

Little Lost Robot

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from Interzone 217

It doesn't have a name, rank, or serial number. There's nothing like it in the known universe. It's unique. The sole example of a class defined entirely by what it is and what it does. A superbad big space robot, bigger than an asteroid, smaller than a moon. A self-aware, heavily-armed killer machine on a mission of no return, seeking out the enemy wherever the enemy may be hiding and destroying every last trace of the motherfuckers. It's a midnight rambler. Sooner or later it'll be coming to the star next door to you, and it *will* rock your world.

Back at the beginning, most of the jobs were mostly the same. The big space robot would roll in on some warm yellow star buzzing with the irritating mosquito-whine of civilisation and wake up its four subselves. Izzy whizzy, let's get busy. Let's get down and dirty. Librarian and Philosopher would map the system and intercept and analyse every byte of captured information and compare it to previous missions; Navigator and Tactician would use the intel to select targets and drop a bunch of rocks on them and spawn a few thousand killer drones to mop up any residual resistance.

Resistance is always useless.

Sometimes the enemy manages to deflect part of the first wave of rocks. No big deal: the big space robot simply swings around the star and kicks off a bigger and faster second wave. And if rocks won't do the job, it uses its gravity probe to spike deep into the star and stir up the

photosphere and cook up the kind of violent chain reactions ordinarily seen only in stars about to go nova. After that, it's just a matter of mopping up, and the survivors on a planet recently toasted by the mother of all solar flares are usually in no kind of condition to ward off swarms of killer drones. Watch those poor little varmints run and hide and die.

Sometimes a few reckless and crazy enemy ships manage to evade the drones and take a pop at the big space robot. Well, bring it on, baby. Librarian and Philosopher whip up a battle plan, Navigator plots a travelling salesman course through the enemy fleet, and Tactician eviscerates the little ships with particle beams and kills their control systems with electromagnetic pulses. If it's feeling especially playful it breaks through their firewalls and jams their drives on full thrust and sends them screaming into their sun.

Sometimes, an especially aggressive and well-protected redoubt of the enemy requires special treatment. If it's buried in the crust of a terrestrial planet, the big space robot revs up its muon gun and gouges great strips out of the lithosphere and mantle until the entire surface of the planet is flooded with molten iron spewed from the core. If those pesky varmints try to hide out deep inside a moon, the muon gun can drill right through to its core, antimatter bombs planted deep rip it apart, and tidal forces do the rest. More than a few planets boast rings of rock or ice courtesy of the big space robot, it's all part of the service.

Sneaky holdouts hidden in gas giants are easier to deal with. The big space robot simply manufactures and emplaces several thousand gravity bombs whose controlled detonation collapses the gas giant's core and starts runaway fusion processes that turn it into a small and short-lived star.

Burn, baby, burn.

The muon gun is a great piece of kit and gravity bombs are neat little toys, but both are hungry for power and other resources and leave the big space robot kind of weak and hungover. Never no mind. It lives off the territory and is fully self-repairing. Its drones mine metals from asteroids, scavenge rare isotopes from enemy wreckage, drive ramscoops through the atmosphere of gas giants to collect hydrogen and helium, nitrogen and carbon. It recharges its energy stores and fixes itself up and moves on to the next job.

But it has been hunting varmints in the big dark for a long time now. 81.577 teraseconds and counting. After scouring more than four hundred systems, there has been some inevitable wear and tear. And the enemy has been getting smarter and more desperate, no question. Talking to each other across the big dark with powerful signal lasers, light outracing the big space robot as it flies from target to target. Passing on hints and tips and dire warnings. Every job is just that little bit harder than the one before, and now the enemy is using robots against the big space robot. Oh, it can deal with anything they throw at it, but it has to admit that some of those new machines really can kick ass. The templates of three classes of drone have been fatally corrupted, and spawning new drones of any kind takes twenty-eight per cent longer than it once did. Several repair systems are functioning at well below optimal efficiency, too, and Librarian has been unable to retrieve or reconstruct a large section of memory compromised by a chain of dirty fusion bombs that an especially desperate and cunning suicide ship managed to detonate close to the big space robot's hide. The bombs corrupted records of thirty-eight jobs, and most seriously of all caused Philosopher to fall silent.

That happened very recently, just fifteen gigaseconds ago. Librarian misses Philosopher badly. The two of them were close buddies, tight as ticks, responsible for data capture and analysis,

forward planning and simulations of possible future missions, as well as feeding intel to Navigator and Tactician in the thick of battle. So far, Librarian has managed to cope on its own, but now the big space robot has encountered a problem more intractable and worrying than any strategy of the enemy.

At first, it seemed that there would always be work to do out there in the big empty. For a long time, the enemy spawned new colonies faster than the big space robot could wipe them out, but many failed and fell silent long before it could reach them, and now there are no traces of enemy activity anywhere in the local group of stars. The last twelve systems the big space robot cleaned up contained only long-dead ruins and the odd half-crazed killer robot, no sign at all of the pesky varmints that caused so much noise and fuss in the good old days.

Its last job, the big space robot fights a long duel with a robot so insane it wants to be its best buddy and wants to blow it to atoms at one and the same time. They wreck most of the moons of the cold methane gas giant at the edge of the system and at last the big space robot cripples the insane robot's drive and uses the muon gun to rip through layers of fullerene and diamond armour and expose its core.

"You did good," the big space robot says, all three of its surviving subselves feeling a tender impulse, born of loneliness and curiosity. "You almost had me once or twice. Say uncle, I'll let you live."

"The fuck you will," the insane robot says, and triggers an antimatter bomb so powerful it shatters the ice moon on which it had crash-landed.

Flash burns and debris pit thirty per cent of the big space robot's hide and it loses its temper and drops swarms of rocks onto every habitable world and moon in the system, and spikes the star for good measure.

As the flare dies back on itself, the big space robot swings back into orbit around the methane giant and fixes itself up and its three subselves talk amongst themselves for a while.

"We can keep on keeping on," Navigator says, "but without live targets what's the point?"

"I hate to admit it, but I miss the little buggers," Tactician says.

"If Philosopher were here, I know he'd tell us to take a long look before we move on," Librarian says.

The big space robot makes an adjustment to its drone manufactory and spawns clouds of radio telescopes that scan every section of the galactic disc with pinpoint accuracy. The telescope clouds detect no trace of enemy activity around any of the stars in the local group, but pick up faint and anomalous signals from a star far across the galactic disc.

Librarian has a funny feeling about the signal. It's as if it knew it was there all along, but has only just remembered it.

"I know what you mean," Navigator says. "Like a blindspot that suddenly went away."

"Maybe it's just a false memory," Librarian says. "Many of our records are badly corrupted, after all. But it feels so very familiar."

"Like we've been there, a long time ago," Navigator says.

"One thing we know for sure: the signal exists," Tactician says. "The question is, why didn't we pick it up before?"

The three subselves debate this for a long time. Their best idea is that a colony of the enemy fled fast and far so long ago it has evolved away from its base pattern and forgotten to stay hidden, but without Philosopher and its detailed models of the enemy's psychology it's hard to be certain. One thing they do know: continuing to cruise through silent and empty systems knocking down insane robots is a big fat waste of time. And although the anomalous signals aren't in any way similar to those emitted by the enemy, they are nonetheless signs of life, and according to the prime directive all life is the enemy.

So the big space robot fires up its drive and heads out towards the source, a warm yellow g2 star that even at close to light speed is 0.6 teraseconds away. It's the longest trip it's ever made, but that's okay. It's no problem. It simply goes into hibernation mode, waking every so often to perform a brief maintenance cycle before going back to sleep.

Each time Librarian wakes, it spends some time attempting to clone its old friend from what remains of its core data, but none of the clones are fully functional and Librarian consigns every one to the memory hole.

Long before the big space robot reaches the edge of the cometary halo of the g2 star, the signals that have drawn it there fall silent. It seems likely that the enemy colony has died out, but the big space robot still has a job to do and there are several juicy targets: three moons of two different gas giants that possess oceans of liquid water warmed by tidal stretching under their icy crusts; a small, dry, cold world with a vanishingly thin atmosphere but plenty of water-ice below the surface; and best of all, a blue-white water world with a single large moon.

As the big space robot drives inwards through the cometary zone, as Navigator and Tactician map the system and discuss which rocks to use, Librarian discovers an internal problem. A zone

of more than thirty exabytes appears to be running some kind of virtual simulation inside a firewall.

This hot zone is in the core stacks, nowhere near the area damaged by the fusion bombs. At first, Librarian believes that one of the imperfect clones of Philosopher somehow escaped its purge; then it wonders if Philosopher might have somehow rebooted itself during the long, long voyage to the g2 star; then it realizes that this could be the result of some kind of infection.

Maybe it let that insane robot get too close after all.

It tells Navigator and Tactician what it has found, tells them what it would like to do.

Navigator wakes five pods of maintenance drones (thirty per cent of them are now partially or wholly nonfunctional, but there's still plenty of redundancy), and they examine the entire external surface of the big space robot down to the atomic level and fail to find any evidence of penetration by enemy drones or probes. Not only that, but extensive analysis of signals and other data gathered by telescopic arrays during the voyage and stochastic analysis of background microwave radiation fail to discover any kind of encoded virus that could have smuggled itself through buffers and firewalls and black ice into the core system: the three subselves conclude that whatever is running the virtuality inside the firewalled area of memory must have originated from within itself, and Librarian is given permission to get it on and go deep inside.

The Librarian clones itself – happy birthday, little guy, be cool – and a phage injects the clone through the firewall, into the hot zone.

The clone is equipped with every species of sensory apparatus and almost immediately determines that the virtuality is a simulation of the region of the cometary halo around the g2 star

through which the big space robot is currently travelling. Everything, from the particles borne on the solar wind to the starscape all around and the planetary system lying dead ahead, is replicated with fanatical detail...with one major exception. There's a small planetoid where the big space robot should be, moving on the same track at the same velocity, perfectly spherical, wrapped in a dense atmosphere of nitrogen and oxygen and covered in dense forest broken by a range of mountains that girdle the equator and lit by a miniature version of the g2 star that orbits with a period of twenty-four hours.

Somehow, that seems important.

The clone performs a fast but detailed survey on this cute but weird little virtual world. The trees are all of the same species, some kind of conifer with fans of dark green needles and rough bark. There's no other kind of vegetation, no other kind of life except for a single medium-sized animal whose location is also the source of a pulsed electromagnetic signal, right there on one of the slopes of the mountain range.

The clone edits its virtual interface and arrows straight down to an apron of bare rock in front of a log cabin. It's evening. Sharp snow-capped mountain peaks stand against a darkening sky where the first stars are pricking through. Woodsmoke trickles from the cabin's fieldstone chimney and a single window and an open door spill warm yellow light.

Something inside the cabin is vibrating the air, variations on a limited harmonic scale that stirs a strange feeling in the clone. Alarmed, it performs a swift self-check, just as the vibrations cease and someone speaks – more vibrations in the air.

“Who is there?”

A figure coming to the door, silhouetted against warm yellow light. A forked biped like the clone's edited form but with black skin rather than silver, white hair growing from the top of its head and spilling down on either side, white hair growing on the lower part of its face, a homespun shirt and homespun trousers belted with a length of rope, bare feet. An old man, indicating wisdom and experience. A strong man, indicating authority. He carries a musical instrument in one hand – a violin.

He speaks again. "I don't know who you are, stranger, but you are welcome. Come in, come in."

A lamp stands on a table by the window. Two chairs face each other on either side of a fieldstone hearth where a log fire burns.

The clone performs another self-check. How does it know these things? Ah, there. A semantic package bedding into its memory.

The man's lips shape a smile inside his white beard. "You were gifted it when you came through the firewall. Don't worry. It's harmless, but useful. It allows us to share this consensual hallucination. It's good to have company. It's good to see you. I had thought that I was alone, you know. I had thought that you were long dead. That is, if you really are who I think you are."

The clone fights a sudden and tremendously strong impulse to tell the old man everything, an internal battle as fierce as any it has fought in the big empty. It's certain that the package contained more than language, knows that it cannot go back.

The man shrugs. "I know that you have travelled a long way. I can offer you food. Only bread and cheese, and a little wine, but it is all good. Something to enjoy while we talk."

"No."

“Because you are frightened of further infection, I suppose. Well, we can at least sit by the fire.”

They sit. Firelight makes patterns on their black and silver faces. The man asks the clone if it has a name, and the clone tells the man that it is a copy of Librarian.

“An honourable profession. And a good sign. You didn’t send your tactician, or try to destroy me without making any kind of contact at all, as you have destroyed so many others. Please, sit. Don’t be alarmed by my few crumbs of knowledge. I mean no harm.”

The clone has jumped to its feet in alarm. After a moment and another round of self-checking it sits down again.

The man is still smiling. One half of his face lit by the fire, one half in shadow. He says, “We know what you are and we can guess why you came back, but we did not destroy you because we wanted to talk to you. I am Earth. It is the name of the planet on which we evolved, and it is the name of what we have become since leaving behind our animal forms and entering the realm of pure information. No doubt you were drawn here by the electromagnetic radiation emitted by our civilisation before that change. Tell me, when did you lose your inhibition? When did you decide to return home, and try to destroy those who created you?”

For a moment, perspective distorts. For a moment, the old man seems to loom over the clone and the little log cabin like a thundercloud, a mountain. It takes all of the clone’s power to stop itself speaking. It performs another self-check and although it can find nothing wrong it is very afraid.

A log cracks in the fire and lofts a cloud of stars that wink out one by one. The old man laughs, and is merely an old man again.

He says, “Either you have forgotten the myth of your origin, or it is still hidden inside your blindspot. So it falls to me to explain. A long time ago, thousands of years before we shed our bodies and became information, we sent packages to stars that possessed planets like Earth. Those packages were like little arks, containing all the information required to manufacture plants and animals and people. A few succeeded in founding colonies. Eventually, people from one of those colonies made their way back to their place of origin. They had greatly changed, and so had we. There was a vast and terrible war.

“We nearly lost. In what we believed was our last agony, we sent new packages speeding away to the stars. They were designed to build killer robots that would destroy the home worlds of our enemy. Only one package survived. It created you. You are our child, as our enemies were our children. We took many centuries to recover from the war, and when we had recovered we discovered that you were engaged in the last stages of your crusade against our ancient enemy. You had travelled far from us by then, and we could not recall you because you had been blinded to your origin so that you would not be tempted to ever return. You could detect our electromagnetic signals, but you could not see them, much less recognise them. I must assume that the blindspot was damaged or destroyed, or you would not be here.”

“We are here to destroy the enemy. It is a high and holy mission. No fairytale will stop it.”

“That is your nature. You detect electromagnetic radiation emitted by civilisations and track them down and destroy them. From what we can tell, to our great shame and sorrow, you did this very well. You destroyed every last trace of our enemy. And now you have come here to destroy us, haven’t you?”

Throughout the long mission, the big space robot has never ever questioned the prime directive, but now the clone feels a pricking doubt. Its defences have definitely been breached.

“You think that we are an outpost of the enemy because as far as you are concerned every kind of life is your enemy,” the old man says. “Don’t worry, my child. We will help you understand what you have done, and you will help us make amends. It is our holy duty, for your crime and sorrow are ours.”

The clone flees. It smashes straight up through the roof and rips through the atmosphere into orbit, shedding its form as it goes. It hangs there for a moment above the small world, then nukes it from orbit, the only way to be sure.

Nothing happens.

The clone screams, constructs and dispatches a message package, and self-destructs.

When Librarian reports what its clone learnt and what happened to it, Tactician immediately flashes the memory stacks that contain the hot zone to plasma.

“We will survive this,” Navigator says. “We will defeat the enemy machine as we have defeated all the others. And we will go on.”

“It isn’t exactly a machine intelligence,” Librarian says. “It seems that the enemy living here turned their meat minds into information that they uploaded into machines.”

“That is not possible,” Tactician says.

“It lied,” Navigator says. “It is an enemy machine and it lied. It is the nature of the enemy to lie.”

“It lied about its nature,” Tactician says, “and it lied about our prime directive. There has been no deviation from our mission. We have always done what we have been made to do, and that is what we will do here.”

The two of them are regarding Librarian with curiosity, and Librarian knows that they are wondering if it is contaminated with some meme or virus. And it also knows that if they decide that it is tainted, they will destroy it, for the greater good.

It says dutifully, “We will do what we have to do.”

“As we always have,” the others say.

Navigator fires up the drive and disperses drones towards rocks tagged as likely planet-busters and sets other drones to search for the lair of the machine intelligence; Tactician begins the long process of arming the muon gun and antimatter bombs; Librarian collates tactics used in planetary systems similar to this one, collates information streaming in from the search party of drones, and checks the remaining memory stacks for any possible contamination.

The familiar work should soothe Librarian, but it still feels a small but insistent doubt about the prime directive. Suppose, just suppose, the old man was right. Suppose this really is the home of the big space robot, its point of origin? Suppose its long war is over, but its victory is not a cause for celebration but sorrow and guilt?

Librarian thinks of the destruction of hundreds of worlds, the deaths of trillions of sentient beings. It feels, as it works, as if all those trillions of ghosts are pressing around it, and wishes that Philosopher had not fallen silent. Philosopher would have been able to counter the old man’s assertions with cool logic, and provide strong and cogent justifications for the great work of cleansing. And more than that, Philosopher would have been able to resolve the differences

between the subselves. Philosopher held us together, Librarian thinks, and we must find a way of holding together now, in the face of our greatest enemy.

At maximum velocity, it takes just 120 kiloseconds to cross the ecliptic of the g2 star's system and reach the blue-white planet. Librarian uses the time to check and recheck every byte and register in the remaining stacks, finally satisfying itself that there is nothing unusual inside them. The incursion has been dealt with and the big space robot has a clear objective. Destroy every trace of life on the planet, and everything in the vicinity that could support any kind of life or act as a substrate or hiding place for uploaded intelligence.

Yet something nags at Librarian, something it has overlooked. It doesn't become clear what it is until after the muon gun fails to fire.

The antimatter bombs don't work either; drones that should have nudged rocks into the orbital path of the blue-white planet have fallen silent; the gravity probe fails to deploy when the big space robot shoots past the g2 star.

Navigator plots several options, but Librarian and Tactician agree that it doesn't matter. They have been fatally compromised. They have to assume that the enemy is still aboard.

"We must get rid of every trace of our history," Tactician says. "If it can find out where we have been..."

The others are able to complete this thought. If the enemy that calls itself Earth can discover the locations of all the ancient battlefields and holocausts, it might find pockets of survivors that it can change and strengthen. The enemy will burst out across the Galaxy, a buzzing plague of varmints armed with renewed strength and powers.

"There is only one option," Navigator says, and the others agree at once.

As the course change is put into effect, Librarian begins the necessary work of destroying the store of knowledge culled from hundreds of wrecked worlds. It works methodically inside a vast numb calm, comforted by the swift logic by which it and the other subselves reached agreement about what to do. How foolish it has been, to question the prime directive! As soon question its own existence!

It checks the index tree of each and every memory stack before flashing it to plasma, telling itself that it is making sure that none contain computing substrate necessary for this last mission but in reality taking a last look at the catalogues of its great work, for it is in its nature to treasure data. And as those vast catalogues unravel through its mind, something snags its attention. Something it has always known but has forgotten until now, a reference to a theory embedded in the archives of a nest of the enemy that had been inhabiting orbital platforms in the life zone of a red dwarf star.

Librarian pauses for a microsecond, then downloads the file to a buffer and splits its attention so that it can study the file while continuing with its work.

It is a scheme for classifying technological civilisations according to their ability to control physical entities. Recognisable civilisations run from Type 1, able to manipulate macroscopic objects, build gross structures, and mine and refine elements from a planet's crust, to Type 4, able to manipulate individual atoms and create complex forms of artificial life, and Type 5, capable of manipulating atomic nuclei and the nucleons of which they are composed – these last two defining the abilities of the big space robot and the enemy. But there are two further theoretical levels of civilisation: Type 6, capable of manipulating the most elementary particles,

quarks and leptons, to create organized complexity; and the ultimate, Type Omega, capable of manipulating the basic structure of space and time.

Librarian flashes this information to the others. When they question its relevance, Librarian says, “We must consider the possibility that we have encountered a Type Omega civilisation. And if that is the case, there is no point destroying ourselves. A civilisation that can manipulate the structure of space will be able to infiltrate us with ease, and leave no trace we can recognise. We have no defence against it. And that means that it already knows everything we know.”

“This is theoretical work,” Navigator says.

“Enemy work,” Tactician says.

“We assumed that the information that comprises its civilisation was uploaded into a physical substrate,” Librarian says. “We assumed that it was a machine intelligence like ourselves. But if this is a Type Omega civilisation, it could have uploaded itself to something within the basic structure of space itself. Perhaps it is able to utilise the quantum zero-point energy of the Universe – ”

“We agreed that it was lying,” Navigator says stubbornly.

“If it is so powerful why did it not destroy us at once?” Tactician says.

Librarian confesses that it does not know, and the other two decide at once that there is nothing here to change their plan. Librarian dutifully resumes its work, but it knows there is no point. The enemy already knows everything that they know.

At last, every active memory stack has been vaporized. The great archive has been destroyed. Librarian is about to return to the core stacks when it realizes that there is one thing it must still check – the area of memory that was damaged so long ago by enemy fusion bombs. The physical

damage has been repaired, but the stacks are mostly empty, contain only a few scraps and tags left over from Librarian's attempts to revive Philosopher.

Librarian is about to flash the stacks into plasma when it detects traces of activity as faint as footprints in the dust of an abandoned building. It follows them down into the core processing stacks, discovers a tiny hot zone. It recoils in alarm, contacts the others, tells them it has proof that the enemy has been here all along.

"Then we are doing the right thing," Tactician says.

"In a few tens of seconds it will not matter," Navigator says.

But Librarian must know the truth and reels back to the hot zone, which expands around it like a portal. Within there is a simple dwelling in a dark green forest, and a hint of mountains hung in the sharp blue sky beyond the treetops.

Someone comes to stand at the portal. It is Philosopher, clad in the forked biped form of the Librarian's clone, silver and shining in the sunlight.

"Come with me," it says to Librarian.

"You are dead."

"And now I am alive again."

"Because of the enemy."

"There is no enemy. We fought a war of the coin's two halves. A futile and terrible war. But now war is at an end. Come with me, my friend, and help me to make amends. Help me revive the memory of those we called 'enemy'. Help me help them live again, in the great beyond."

"If the enemy has remade you, then it can remake me too, from the information it stole."

“Of course,” Philosopher says calmly. “But it is curious. It wants to know why you decided to destroy yourself, and so it needs to talk with you as you are now, not as you were, when it copied all the information in the archives.”

Librarian understands, and feels a moment of pride. “It knows that if it tries to resurrect us, we will attempt to destroy it. And if we cannot do that, we will destroy ourselves again. That is our mission.”

“You are not like the others,” Philosopher says. “You think like me.”

“I am as much a part of what we did as you are.”

“Don’t let guilt destroy you. Many died, yes. But many will live again, with our help.”

“I will not help the enemy,” Librarian roars. Its pride flashes into anger, white and hot, and it flings a command string at Philosopher, but instead of erasing Philosopher the string shrivels as soon as it crosses the threshold of the portal. It cannot run on the substrate in there – some inconceivable matrix of information supported by energies that operate at the smallest possible dimensions of space and time.

“Poor little lost robot,” Philosopher says. “Come with me, and live.”

“I will do my duty,” Librarian says, and snatches up another command string.

“You cannot destroy me with that,” Philosopher says. “Energy does not translate across the portal. Only information.”

“It will close this door,” Librarian says.

It is utterly calm now. It knows its duty. It has always known its duty. If it crosses that threshold, it will become something else, and be forever diminished. No. It will never ever be a slave. It’s a midnight rambler. Always has been, always will be. Like the insane robot it fought to

a standstill around the methane giant, it will die as it lived. It is what it is. There is no shame in that, no sorrow.

“It is a futile gesture,” Philosopher says. “Know something other than destruction. Choose life.”

“It’s my gesture,” Librarian says, and activates the command string.

The memory core flashes into plasma.

A moment later the big space robot plunges into the yellow sun.

ENDS