair arms and grinned, "Beats being penned up in D-113."

"Speaking of being penned up," Miss Gloria said, walking in, "may I have a word with you, Mr. Larsen?"

"Uh? Why, certainly. Matter of fact, I wanted to see you. I owe you an apology, Miss McNye. I was-"

"Forget it," she cut in. "You were on edge. But I want to know this: how long are you going to keep up this nonsense, of trying to chaperone me?"

He studied her. "Not long. Just till your relief arrives."

"So? Who is the shop steward around here?"

"A shipfitter named McAndrews. But you can't use him. You're a staff member."

"Not in the job I'm filling. I am going to talk to him. You're discriminating against me, and in my off time at that."

"Perhaps, but you will find I have the authority. Legally I'm a ship's captain, while on this job. A captain in space has wide discriminatory powers."

"Then you should use them with discrimination!" He grinned. "Isn't that what you just said I was doing?" We didn't hear from the shop steward, but Miss Gloria started doing as she pleased. She showed up at the movies, next off shift, with Dalrymple. Tiny left in the middle-good show, too; Lysistrata Goes to Town, relayed up from New York.

As she was coming back alone he stopped her, having seen to it that I was present. "Umm-Miss McNye. . . ."

"Yes?"

"I think you should know, uh, well...Chief Inspector Dalrymple is a married man."

"Are you suggesting that my conduct has been improper?"

"No, but-

"Then mind your own business!" Before he could answer she added, "It might interest you that he told me about your four children."

Tiny sputtered. "Why... why, I'm not even married!"

"So? That makes it worse, doesn't it?" She swept out.

Tiny quit trying to keep her in her room, but told her to notify him whenever she left it. It kept him busy riding herd on her. I refrained from suggesting that he get Dalrymple to spell him.

But I was surprised when he told me to put through the order dismissing her. I had been pretty sure he was going to drop it.

"What's the charge?" I asked. "Insubordination!"

I kept mum. He said, "Well, she won't take orders."

"She does her work okay. You give her orders you wouldn't give to one of the men and that a man wouldn't take."

"You disagree with my orders?"

"That's not the point. You can't prove the charge, Tiny."

"Well, charge her with being female! I can prove that."

I didn't say anything. "Dad," he added wheedlingly, "you know how to write it. No personal animus against Miss McNye, but it is felt that as a matter of policy, and so forth and so on."

I wrote it and gave it to Hammond privately. Radio techs are sworn to secrecy but it didn't surprise me when I was stopped by O'Connor, one of our best metalsmiths. "Look, Dad, is it true that the Old Man is getting rid of Brooksie?"

"Brooksie?"

"Brooksie McNye, she says to call her Brooks. Is it true?" I admitted it, then went on, wondering if I should have lied.

It takes four hours, about, for a ship to lift from Earth. The shift before the Pole Star was due, with Miss Gloria's relief, the timekeeper brought me two separation slips. Two men were nothing; we averaged more each ship. An hour later he reached me by supervisors circuit, and asked me to come to the time office. I was out on the rim inspecting a weld job; I said no. "Please, Mr. Witherspoon," he begged, "you've got to." When one of the boys doesn't call me 'Dad,' it means something. I went.

There was a queue like mail call outside his door; I went in and he shut the door on them. He handed me a double handful of separation slips. "What in the great depths of night is this?" I asked.

"There's dozens more I ain't had time to write up yet."

None of the slips had any reason given-just "own choice." "Look, Jimmie what goes on here?"

"Can't you dope it out, Dad? Shucks, I'm turning in one, too."

I told him my guess and he admitted it. So I took the slips, called Tiny and told him for the love of Heaven to come to his office.

Tiny chewed his lip considerable. "But, Dad, they can't strike. It's a non-strike contract with bonds from every union concerned."

"It's no strike, Tiny. You can't stop a man from quitting."

"They'll pay their own fares back, so help me!"

"Guess again. Most of 'em have worked long enough for the free ride."

"We'll have to hire others quick, or we'll miss our date."

"Worse than that, Tiny, we won't finish. By next dark period you won't even have a maintenance crew."

"I've never had a gang of men quit me. I'll talk to them."

"No good, Tiny. You're up against something too strong for you."

"You're against me, Dad?"

"I'm never against you, Tiny."

He said, "Dad, you think I'm pig-headed, but I'm right. You can't have one woman among several hundred men. It drives 'em nutty."

I didn't say it affected him the same way; I said, "Is that bad?"

"Of course. I can't let the job be ruined to humor one woman."

"Tiny, have you looked at the progress charts lately?"

"I've hardly had time to-what about them?"

I knew why he hadn't had time. "You'll have trouble proving Miss Gloria interfered with the job. We're ahead of schedule."

"We are?"

While he was studying the charts I put an arm around his shoulder. "Look, son," I said, "sex has been around our planet a long time. Earthside, they never get away from it, yet some pretty big jobs get built anyhow. Maybe we'll just have to learn to live with it here, too. Matter of fact, you had the answer a

minute ago."

"I did? I sure didn't know it."

"You said, 'You can't have one woman among several hundred men. Get me?'"

"Huh? No, I don't. Wait a minute! Maybe I do."

"Ever tried jujitsu ? Sometimes you win by relaxing."

"Yes. Yes!"

"When you can't beat 'em, you join 'em."

He buzzed the radio shack. "Have Hammond relieve you, McNye , and come to my office."

He did it handsomely, stood up and made a speech-he'd been wrong, taken him a long time to see it, hoped there were no hard feelings, etc. He was instructing the home office to see how many jobs could be filled at once with female help. "Don't forget married couples," I put in mildly, "and better ask for some older women, too."

"I'll do that," Tiny agreed. "Have I missed anything, Dad?"

"Guess not. We'll have to rig quarters, but there's time."

"Okay. I'm telling them to hold the Pole Star, Gloria, so they can send us a few thistrip ."

"That's fine" She looked really happy.

He chewed his lip. "I've a feeling I've missed something. Hmm-I've got it. Dad, tell them to send up a chaplain for the Station, as soon as possible. Under the new policy we may need one anytime." I thought so, too.