

Spark of Life

J. M. Taylor

Seven thousand light years from Earth a black hole imploded in the Eagle Nebula, releasing a wave of gamma radiation from the center of a finger-like star cloud and engulfing the adjacent star systems. The ball of energy expanded toward the outer edges of the universe, brushing by every celestial body in its path, including, eventually, Earth.

The suit alarm squealer gnawed into Mac Dawson's left ear, drowning out the background intercom chatter. He shook his head in disgust at the disfigured spalloy cross beam, chopped ragged, half a meter shorter than the spec sheet projected onto the bottom of his face plate called for.

The alarm droned on while he tried to figure out how to correct his mistake. Jury-rigs weren't expected in space.

Mac tugged at the safety leash, pulled back to the main girder, then rebounded off toward the stars. He reached out with his suit grapples and snagged the errant chunk of spalloy before it escaped to be a bit of space debris, or worse yet, sliced into the skin of a station module.

Exasperating, that alarm. He usually could control the laser cutter to within millimeters, but this time he had sliced through the entire beam, startled by the screamer and a whack across his back.

He punched at the suit controls. The screamer silenced, then resumed, screeching at his nerves.

Mac took a sharp breath when the significance of the irritating tone finally registered. He was in zero-grav, and he had a suit alarm that wouldn't accept a reset. Perspiration suddenly stung his eyes and dripped from his nose, overloading the suit enviro system and adding a second alarm beeper for the few seconds it took the system to recycle his sweat.

"Jack, come look me over. Got a suit screamer."

Jacqueline slowly swung around to face him, her space suit gleaming in the reflected Earthlight.

Mac scanned the digital display on his left arm. "Miniboard says three point seven pounds air loss per minute. Must have taken a micrometeor hit." Mac heard his voice rise, crack on "hit." He scrunched his head around in the confining helmet, searching the suit for signs of a tear.

"Don't screw around, Mac. Start for the airlock. Now."

His partner's warning, insistent over the murmur of a docking conference in the background, wormed into his right ear, the one with the intercom speaker.

"Come on, don't waste time looking for the leak. Haul it." Her high pitch overloaded the intercom transducer, distorting her voice to a squeal.

He glanced down at the suit control panel. The display announced his life expectancy, now digitally flipping down past through 412 seconds. Less than seven minutes to live. His hands felt numb.

Jacqueline pulled her way to the airlock and slapped the release bar. She slapped it again, then tugged on the release. Mac's suit pack hummed, drying out the chill sweat as he watched. Jacqueline's next call cut through the ever-present crew chatter.

"Station Ops, this is Sinclair. Dawson's got a suit alarm, and the emergency hatch is stuck again." Her shout over the automatic distress channel smothered the dock crew's methodical countdown.

Ops' reply was instantaneous. "Roger, Sinclair." The emergency team Klaxon added to the normal background din. "Support teams on the way—inside and out. Inside ETA in one minute—outside..." voices yelled in the background, "...four minutes."

Mac reached out toward Jacqueline to stop his momentum as he drifted to the hatch. Her rounded helmet face cover was distortion free, an engineering marvel of synthetic quartz. Mac wished it was cloudy or full of wavy lines, anything so he didn't have to look in her eyes. Inside the station they were a pale blue. Out here her eyes shifted from brown to green, reflecting the spinning planet below them.

Why had his feet gone numb and his hands begun to tremble?

She twisted him around until the safety leash snagged, jerking him to a stop.

“I can’t find the leak. How long?” She snatched his arm display up to her face, not waiting for his reply. “Two hundred thirty seconds. Oh, God, Mac.”

Their face covers clicked softly as he tugged her close. “You have a nice moon trip, Jack. And stay off the alky. You know how the stuff gets you all wild.” He blinked his eyes clear, not wanting to squander the glow in her eyes as he waited for the seconds to flash across the display.

“No R&R without you. Now help.” She seized the hatch handle and yanked.

The surface of the gamma ray wave expanded like a berserk balloon. Four thousand light years from the Eagle Nebula and three thousand light years from Earth, the wave front passed over a tightly rotating pair of white dwarfs, lonely suns who had already consumed their children planets and were about to consume each other. Their combined gravitational fields grabbed trillions of quantum particles from the face of the wave and refracted them into two focused beams. The beam paths diverged like a thin V, each coherent beam just over seven millimeters in diameter. One beam continued toward Earth, the other shot toward a recently formed star warming its new planets.

Mac followed Jacqueline’s lead and braced his legs on the side of the hatch opening and pulled. The hatch didn’t budge. He could feel the pounding of the emergency crew on the inside through the bottom of his boots. The alarm tone stopped, replaced by a soft intermittent beep. The audio engineer thoughtfully had designed the final notification with a more pleasant sound. Why not just a pagepipe dirge?

“Feel O.K.?” Jack’s voice was calm now. Next to each other their intercoms went direct, suit to suit, no relay transponder, no digital smoothing. Just her calm voice.

“Sure.” What else to be said? He and Jack had worked and loved together for years. They had seen, done it all. Jacqueline grinned at him through the full face cover. Tears ran down her cheeks, around her grin.

“Stop that. You’ll flood your enviro system.”

She shook her head, flinging tears across the face plate, maneuvered her grapples to the safety connection and unsnapped their leashes.

“What are you doing? Snap back. Just because I screwed up doesn’t mean you have to take the long fall.”

“We aren’t going to float here and say goodbye. Not yet. Get going. Rear observatory hatch.”

He followed her lead and kicked. They shot across open space toward the observatory module, tumbling, spinning around their own little celestial center of gravity.

The planetary forces of heat and magnetism stirred the nitrogen and carbon and oxygen and other trace elements, a potential caldron for sentient soup on the new planet. Millions of years behind Earth in the evolutionary schedule, the elements needed for life converged in a deep sea around a series of sulfur deposits. The sea was composed mostly of basic oxygen and hydrogen compounds, but also contained complex sulfuric and nitric acids and traces of other metallic salts in solution. After many millennia, the microscopic gas bubbles generated by the sulfuric reactions combined with the carbon-based compounds to spawn a panorama of spongy nodules around the volcanic vent holes.

Five thousand light years after the black hole implosion in the Eagle Nebula, nodules began to break free, one by one, and slowly float upward. Close to the surface the star’s radiation began to warm the free oxygen and hydrogen. The bubbles grew and the nodules rose even faster. But when the nodules broke the surface and floated in direct view of the star’s heat, the bubbles burst, the nodules disintegrated and the compounds, with their potential for life, slowly

sank back to the sea floor.

“Mac. I’ve made it even worse.”

He twisted around to see the observation module drift by, out of reach.

Jacqueline tossed the safety leash toward the hatch. The heavy coupler on the end of the leash skidded across the module skin, snagging the leash for a moment under a yellow-stripped grip. Then the leash slithered free and slowly trailed them into space, oscillating like a long jump rope.

The reaction from her toss increased their momentum away from the module.

“Time is getting too short to waste. You’ve got to get back to the station.”

He clinked his face cover one last time against hers. “Bye, baby. Take care.” He shoved her toward the module; his time to be the reaction.

“Mac.” Her cry echoed in his head.

She spun away from him, toward the observation hatch, slowly twirling in the Earthlight as he drifted toward the outer planets. No one was talking on the intercom. The tone from the suit warning system stopped.

All was quiet...Designed for a moment of peace at the end...Thanks, Mister Engineer.

Once again a flotilla of nodules had soared to the surface of the far planet. The tidal wash deposited them on the edge of a great continent where mountains rose sharp from the ocean, yet to be eroded by the coming eons of rain and wind. Nurtured by the star’s diminishing heat, but protected by the rock formation from direct radiation, the hydro-carbon compounds arranged themselves in complex chains, growing closer and closer to a conscious state.

One long chain of nucleotides began moving as the star cooled. When the sea level dropped over the years, the chain twisted in the drying environment, adapting, adding cells to its length, forming a double helix shape. The chain cooked in a pile of muck packed in a volcanic boulder, slowly cycling through hot and cold as the planet rotated around its star. Reaching a precise temperature, the chain convulsed and broke in two. Each chain was identical to the other.

Life was being born. Not yet, but close. The diverging gamma ray beams from the Eagle Nebula were still traveling, unimpeded, at the speed of light as they traversed the universe. Their paths were slightly serpentine as they shot between millions of celestial bodies and the influence of their gravitational fields.

One beam would narrowly miss Earth, the other was on a collision course with the planet struggling to produce life, both seconds from impact.

Mac Dawson had lived with risk, but he had always believed that, with Jacqueline at his side, trouble would pass them by. Space wobblers had the best safety record of any industry. Had to be risk management experts to survive. He thought back through what he had been doing, analyzing his actions. He couldn’t remember a mistake.

Must be a pin-hole from an impact, one of those butterfly—thunderstorm chaos theory random sequence events.

He took a deep breath and looked down at the display. One hundred and five seconds of air left.

A hatch flew open at the far end of the station and a pair of orange-suited emergency walkers emerged, tiny in the distance. He could see their propellant packs gush into the vacuum surrounding them. Good thought, but about two minutes too late, he figured. When the readout reached zero, he would try to breathe, and nothing would happen. After that, he didn’t know, and didn’t really want to know what would happen. He wouldn’t like it and wouldn’t be able to stop it. He just hoped Jacqueline didn’t insist on looking at him when it was all over.

“Jack?”

“Yes.” This far away her voice was flat, all emotion processed out by the digital transponder.

“Don’t let them bring my body in.”

“What?”

“Tell them to just give what’s left a shove toward home.”

“Mac, this is our home.”

“I mean Earth.”

“Reentry?”

“Yeah. It’ll be pretty.”

“It’ll be a beauty.”

The sob in her voice tore at his heart.

The gamma ray beam struck the ferrite rock, home to the carbon chain, generating a massive electromagnetic pulse. The current arced from one stratum of ferrite deposits to the next. Balls of lightning danced over the surface, and intense heat fractured the huge boulder. The long chain of complex compounds nestled in the muck oxidized, leaving behind a smell that, were there anyone to sense, would have seemed sour, almost like a dead thing. But that wasn’t right, because nothing had ever been alive on this planet and would not, ever.

The second beam deflected around the rim of Earth’s moon and struck Mac Dawson’s enviro pack wiring harness. The electromagnetic pulse induced an overload current through the wires and connected circuits. All electrical functions halted, and his suit was surrounded by a sparkling blue glow. The current searched for a ground and found a screw that had been captured by earth’s gravity when the Apollo 13 side panel blew in 1970. The screw had accelerated as it spiraled down in an every-decaying orbit around earth, too small to register on radar, never logged on the NASA space debris master list, but fast enough to puncture Mac’s air valve. The charge dissipated into heat, arc welding the rupture in the suit air valve, sealing the leak.

Mac glanced down when the electrical discharge dissipated and his short-cropped hair stopped tingling. The display flickered as the capacitors drained—twenty seconds—then went blank. He floated, waiting for the final suck of vacuum to end this wonderful life.

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Twenty seconds had ago long passed. This must be when your entire life goes through your mind, he thought. He watched for the white tunnel, the angels. All he saw was black space, stars reaching forever, slowly circling all around him. Lungs empty, no more air to breathe.

A sudden momentum crunched his nose against the suit collar ring. He felt grapples spinning his body around.

His heart pounded. God, are they just going to pitch me over, still alive?

An angel appeared in front of him, a green-eyed one. He shouted an air-less shout.

Jack’s eyes opened wide and he could see her lips move, talking frantically to someone, an orange suit reflected in her faceplate.

* * *

Moonside, he had to ask.

“Jack, can we retire?”

From her eyes he sensed the questions—was he afraid to walk, scared of space?

“No. Whatever you’re thinking, that’s not what I’m asking.” He leaned over, eye to eye, nose touching hers, no crystal separating them, her breath warm on his lips.

Jacqueline laughed, eyes crossed.

“I know we can’t go back Earthside. We’ve both lived too long in no grav. But we can live here.”

He took her hands in his. “I saw on ’vision—people raising families on the Moon now.”

She looked around at the R&R habitat, spacious compared to the station.

“Would you be happy?”

“I don’t know. But I thought the universe could use a new life.”

“Trade in the old one?”

“That, yes. But I’m not talking about recycling.” He took her hand. “Will you have our baby?”

He thought she was going to smother him with her kisses. He could see in those dark blue eyes she had said yes.

“You wrench wobbler. You know I want to have a kid.” She kept kissing him between words. “Why now?”

“For some reason I figure I owe the universe a new life.”

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