



Moonrise

Book I of The Moonbase Saga

Ben Bova

CONTENTS

- [Part I Destiny](#)
 - [Part II Hero Time](#)
 - [Part III Legacy](#)
-
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We have power, you and I, But what good is that now? We would build a new world if we only knew how

Jacques Brel

PART I: *Destiny*

[Contents](#)—[Next](#)

MARE NUBIUM

"Magnificent desolation."

Paul Scavenger always spoke those words whenever he stepped out onto the bare dusty surface of the Moon. But this time it was more than a quotation: it was a supplication, a prayer.

Standing at the open hatch of the airlock, he looked through his tinted visor at the bare expanse of emptiness stretching in every direction. Normally the sight calmed him, brought him some measure of peace, but now he tried to fight down the churning ache in his gut Fear. He had seen men die before, but not like Tinker and Wojo. Killed. Murdered. And he was trying to get me. The poor bastards just happened to be in his way.

Paul stepped out onto the sandy regolith, his boots kicking up little clouds of dust that floated lazily in the light lunar gravity and slowly settled back to the ground.

Got to get away, Paul said to himself. Got to get away from here before the damned bugs get me, too.

Twenty miles separated this underground shelter from the next one. He had to make it on foot. The little rocket hopper was already a shambles and he couldn't trust the tractor; the nanobugs had already infected it. For all he knew, they were in his suit, too, chewing away at the insulation and the plastic that kept the suit airtight.

Well, he told himself, you'll find out soon enough. One foot in front of the other. I'll make it on foot if I make it at all.

Twenty miles. On foot. And the Sun was coming up.

"Okay," he said, his voice shaky. "If it is to be, it's up to me."

The sky was absolutely black, but only a few stars showed through the heavy tint of his helmet's visor. They stared steadily down at Paul, unblinking, solemn as the eyes of God.

Turning slightly as he walked, Paul looked up to see a fat gibbous Earth, blue and gleaming white, hanging in the dark sky. So close. So far. Joanna was waiting for him there. Was Greg trying to kill her, too? The thought sent a fresh pang of fear and anger through him.

"Get your butt in gear," he muttered to himself. He headed out across the empty plain, fleeing death one plodding step at a time. With all the self-control he still possessed he kept himself from running. You've got to cover twenty miles. Pace yourself for the long haul.

His surface suit held the sweaty smell of fear. He had seen two men die out here; it had been sheer luck that the berserk nanomachines hadn't killed him, too. How do you know they haven't infested the suit? he asked himself again. Grimly he answered, What difference does it make? If they have, you're already dead.

But the suit seemed to be functioning okay. The real test would come when he stepped across the terminator, out of the night and into the blazing fury of daylight. Twenty miles in that heat, and if you stop you're dead.

He had calculated it all out in his head as soon as he realized what had happened in the shelter. Twenty miles. The suit's backpack tank held twelve hours of oxygen. No recycling. You've got to cover one and two-thirds miles per hour. Make it two miles an hour, give yourself a safety margin.

Two miles an hour. For ten hours. You can make that Sure you can.

But now as he trudged across the bleak wilderness of Mare Nubium, he began to wonder. You haven't walked ten hours straight in... Christ, not since the first time you came up here to the Moon. That was twenty years ago, almost Twenty pissing years. You were a kid then.

Well, you'll have to do it now. Or die. Then Greg wins. He'll have murdered his way to the top.

Even though it was still night, the rugged landscape was not truly dark. Earthglow bathed the rolling, pockmarked ground. Paul could see the rocks strewn across the bare regolith, the rims of craters deep enough to swallow him, the dents of smaller ones that could make him stumble and fall if he wasn't careful.

Nothing but rocks and craters, and the sharp uncompromising slash of the horizon out there, like the edge of the world, the beginning of infinity. Not a blade of grass or a drop of water. Harsh, bare rock stretching as far as the eye could see in every direction.

Yet Paul had always loved it. Even encased in a bulky, cumbersome surface suit he had always felt free up here on the surface of the Moon, on his own, alone in a universe where he had no problems at all except survival. That's what the Moon gives us, he told himself. Brings it all down to the real question, the only question. Are you going to live or die? Everything else is bullshit. Am I going to live or die?

But then he thought of Joanna again, and he knew that there was more to it. Would she live or die? Was Greg crazy enough to kill her, too? It's more than just me, Paul realized. Even here, a quarter-million miles from Earth and its complications, he was not alone. Even though there was not another living human being—not another living thing of any kind—this side of the mountains that marked the Alphonsus ringwall, Paul knew that other lives depended on him.

Joanna. Mustn't let Greg get to Joanna. Got to stop him.

He stopped, puffing hard. The visor of his helmet was fogging. A flash of panic surged through him. Have the nanobugs gotten to this suit? He held up his left arm to check the display panel on the suit's forearm, trembling so badly that he had to grasp his wrist with his right hand to steady himself enough to read the display. Everything in the green. He tapped the control for the air-circulating fan in his helmet and heard the comforting whine of its speeding up.

Okay, it's still working. The suit's functioning okay. Settle down. Keep moving.

Turning to see how far he'd come from the underground shelter that Greg had turned into a death trap, Paul was pleased to see that its gray hump of rubble was just about on the horizon. Covered a couple of miles already, he told himself.

His boot prints looked bright, almost phosphorescent, against the dark surface of the regolith. In a couple thousand years they'll turn dark, too; solar ultraviolet tans everything. He almost laughed. Good thing I'm already tanned.

Paul started out again, checking his direction with the global positioning system receiver built into the suit's displays. He hadn't had the luxury of timing his exit from the shelter to coincide with one of the GPS satellites' passing directly overhead. The only positioning satellite signal his suit could receive was low on the horizon, its signal weak and breaking up every few minutes. But it would have to do. There were no other navigational aids, and certainly no road markers on Mare Nubium's broad expanse.

The other shelters had directional beacons planted in the ground every mile between them. And they were no more than ten miles apart, all the way to the ringwall. Greg had planned it well; turned the newest of the temporary shelters into his killing place.

He plodded on, wishing the suit radio had enough juice to reach the tempo he was heading for, knowing that it didn't. There's nobody there, anyway, he thought. It's just a relay shelter. But it ought to be stocked with oxygen and water. And its radio should be working.

Suddenly, with an abruptness that startled him, Paul saw the horizon flare into brilliance. The Sun.

He checked his watch and, yes, his rough calculations were pretty close to the actualities. In a few minutes the Sun would overtake him and he'd have to make the rest of the trek in daylight.

Christ he thought, if the visor fogged up when it was two hundred below zero outside the suit what's going to happen when it goes over two-fifty *above*, and the damned suit can't radiate my body heat away?

A sardonic voice in his head answered, You'll find out real soon now.

The sunrise line inched forward to meet him, undulating slowly over the uneven ground, moving toward him at the pace of a walking man.

Despite the fear gnawing inside him, Paul thought back to his first days on the Moon. The excitement of planting boot prints where no one had ever stepped before; the breathtaking grandeur of the rugged landscape, the silence and the dramatic vistas.

That was then, he told himself. Now you've got to make it to the next shelter before you run out of oxy. Or before the Sun broils you. Or the damned bugs eat up your suit.

He forced himself forward, dreading the moment when he stepped from the night's shadow into the unfiltered ferocity of the Sun.

Yet even as he walked toward the growing brightness, his mind turned back to the day when all this had started, back to the time when he had married Joanna so that he could take control of Masterson Aerospace. Back to the moment when Greg Masterson had begun to hate him. It had all been to save Moonbase, even then. Paul realized that he had given most of his life to Moonbase. "Most of it?" he asked aloud. "Hell, there's a pissin' great chance I'm going to give *all* of it to Moonbase."

SAVANNAH

They had spent the afternoon in bed, making love, secure in the knowledge that Joanna's husband would be at the executive committee meeting.

At first Paul thought it was only a fling. Joanna was married to the head of Masterson Aerospace and she had no intention of leaving her husband. She had explained that to him very carefully the first time they had made it, in one of the plush fold-back chairs of Paul's executive jet while it stood in the hangar at the corporation's private airport

Paul had been surprised at her eagerness. For a while he thought that maybe she just wanted to make it with a black man, for kicks. But it was more than that. Much more.

She was a handsome woman, Joanna Masterson, tall and lithe, with the polished grace that comes with old money. Yet there was a subtle aura of tragedy about her that Paul found irresistible. Something in her sad gray-green eyes that needed consolation, comforting, love.

Beneath her veneer of gentility Joanna was an anguished woman, tied in marriage to a man who slept with every female he could get his hands on, except his wife. Not that Paul was much better; he had done his share of tail chasing, and more.

Screwing around with the boss's wife was dangerous, for both of them, but that merely added spice to their affair. Paul had no intention of getting emotionally wrapped up with her. There were too many other women in the world to play with, and an ex-astronaut who had become a successful business executive did not have to strain himself searching for them. The son of a Norwegian sea captain and a Jamaican school teacher, Paul had charm, money and an easy self-confidence behind his gleaming smile: a potent combination.

Yet he had stopped seeing anyone else after only a few times of lovemaking with Joanna. It wasn't anything he consciously planned; he simply didn't bother with other women once he became involved with her. She had never taken a lover before, Joanna told him. "I never thought I could," she had said, "until I met you."

The phone rang while they lay sweaty and spent after a long session of lovemaking that had started gently, almost languidly, and climaxed in gasping, moaning passion.

Joanna pushed back a tumble of ash-blond hair and reached for the phone. Paul admired the curve of her hip, the smoothness of her back, as she lifted the receiver and spoke into it.

Then her body went rigid.

"Suicide?"

Paul sat up. Joanna's face was pale with shock.

"Yes," she said into the phone. "Yes, of course." Her voice was steady, but Paul could see the sudden turmoil and pain in her wide eyes. Her hand, gripping the phone with white-knuckled intensity, was shaking badly.

"I see. All right. I'll be there in fifteen minutes."

Joanna went to put the phone down on the night table, missed its edge, and the phone fell to the carpeted floor.

"He's killed himself," she said.

"Who?"

"Gregory."

"Your husband?"

"Took a pistol from his collection and... committed suicide." She seemed dazed. "Killed himself."

Paul felt guilt, almost shame, at being naked in bed with Hier at this moment. "I'm sorry," he mumbled. Joanna got out of bed and headed shakily for the bathroom. She

stopped at the doorway for a moment, gripped the doorjamb, visibly pulled herself together. Then she turned back toward Paul.

"Yes. I am too." She said it flatly, without a trace of emotion, as if rehearsing a line for a role she would be playing.

Paul got to his feet. Suddenly he felt shy about getting into the shower with her. He wanted to get to his own condo. "I'd better buzz out of here before anybody arrives," he called to Joanna.

"I think that would be best. I've got to go to his office. The police have been called."

Searching for his pants, Paul asked, "Do you want me to go with you?"

"No, it's better if we're not seen together right now. I'll phone you later tonight."

Driving along Savannah's riverfront toward his condo building, Paul tried to sort out his own feelings. Gregory Masterson II had been a hard-drinking royal sonofabitch who chased more, tail than even Paul did. Joanna had sworn that she had never had an affair before she had met Paul, and he believed her. Gregory, though, he was something else. Didn't care who knew what he was doing. He liked to flaunt his women, as if he was deliberately trying to crush Joanna, humiliate her beyond endurance.

Hell, Paul said to himself, you should talk. Bedding the guy's wife. Some loyal, trusted employee you are.

So Gregory blew his brains out. Why? Did he find about Joanna and me? Paul shook his head as he turned into the driveway of his building. No, he wouldn't commit suicide over us. Murder, maybe, but not suicide.

As he rode the glass elevator up to his penthouse condo, Paul wondered how Joanna's son was taking the news. Gregory Masterson III. He'll expect to take over the corporation now, I'll bet. Keep control of the company in the family's hands. His father nearly drove the corporation into bankruptcy; young Greg'll finish the job. Kid doesn't know piss from beer.

Paul tapped out his code for the electronic lock, stepped into the foyer of his condo, and headed swiftly for the bar. Pouring himself a shot of straight tequila, he wondered how Joanna was making out with the police and her husband's dead body. Probably put the gun in his mouth, he thought. Must be blood and brains all over his office.

Feeling the tequila's heat in his throat, he walked to the big picture window of his living room and looked out at the placid river and the tourist boats plying up and down. A nearly-full Moon was climbing above the horizon, pale and hazy in the light blue sky.

A sudden realization jolted Paul. "What are they going to do about Moonbase?" he asked aloud. "I can't let them shut it down."

NEW YORK CITY

Paul flew his twin-engined executive jet to New York's JFK airport, alone. He hadn't seen Joanna in the three weeks since Gregory Masterson's suicide. He had phoned her and offered to take Joanna with him to New York, but she decided to go with the company's comptroller in her late husband's plane. This board meeting would decide who the new CEO of Masterson Aerospace would be, and Paul knew they would elect young Greg automatically.

He also knew that Greg's first move as CEO would be to shut down Moonbase. The corporation had run the base under contract to the government for more than five years, but Washington had decided to stop funding Moonbase and 'privatize' the operation. Masterson Aerospace had the option of continuing to run the lunar base at its own expense, or shut it all down.

The chairman of the board was against keeping the lunar operation going, and Greg was hot to show the chairman and the rest of the board that he could cut costs. Paul had to admit that Moonbase was a drain on the corporation and would continue to be for years to come. But eventually... If only I can keep Moonbase going long enough to get it into the black.

It's going to be tough once Greg's in command. Impossible, maybe. He spent the entire flight to New York desperately wondering how he could convince Greg to give Moonbase a few more years, time to get established well enough to start showing at least the chance of a profit downstream.

It's the corporation's future, he told himself. The future for all of us. The Moon is the key to all the things we want to do in space: orbital manufacturing, scientific research, even tourism. It all hinges on using the Moon as a resource base. But it takes time to bring an operation like Moonbase into the black. Time and an awful lot of money. And faith. Greg just doesn't have the faith. He never has, and he probably never will.

Paul did. It takes a special kind of madman to push out across a new frontier. Absolute fanatics like von Braun, who was willing to work for Hitler or anyone else, as long as he got the chance to send his rockets to the Moon. It takes faith, absolute blind trusting faith that what you are doing is worth any price, any risk, worth your future and your fortune and your life.

I've got that faith, God help me. I've got to make Greg see the light the way I do. Somehow. Get him to listen to me. Get him to believe.

JFK was busy as always, the traffic pattern for landing stacked twelve planes deep. Once he had taxied his twin jet to the corporate hangar and climbed down the ladder to the concrete ramp, the howl and roar of hundreds of engines around the busy airport made Paul's ears hurt.

As he walked toward the waiting limousine, suit jacket slung over one arm, the ground suddenly shook with a growling thunder that drowned out all the other sounds. Turning, Paul saw a Clippership rising majestically on its eight bellowing rocket engines, lifting

up into the sky, a tapered smooth cone of plastic and metal that looked like the most beautiful work of art Paul had ever seen.

He knew every line of the Clippership, every detail of its simple, elegant design, every component that fit inside it. A simple conical shape with rockets at the flat bottom end, the Clippership rose vertically and would land vertically, settling down softly on those same rocket exhaust plumes. Between takeoff and landing, it could cross intercontinental distances in forty-five minutes or less. Or make the leap into orbit in a single bound. Everything seemed to stop at the airport, all other sounds and movement suspended as the Clippership rose, thundering slowly at first and then faster and faster, dwindling now as the mighty bellow of its rockets washed over Paul like a physical force, wave after wave of undulating awesome noise that blanketed every frequency the human ear could detect and much more. Paul grinned and suppressed the urge to fling a salute at the departing Clippership. The overpowering sound of those rockets hit most people with the force of a religious experience. Paul had converted four members of the board of directors to supporting the Clippership project by the simple tactic of bringing them out to watch a test launch. And hear it. And feel it.

Laughing to himself, Paul ducked into the limousine door that the chauffeur was holding open. He wondered where the Clippership was heading. There were daily flights out of New York to Tokyo, Sydney, Buenos Aires and Hong Kong, he knew. Soon they would be adding more cities. Anywhere on Earth in forty-five minutes or less.

The Clipperships had pulled Masterson Aerospace out of impending bankruptcy. But Paul knew that he had pushed for them, fought for them, was willing to kill for them not merely because they made Masterson the leader in the new era of commercial transport. He went to the brink of the cliff and beyond for the Clipperships because they could fly into orbit in one hop, and do it more cheaply than any other rocket vehicle. The Clipperships would help to make Moonbase economically viable. *That* was why Paul rammed them past Masterson's board of directors—including the late Gregory Masterson II.

The Clipperships would help Moonbase to break into the black, if Greg Masterson III didn't kill Moonbase first.

But as the cool, quiet limousine made its way out of the airport and onto the throughway, crowded with the world's most aggressive drivers, Paul realized that the Clipperships meant even more to him than Moonbase's possible salvation. He had made the Clipperships a success, true enough. But they had made a success of him, as well. Paul's skin was no darker than a swarthy Sicilian's, but he was a black ex-astronaut when he started at Masterson, all those years ago. With the accent on the black. The success of the Clipperships had elevated him to the exalted level of being the black manager of Masterson's space operations division, in Savannah, and a black member of the board of directors.

And the black lover of the dead boss's wife, he added wryly to himself.

Paul had never liked New York. As his limo headed through the swarming traffic along the bumpy, potholed thoroughway toward the bridge into Manhattan, Paul thought that New York wasn't a city, it was an oversized frenetic anthill, always on the verge of explosion. Even twenty years after the so-called Renaissance Laws, the place was still overcrowded, noisy, dangerous.

Electricity powered all the cars, trucks and buses bound for Manhattan. Old-style fossil-fueled vehicles were not allowed through the tunnels or over the bridges that led into the island. That had cleaned the air a good bit, although hazy clouds of pollution still drifted in from New Jersey, across the Hudson.

Police surveillance cameras hung on every street corner and miniaturized unmanned police spotter planes were as common in the air as pigeons. Vendors, even kids who washed windshields when cars stopped for traffic lights, had to display their big yellow permits or be rousted by the cops who rode horseback in knots of threes and fives through the crowded streets.

Yet the streets still teemed with pitchmen hawking stolen goods, kids exchanging packets of drugs, prostitutes showing their wares. All that the Renaissance Laws had accomplished, as far as Paul could see, was to drive violent crime off the streets. There was still plenty of illicit activity, but it was organized and mostly non-violent. You might get propositioned or offered anything from the latest designer drugs to the latest designer fashions, fresh off a hijacked truck. But you wouldn't get mugged. Probably.

Still, the limo had to thread its way across the ancient bridges and along the narrow, jampacked streets. The windshield got washed—partially—four different times, and the chauffeur had to slip a city-issued token through his barely-opened window to the kids who splashed the brownish water onto the car.

He must use up the whole tank of windshield cleaner every trip, Paul thought as the limo inched downtown, wipers flapping away.

At one intersection a smiling trio of women tapped on Paul's window, bending low enough to show they were wearing nothing beneath their loose blouses. Kids, Paul realized. Beneath their heavy makeup they couldn't have been more than fifteen years old. A trio of mounted policemen watched from their horses, not twenty yards away.

Paul shook his head at the whores. I've gotten this far in life without killing myself, he thought. The girls looked disappointed. So did the cops. Then the traffic light went green and the limo pulled away.

By the time he got to the corporate offices in the Trade Towers, Paul needed a drink. The walnut-panelled board room had a bar and a spread of finger foods set up in the back, but neither a bartender nor waitress had shown up yet. Paul did not see any tequila. He settled for a beer, instead.