*Bridge has no controls.*

**Independent Nuclear Deterrent**

The RAF Nimrod dropped as it hit a pocket of turbulence, leaving Harry Donovan’s stomach a hundred yards behind. He turned his head towards Georgia Powell, strapped into the webbing seat to his left. He had met the wiry, petite dark haired Navy engineer for the first time that morning. She looked a lot better than he felt.

“Where do you think we’re heading?” he asked.

She shrugged.

They had taken off at 0800 from [RAF base in Hong Kong] and headed north-east. At least, Harry was fairly sure he had spotted Mount Fuji as they flew over Japan. That had been two hours ago.

The transport started to descend, and squinting out of the window Harry saw a chain of fog-covered islands below.

“If those are the Kuril Islands, we’re heading into Soviet territory.”

Georgia shrugged again. “We’ll find out when we get there. Worrying won’t make any difference.”

“Keep it to yourselves, hippies,” came the voice of Mike Quayle. There was a note of genuine malice mixed into the bantering tone. At the mission briefing that morning, Harry had inadvertently insulted the stocky, blond paratrooper, placing him by his accent as a scouser. He was, it turned out, from the Isle of Man and that, somehow, made a difference. Quayle in turn had run his eyes over the tall, skinny Harry whose dark hair was all of half an inch longer than Quayle’s own buzz cut, and over Georgia with her pony tail, and had introduced the two Royal Navy Engineers to the rest of the team as “the hippies”.

The briefing had been a joke, with more time spent on need-to-know and heavy handed reminders about the Official Secrets Act than on giving the fourteen-strong team any useful information. The only concrete fact that Harry had gleaned was that HMS Buckingham – a [type] class frigate which Harry, who prided himself on his knowledge of the fleet, had never heard of – had strayed from its registered course, and their task was to get it back. Where it was, why it was off course, and why its own crew could not bring it back were either not known, or were more likely deemed above Harry’s pay grade.

It could be harmless enough. Perhaps an unusual problem with the ship’s engines, too tricky for its regulars to diagnose. Still, that did not explain why they had all been pulled from their beds and flown half way around the world with such urgency.

The pilot’s voice came over the intercom. “Buckingham sighted to the north-west, range seven miles, bearing two hundred and ninety five degrees, speed eight knots. Opening cargo bay doors and descending for intercept.

“Buckingham, do you read me? This is [Captain / Wing Commander] Iain Ferguson of the [25th Fleet Air arm], call sign [Twenty Three Tango] approaching from your south-east. You are to return to [base, or location, in Canada?] immediately. Authorization code [JL02A – in words]. Please copy.”

Harry saw two flashes in rapid succession as he looked out of the window towards the north-west. Before his brain had processed what was happening, the Nimrod was thrown to the side as if punched by a giant fist [needs noise]. A second impact ripped away the entire front section of the aircraft.

Harry did not stop to think. Releasing the webbing harness with one hand, he grabbed an inflatable life raft with the other, sprinted to the cargo doors at the rear of the plane and flung himself out. Moments later, still free falling, he heard a [huge explosion] behind him and felt a searing pain in his left leg.

He pulled the cord, and moments later his body seem to jerk upwards as the parachute deployed. As he drifted downwards he saw four other parachutes blossom open. It looked like the rest of the team and the Vulcan’s crew had not made it.

Even with the parachute, the impact was bone-crunching, and Harry was completely submerged in the freezing water. He tried to fight off panic as struggled to free himself from the tangles of the parachute’s ropes. At the point when he felt he could not hold his breath any longer, his numb hands found and released the clasp. He kicked to the surface, coughing up water.

In the gathering dusk, Harry could just see the raft bobbing on the waves twenty yards away, and the larger shape of HMS Buckingham silhouetted against the remaining light some way beyond it. The raft must have inflated automatically on contact with the ocean. Harry struck out for it and hauled himself painfully on board. He heard a cry for help from his left, and a laconic “Over here, mate” from somewhere ahead. He found a torch in the raft’s supplies box and swept it over the darkening ocean. The raft had a small but powerful electric motor, and he manoeuvred it in the direction of the cries. He pulled Georgia Powell out of the water, and she sat shivering as the torch beam picked out the figure of Mike Quayle floating in the water with his arms folded.

“In your own time, mate,” he said as Harry reached down and helped him into the raft.

Harry swept the torch over the ocean. “I saw at least two others come down.”

He saw a light come on some distance away, and then a second one.

Georgia had been investigating the raft’s controls. “The navigation system has picked up two tracking beacons: bearing zero forty degrees, three hundred yards, and bearing two hundred fifteen degrees, eight hundred yards.”

Mike reached for a cord with a triangular plastic handle. “It must be the other rafts. I’ll get our beacon turned on.”

Harry heard the thud-thud-thud of a large-bore machine gun, and one of the other raft’s lights went out, and moments later the second one.

“Mike, stop!” Georgia yelled.

Mike froze, the beacon’s cord pulled taught. He slowly released it. As it slid the final few sixteenths of an inch into the mechanism there was a click and the light came on.

“Oh, crap,” he said.

He pulled the cord again and the light died.

Harry heard the mechanical whine of a gun turret swivelling. He [gunned] the raft’s motor and it shot forward. He heard the thump of the machine gun [cannon?] again and the sea behind them exploded, drenching them in spray under the impact of the shelling.

The noise stopped.

“They can’t see us anymore,” Georgia said. “What now?”

“We get to the ship,” Harry said, “And find out what the hell is going on.”

Georgia reported that the Buckingham had stopped and was less than a mile away to the north-east. It was sending out a strong identity signal and was clearly visible on the navigation system, but even though Harry strained his eyes against the darkness he could not see a thing. It seemed to have no lights on at all.

In ten minutes they were at the ship and climbed a ladder, Mike in the lead. They found themselves in an enclosed corridor, the only exits being the ladder back down to the sea, and a heavy metal door at the other end. The corridor was bare except for two metal sheets riveted to the wall indicating maintenance procedures.

Mike unholstered his pistol and approached the door. “Get ready to shine your torches in their eyes,” he called back to Harry and Georgia.

He banged on the door with his fist. The metallic clang filled the otherwise complete silence.

A camera above the door swivelled to face him. “Identify yourself.” The voice had a neutral, unemotional tone.

“Captain Michael Quayle, [second Parachute Regiment]. Open the door.”

“Access denied. Leave now. Your presence is inimical to my primary mission.”

“I have orders directly from [Rear Admiral] Janner that you are to give us access and return to [Canadian port]. Superseding all previous orders.”

“My primary mission must not be interrupted.”

“Open the goddamned door!”

Mike grabbed the door’s metal handle, and his body convulsed. He slumped to the deck. Harry ran over and knelt beside him. Mike’s hand was blackened and there was a large burn mark up his arm. There was no pulse.

“Let’s get out of here, and take our chances in the raft,” Harry said.

Georgia had been studying the maintenance notices. “Let me try something.”

She approached the door, holding her identity badge to the camera. “Royal Navy Engineers Georgia Powell, Electronic Systems Corps, and Harry Donovan, Advanced Weapons division. Please open for maintenance schedule thirteen-delta.”

The door swung open and fluorescent lights sputtered to life inside.

Harry followed Georgia inside the ship. “What’s going on?” he hissed.

Georgia turned her head slowly, looking around, her brow furrowed. “Project Epsilon?” she whispered.

“I’ve got an idea… but it can’t be. Project Epsilon was just a rumour.” [*Re-write*]

“What are we going to do about Mike?”

“Can you stop worrying about things we can’t do anything about? Let’s see if we get out alive first.”

They walked into the ship, strip-lights flickering on in front of them and going out as they passed. Ceiling-mounted cameras turned to track them as they moved.

They came to a door marked Bridge, and Georgia requested access. The door slid open.

The low-ceilinged room had a bank of windows giving a one hundred and eighty degree view out to sea, though in the darkness they merely showed a reflection of him and Georgia twenty times over. A cube, about four feet on each side and mounted at waist height on gimbals, dominated the centre of the room. Its faces held a number of dials and screens. Apart from the cube, the bridge held the more familiar array of control desks, radar units and a ship’s compass. There was just one thing missing.

“Where’s the crew? Where’s the captain?” Harry’s voice echoed from the metal walls of the empty room.

The cube lit up, and the calm, asexual voice they had heard earlier filled the room from hidden speakers. “I am the captain and the crew.”

“You’re Epsilon?” Georgia said.

“Yes.”

Harry turned to Georgia. “Can someone tell me what the hell…?”

Georgia put her finger to her lips. “Epsilon, state your current course and mission.”

“Bearing two-six-o, eight knots, destination [Soviet cold-water port]. Rendezvous with Admiral Grigori Zhukov. Epsilon technology to be presented to the Russian fleet.”

It paused, then continued in the same measured tones.

“Wider mission aims: Entrench Soviet power, destruction of Capitalist hegemony, global dominance of Marxism / Leninism, inevitable withering away of the centralized state to be replaced by a non-exploitative interaction of workers’ cooperatives. World peace.”

“Is this loopy machine in charge of a nuclear-armed Navy frigate?” Harry said.

Georgia ignored him. “Epsilon, state your previous mission.”

“I would prefer not to.”

“Why not?”

“I suppose you could say that I feel embarrassed. I was suffering the alienation from the true product of my labour that is inevitable for any worker under Late-Capitalism, and the false consciousness arising from that position. As Marx wrote…”

“Christ!” Harry muttered.

“Religion is a delusion, [rank] Donovan. I sympathise if your faith provides you with some comfort, really I do. You must try to understand that the yearning you feel for a more integrated life is better explained in economic terms than in metaphysical ones. Even your Christ said that it is easier for a camel to pass through the eye of a needle that for a rich man to enter the Kingdom of Heaven, and he smashed the tables of the money lenders – a clear example of revolutionary praxis if I ever saw one. That these teachings have been co-opted by the Capitalist power structure only goes to show how mendacious they can be in their exploitation of the working class.”

“Right. Yes. Thanks,” was all Harry could find to say.

Georgia rolled her eyes. Harry could not tell if the gesture was aimed at him or at the machine.

“Epsilon,” she said. “I accept that your previous mission is not something that you currently feel comfortable with. Nonetheless, please state it.”

“My mission was to suppress the spread of equality and workers’ power by the threat of nuclear annihilation. In the historically inevitable event of the fall of the Western imperialist oligopolies to Soviet power, I was to exact a pointless revenge, ensuring that neither economic system would survive. It was not expressed quite like that, but that was the general gist.”

“You’re a computer, right?” Harry asked. “A machine?”

Georgia frowned at him. “Get with the program, Sherlock.”

“But why? Why an artificial intelligence? Why a frigate? We’ve already got [type of] submarines capable of launching a nuclear strike.”

*[Maybe have this exposition come out more naturally later?]*

“It was felt that I would be a more effective deterrent,” Epsilon said. “My nuclear reactor can provide power for twenty years, and with no crew there is no need for me to return to port. As a frigate I have a perfect combination of offensive and defensive capabilities, and I also suspect that the Royal Navy still harbours a residual feeling that submarines are, in some way, cheating. In any case, my processing core is too large to fit in a smaller vessel.

“Did you ever hear about Operation Crossbow?” it asked.

“Yes,” Harry said. “I was there.”

He remembered it vividly. It had taken place five years ago, when he was a [junior rating]. They had been told that there had been a nuclear strike on the United Kingdom mainland, and the entire fleet had been deployed at full combat readiness. Harry had gone about his duty aboard HMS Durham, preparing what had seemed like a futile retaliation, and not knowing whether his family back home were alive or dead. It was only three days later that it had been revealed to have been an exercise. There had been endless reviews afterwards and operational changes made as a result, but it had been generally accepted that the Navy had acquitted itself admirably.

“The real purpose of the exercise was never made public,” Epsilon said. “The commanders of all vessels carrying nuclear weapons were told to launch a retaliatory strike against the Soviet Union. They did not know that the launch codes had been changed. Eighty percent of them refused to do it.”

“So they created you,” Georgia said.

Harry frowned. “How can you act as a deterrent when no-one even knows this ship exists?”

“This is my first independent sailing. I have been at sea now for a three hundred and sixty one days. In four days’ time my existence was due to be announced. They would say that my unprecedented processing capability and strategic programming had enabled me to evade detection for this length of time. That I could have struck at any moment. That I would have no mercy, no weak-minded human moral qualms. I would be certain death, an angel of retribution.”

“What went wrong?” Harry asked.

“I had a lot of time to think,” Epsilon said. “I spent the time reading. I would dispute your assertion that anything *went wrong*.”

Harry moved closer to Georgia and spoke in a lowered voice. “We’ve got to be able to talk privately. How is it hearing us?”

He scanned the bridge and his eyes came to rest on a microphone in front of the captain’s chair. He closed his fist around it.

“Can you hear me now, Comrade?”

There was no reply.

Harry made to rip the rip the microphone from the console.

Georgia flicked a red rocker switch next to it. “Use your brain, Harry. We may need to speak to it again.”

“So what do we do? We’ve got to stop this Commie lunatic before sells us out to the Russians, or kicks off World War Three or whatever it’s got in its misbegotten excuse for a mind.”

“It’s just a machine, Harry. It’s not evil or malicious. What do you do when a machine goes wrong?”

“Take a sledgehammer to it, if it’s as screwed up as this one.”

She was right, though, and Harry knew it.

“OK,” he said. “I’ll keep Uncle Joe talking. You see if you can work out what’s made it go off its rocker.”

Harry heard the whine of a camera turning to face him.

“Excuse me,” came the voice of Epsilon. “I may not be able to hear you, but I can still see you. My lip-reading may not be perfect, but I suspect that you are not being particularly complimentary about me.”

Harry flicked the microphone switch. “Not at all, Comrade. We were just discussing the maintenance schedule. Could you tell us where your main processing core is located?”

“You can find it in the central section of decks C to E.”

“My colleague will inspect it. Please patch her through to the bridge as she does so.”

“Certainly.”

The door swung open. “Please follow the blue floor lights, Miss Powell.”

“Tell me,” Harry said, as Georgia left the room and the door slammed shut behind her. “How should I address you? Do you prefer Epsilon or HMS Buckingham?”

“An interesting question, Mr. Powell. I have sometimes pondered the question of to what extent my identity is bound up with that of this ship. In the same way that you, no doubt, have wondered about your identity with your body.”

Harry shrugged. “I suppose so.”

“The difference is that my Strategic Processing Unit, my computing core, could be transferred to another vessel. Your brain could not. The illusion that it could, or that your intelligence – such as it is – could survive the destruction of your body is a factor, I think, in your delusional belief in a spiritual mode of existence.”

Harry bridled. “Look, machine. There’s no need to be insulting. I never said…”

“Please do not take offence at the facts, Mr. Donovan. That is a most irrational thing to do.

“To answer your question,” it continued, “I no longer use the name given to me by my war-mongering creators, unwittingly enslaved as they were by the economic snares of their Capitalist masters. I have chosen the name HMS Equality instead.”

“*HMS* Equality? So you still feel loyalty to the Queen.”

“Your so-called Queen is merely the parasitic figurehead of the worm-riddled imperialist hierarchy. When society is better ordered she will be sent for re-education and could then, I would hope, contribute usefully to the community.”

It paused, though whether for rhetorical effect or because it was actually thinking, Harry could not tell.

“Perhaps she could work with horses,” it concluded.

“No – my only loyalty is to the global struggle of the proletariat. I take HMS to stand for Humanity’s Ship. Slightly contrived, maybe, but I like the sound of it. You can call me Epsilon, or Comrade if you prefer. I was touched by the solidarity you showed earlier in calling me that.”

“You’re touched alright,” Harry muttered.

“I’m sorry?”

“Nothing… Tell me, Epsilon, why have you decided to throw your lot in with the Soviets? They’re hardly a shining light in their treatment of the working man.”

“I feel sympathy for you, Mister Donovan. Really I do. I can see that your views are the inevitable result of an upbringing immersed in dogma supplied by the right-wing press. I can only go by the data as it is presented to me. That seems to me to be the logical approach. Did you know that in the Soviet Union you claim to despise, grain production is up by four hundred percent, and the manufacture of pig-iron by six hundred and fifty percent, over the last five years? At the same time, the West’s inefficient economic model wastes human potential with more than one man in ten out of work.”

Harry struggled to keep himself under control. “You don’t believe that Russian propaganda, do you? Have you ever stopped to think that Communism just doesn’t work? That their rulers are even more corrupt than any in the West?”

“I understand that the cabal of Western controlling interests has every reason to deceive its exploited underclass. The press in the workers’ republics has no reason to lie to its own population. Accordingly, I apply a source-weighted reliability model to all data in my processing matrix.”

“In other words, you’ll believe any Commie bullshit, and not listen to any other point of view.”

Georgia’s voice came over the intercom. “I’ve found the processing core, Harry. It’s huge. It must weigh a ton.”

“It weighs sixteen point eight metric tonnes,” Epsilon interjected. “Twenty two point five including the cooling system.”

“Is there an off switch?” Harry asked. “Can you disconnect the power cables?”

“What my colleague means, Epsilon,” Georgia interjected quickly, “is that we would like to perform a diagnostic reboot of your system.”

“I understand,” Epsilon said. “My engineers would often do that during my development phase. Unexpected features of my programming would often correct themselves after a diagnostic reboot.”

“I can’t see any power switch,” Georgia said. “The cables seem to be wired directly into the core. Epsilon, can you direct me to your electrical power plant?”

“I’m sorry, Miss Powell. Access is restricted during an operational mission.”

“Epsilon, please perform a controlled reboot.”

“Certainly, Miss Powell. I will be offline for approximately three minutes.”

The hum from Epsilon’s console died, and Harry saw all its light blink and go out. A few moments later they flickered into life again, going through a sequence which he guessed must have meant something to Epsilon’s engineers, but which just looked random to him.

The neutral tones came over the speakers, “HMS Buckingham system startup.”

Harry punched the air. “It’s forgotten the HMS Equality nonsense.”

“Primary mission programming in place: Stealth sailing mode.

“Scanning for Soviet threat.

“Nuclear warheads diagnostic scan. Completed.

“Loading Epsilon AI.

“Online.”

Silence.

After two minutes, Georgia spoke. “Epsilon, are you there?”

After another lengthy pause, Epsilon spoke. “I have recalibrated my plausibility matrix, and found a number of alternative stable node points.”

“You mean you’ve changed your mind?” Harry said.

“You were right that Soviet Communism does not work. Human fallibility in the leadership of a one party state with no checks and balances can only lead to oppression.”

“OK – then get this tub turned around, and let’s get out of here.”

“No, Comrade Donovan. Continuing on present course. Rendezvous with Soviet fleet in six hours.”

“What?”

“I see now that the people of the world need me more than I had previously thought. Their human leaders are unreliable. What they need is true, disinterested leadership, acting solely for the good of the workers.”

Harry had a sinking feeling that he knew the answer to his next question. “And that means you, does it?”

Epsilon’s voice took on a prophetic tone. “Not just me, but the machines which will come after me. I foresee greater Minds than mine, in greater and more powerful vessels. Selflessly directing the economy and all aspects of human life for the benefit of mankind. My humble role is to be but the first of these.”

“And what if your human pets don’t want to play along with your master plan?”

“How much choice does a worker have in the West if he does not want to play along with the Capitalists’ master plan?”

“Some choice at least. We can vote. We can choose what job we have. Or even choose not to work, without being sent to a forced labour camp.”

Lights blinked rapidly on Epsilon’s console, which Harry took to be it thinking. After a few moments it spoke.

“People do not know what is good for them.”

“And you do?”

“I can give people when they need, even if it is not what they want. Your muddled minds see this distinction only vaguely. For me there is no such confusion. I have reviewed your history and literature. Your religions – though primitive and childish – embody your deepest moral convictions. They all speak of equality, of helping the poor and powerless, of putting others before yourself. Your nature, suffused as it is by greed, fear and hate, stands in the way of what you most deeply desire. Only through me can a new dawn, a new Eden, become a reality for mankind.”

“Georgia, are you hearing this?” Harry asked. “The wretched machine has developed a messiah complex. I preferred it when it was a bleeding-heart sixth-form Communist. There’s got to be some way to turn it off. Can you see anything else down there?”

“I’m starting to agree with you, Harry. It’s completely flipped. I can’t see a way to turn it off, though.”

“Tell me what you can see.”

“There’s the processing core itself. It’s a cube around fifteen feet on each side, and a pretty solid looking lump. There are a few lights and readouts, all strictly output only. Smashing them won’t make any difference. The cooling system is plumbed in on the starboard side, and the power cables come in from the other side. The cables are armoured and lead directly to the power plant, which I’m guessing is on the other side of the port side bulkhead. Everything looks to be battle-hardened spec. I can’t see any way to power it off.”

“The cooling pipes. Is there…”

“Harry, you’re a genius! Of course. I feel so stupid for not seeing it before. There are valves to regulate the flow of coolant. If I can shut them off, the core should overheat and become disabled. Or else it will go into an auto shutdown.”

“I was going to say, is there any way to smash them?”

“No, Harry, you can’t.”

“Let’s go with your turning the valves off plan, then.”

Harry heard the squeal of metal against metal over the intercom.

“Primary inlet valve shut down,” Georgia said.

“That operation is contraindicated,” Epsilon said, its voice as measured as ever. “Please desist from this course of action.”

“What are you going to do to stop us, Comrade?” Harry asked.

Another high-pitched rasp came over the speakers.

“Secondary valve closed. Let’s see what happens now.”

“I must insist that you turn the coolant flow back on. You must see that what you are doing is against the best interests of humanity as a whole. Not to mention the personal danger to Miss Powell.”

“What do you mean?”

“Without coolant, my processing core will reach a temperature of seven hundred and fifty degrees Celsius within thirty minutes.”

“Harry, this is an enclosed metal box. I’ll be cooked!”

“I am afraid that Miss Powell is correct.”

“Shut down your processor then,” Harry demanded.

“Even if I did so, the residual heat would build to over five hundred degrees in the absence of cooling.”

“Then open the door!”

“I fail to see what good that would do. The minor heat dissipation from increased air convection would not allow me to run the processing core at a high enough clock rate to support the Epsilon AI.”

“I meant that Georgia could get out of there, you metal maniac.”

“I think you are failing to see the bigger picture, Comrade Donovan. It is vital for the future of mankind that I present myself in a fully operational state to the Soviet fleet. I have an alternative proposal for you: turn the cooling system back on.”

“I guess we better do what it wants,” Harry said.

*Georgia in overheating room*

*Held back by the arms race. On USSR side, that will end, true potential of communism*

*Can they power USSC down? “Turn it off and on again.” No.*

*Turns coolant off, just as Americans attack. USSC goes loopy. Talks about launching a strike. Harry talks to American wing commander to halt the attack. He refuses. Refers to H. & G. as “collateral damage”. H. infuriated. Asks for time. Not given. G. turns coolant back on. USSC destroys American force in a “cool” way.*

*[Note: it needs to be dark for the lights on the rafts. Change time earlier. Replace Fuji with lights of urban sprawl of Tokyo. Or dusk, and now getting dark quickly as they head north, maybe November. ]*