

ECHOES OF A LOST EARTH

war | flight | return

part two

A photograph of a nuclear mushroom cloud rising from the ocean at night. The cloud is illuminated from within, creating a bright orange and yellow glow. The water in the foreground is dark, with some reflections of the light from the cloud.

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ECHOES OF A LOST EARTH PART TWO

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a novel

Author

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THIRTY

THIRTY-ONE

THIRTY-TWO

THIRTY-THREE

THIRTY-FOUR

THIRTY-FIVE

For Susannah
If you're gonna be critiqued,
then better it be with kindness at its core

Völuspá

“The Wise Woman’s Prophecy”

45. Brothers shall fight | and fell each other;
And sisters’ sons | shall kinship stain;
Hard is it on Earth, | with mighty whoredom;
Axe-time, sword-time, | shields are sundered,
Wind-time, wolf-time, | ere the world falls;
Nor ever shall men | each other spare.

46. Fast move the sons | of Mim, and fate
Is heard in the note | of the Gjallarhorn;
Loud blows Heindall, | the horn is aloft,
In fear quake all | who on Hel-roads are.

47. Yggdrasill shakes, | and shiver on high
The ancient limbs, | and the giant is loose;
To the head of Mim | does Odin give heed,
But the kinsman of Surt | shall slay him soon.

— - —

56. In anger smites | Thor, the warder of Midgård
Forth from their homes | must all men flee;-
Nine paces fares | the son of Fjörgyn,
And, slain by the serpent, | fearless he sinks.

57. The sun turns black, | Earth sinks in the sea,
The hot stars down | from heaven are whirled;
Fierce grows the steam | and the life-feeding flame,
Till fire leaps high | about heaven itself.

58. Now Garm howls loud | before Gniphahellir,
The fetters will burst, | and the wolf run free;
Much do I know, | and more can see
Of the fate of the gods, | the mighty in fight.

59. Now do I see | the Earth anew
Rise all green | from the waves again;
The cataracts fall, | and the eagle flies,
And fish he catches | beneath the cliffs.

BOOK III

THEY USED TO CALL IT: M.A.D.

| war |

And war is coming | It stalks the minds of those with the power to prevent it

*“The mountains will burn, no tree will stand,
Not any on Earth, water dries up
Sea is swallowed, flaming burns the heavens,
Moon falls, Midgård burns”*

Verse 54 (extract), Muspilli

NINETEEN

GB Newswire Roundup – 2070.

Collapse of United Ireland's government imminent - Request by Dublin to reunify with GB refused as Belfast nears point of civil collapse - All attempts at GB-wide emergency aid support and distribution to be abandoned within three months - Naval surface fleet dispatched to New Zealand - Emergency construction of new arcologies at Eden Project, Cornwall; Longleat, Wiltshire; Elveden, Suffolk, is authorised. Arcologies to be subterranean, geodesic dome constructions, with geothermal energy supply. Each to support a residency of fifty thousand, with strict age, gender (birth-based), health selection criteria enforced - Food and fuel reserves for current population stands at twenty-four months - Military ground forces tasked to secure all industrial greenhouse complexes now turned over for state production of food - Nuclear and gas-fired power stations to be abandoned in stages as fuel reserves dwindle and infrastructure fails

Ministry of Efficiencies, London.

Guy duWinter blinked the latest crisis management report from the Cabinet Office away and sighed heavily.

Alice said, after a requisite pause, *'it makes for a pretty sobering read.'*

'Quite; but at least we know when we're licked. We're only making provision for five percent of our population, but at least we're doing *that*.'

'Guy, now might be a prudent moment to bow out of public service and retire. Britain is on the verge of state collapse and it is only a matter of time before it is reduced to a few city-states; much like Ireland.'

'You know, Alice; I think you may have a point. Luckily, my retirement home is ready and waiting.'

HMVS Mjöltnir, Operations Centre, Inner Solar System.

'Ship, prepare a dropship for immediate launch,' ordered Gethin, as he glided into the operations centre. If nothing else, he thought, at least he sounded the part.

'Startup procedure initiated,' said the ship. *'May I ask what you intend to do?'*

With a granite edge to his voice, Gethin said, 'I'm going to rescue Guin, obviously.' Events were spiralling out of control and Gethin was desperate to take some action, regain some measure of command.

'I should warn you that the chances of Guinevere's survival are statistically low,' said the ship, in an impassive tone.

‘I don’t care, I have to *do* something!’

A shadow fell across the room; a silhouette filling up the passageway entrance.

‘Gethin, what’s going on?’ asked Victoria, sympathetically, cautiously, as she made her way to the central holopit, where Gethin was floating.

‘Svet’s taking Josh to mediception. He’s in a bad way. Guin got sucked out of the fucking airlock and I’m going to get her back!’

‘How long’s she been out there?’

‘Ship lost contact with her five minutes ago. I’m preparing a shuttle to retrieve her.’

‘Is that wise?’ said Vicki, seeming to choose her intonations carefully.

‘*Wise?* What d’you mean, wise? Art blew her into fucking space! We have to try while she’s still got oxygen. It’s worth a shot, Vicki,’ said Gethin, as if to convince himself as much as her.

She sighed, as if mustering the strength to say the words. ‘Gethin. Think for a moment. What would Joshua do? What’s more important? Guin or the mission?’

If ever I needed Josh, it’s now, thought Gethin, but the captain and architect of the mission was delirious, with a deadly case of the bends, on a slab in mediception. Gethin wondered if the whole mission was about to unravel just as it began. Joshua had a knack of reining in Gethin’s impulsive, “act now, think later” attitude. While Gethin tended to act on instinct, Joshua applied a more objective, considered approach to a problem. It was the scientist in him, Gethin presumed. But Joshua wasn’t here, so Gethin would have to deal with it himself.

‘Ship, what are the chances of successfully recovering Guinevere?’ he asked, as he looked into Vicki’s pained expression.

‘The chances are negligible, as is the possibility that the dropship’s air supply will hold out long enough for the Mjölnir to arrest its velocity sufficiently to facilitate repatriation,’ said the ship.

‘Gethin, I’m sorry, but she’s gone. You’re in command now; you have to act in the interests of the mission. Everything - everyone - else is secondary,’ whispered Vicki, as tears began to fill her eyes. ‘You can’t even, I’m afraid to say, risk a dropship for her, let alone your own life. It’s just not feasible. The mission... I...’

Spinning away for a moment, to hide his own emotional turmoil, Gethin said, ‘Ship, power down the dropship. Maintain current course and speed. I’m going to mediception.’ He swung back round and sailed into Vicki’s embrace.

Alice took seventeen hours and a number of semi-sentient subroutines to successfully reprogram and test a batch of four thousand self-replicating, iron-carbon nanobots for their new function. There were a number of pre-programmed varieties aboard, some for health extension of the ship’s community and others for the simpler task of maintaining the DNA and oocyte samples stored in the biobanks. But none had been created specifically to repair burst blood vessels and ruptured tissue caused by severe vacuum exposure. Luckily, Guinevere’s

expertise in reprogramming nanotech had not been entirely blown out of the docking port with her. The sentient AI lacked the creativity to conduct the research itself, but she did at least possess the acquired data to tinker at the edges of the core functionality.

Joshua remained in a deep coma, teetering on the edge of a complete system shutdown. Ramirez, the surgeon, had operated to arrest the internal bleeding and repair some of the more major damage where he could, but it wouldn't be enough to save him. After the last of the simulations was complete, Alice introduced the new variant nanobots into Joshua's bloodstream and waited. She had put a lot of time and effort into grooming the man, be a shame for it to go to waste at such a critical juncture in the plan.

Svetlana was curled into a G-couch in mediception. The lighting had switched to night cycle, lulling her into a few hours of exhausted slumber. She dosed fitfully as she had, on and off, ever since Joshua had been stretchered in, crashing the facility and its staff into action, three long, tortuous days prior. They'd done what they could in those early hours and had told Svet not to get her hopes up. Josh had a minimal chance of survival and no chance at all of a full recovery. But then, at the end of the first day, as hope was being abandoned, the ship discovered a batch of experimental nanobots in biolabthree - Guinevere's lab - designed specifically to repair vacuum damage. The medical staff quickly agreed there was very little to lose and authorised the application of the experimental 'bots. As the days progressed, Joshua began the long road to recovery. To begin with, his breathing became more measured, allowing him to be taken off the ventilator. Then the crazy paving bloodshot etching across his skin began to fade. Eventually, even dialysis was considered unnecessary and he was taken off that as well. The deep coma though, remained. Svet shifted around in the couch in a never-ending battle to get comfortable enough to doze, while praying that sleep would take her; relief if only for a moment. Clapsed tightly in the palm of her right hand was the small flash-chip Josh had entrusted to her.

'Svet? Are you there?' Joshua said, in a dry and cracked whisper, barely audible over the background hum of the leviathan ship's systems and crowded-in medical machinery.

Svetlana sprang to full alertness in an instant. 'Josh? Josh! That you?' She fell out of the couch and tripped over the leads from a bioscreen as she tumbled to her feet.

'Ship, lights! Wake Gethin and Vicki, tell them Joshua's conscious,' she barked, as she made her way across the room. 'Josh,' she said, in a quieter voice, as she took his hand in her own, 'can you hear me? It's Svet, my love.'

'Svet? How's the ship? Everyone okay?' Josh whispered, pain drenching each word.

'Everything's fine, Joshua. God, it's good to hear your voice,' said Svet, as relief seemed to flood through her exhausted looking face.

Josh turned his head towards the sound of her voice and slowly opened his eyes.

‘Svet, I can’t see you. I can’t... see. I think... I may be... blind,’ he said, shakily. What he couldn’t see - a blessing - was that his eyes were now milky orbs, rent through with blood-shot capillaries. Little, stormy worlds crazed in crimson.

The *Mjölnir* hadn’t been designed to cope with invalids; the passageway ladders that linked the living spaces acted as constant reminders. When Joshua was well enough, he was placed in a jury-rigged hoist and manually pulled down/up into the main habitat, so that his convalescence could take place on the lawn of the stone bungalow he shared with Svetlana. She worked hard in the days that followed to look after him and describe for him her vision of their tubular worldlet. Gethin, who’d taken over the role of captain, had even reduced the ship’s spin to make it easier for Josh to get about on his own.

When he was well enough, they held a brief ceremony for Art - Arthur Hardinge - but few words were said. By contrast, a few days later was Guinevere’s memorial. The entire ship’s community attended - in person or virtually - and shared their memories. A plaque bearing her portrait and the dates of her life was placed in the observation lounge, and renamed “Guinevere’s Eye” in her memory. The stars were, after all, the last thing she’d have seen, so it seemed appropriate. When the ceremony was over, Josh - with the others fussing about him - made his way gingerly down-up the passageway ladder back to the habitat.

‘So, how’re you feeling, Josh? You’re certainly looking better,’ Gethin said, as Svet guided him back to their bungalow.

‘Not bad, thanks, mate. How’s ship operations? Getting the hang of it all?’ Alice had kept him abreast of what was going on and Gethin still briefed him on daily occurrences, but Joshua knew he did it out of a sense of friendship, rather than need.

‘Just keeping the seat warm til you’re fit enough to resume command, buddy, you know that.’

A little more resentfully than he’d intended, Josh replied with, ‘yeah, well I’d get comfortable if I were you.’

‘Josh, we’ve got some news for you, actually’ said Vicki, interjecting, as he was lowered into the low-backed seat, which had become his permanent waking residence.

‘Sounds intriguing,’ he said, turning to the direction of Vicki’s voice.

‘Well,’ said Svet, from a different direction, confusing and irritating him; he tried not to show it, ‘one thing we aren’t short of here is medical expertise. As you know, exposure to vacuum burst the organs themselves but left the optical nerves intact. Now, the medics and the stewards think that they can patch the feed from your psyCore sofsceens directly into your optic nerves. Your sight can be restored, by remote, as it were.’

Joshua was intrigued but sceptical. ‘Okay, but sofsceen contacts don’t capture images, they simply act as a display overlay. Where would the sight, the picture, actually come from?’

‘Ah, well they’ve thought of that. The images would be relayed via the grid from the ship’s optical sensors, which are all over the place. You wouldn’t have a first person perspective and you’d be heavily dependent on the ship for access and control, but your brain would

adjust to the changed view-point easily enough. At least that's what the boffins are saying,' said Vicki.

'I have checked their work, Joshua, and it looks like the most feasible solution to regaining some measure of sight. Although it will take time to master,' added the voice in his head.

'So,' Josh asked, in a lighter tone, 'where do I sign?'

Belfast Docks, United Ireland – three months later.

'Here y'go, darlin'. Some hot soup'll put a smile on that pretty face,' said the soldier, in an east London accent. His name was Mickey and he'd made no secret of the fact that he wanted to get to know Keira a whole lot better.

The troops reminded the young woman of the stories her grandmother used to tell her when she was a child. Stories of the Troubles; of British soldiers on the streets, searching houses, stopping cars and putting down rallies. Her grandmother had been a kid at the time and only lived through the last days of British military rule in the old Northern Ireland, but such tales had been enough to shape the views of her own generation. The Brits were not to be trusted. Soldiers especially.

But then in her lifetime, in what seemed to Keira to be a deep irony, British soldiers had returned - only this time at the *request* of the United Irish government - just after the gigastorm had hit. The last act of the Taoiseach had been to declare a state of emergency and request urgent international assistance. Only the British responded and then only for Belfast.

Keira had been lucky. When the city's power grid had gone offline, she quickly realised that if she stayed in her flat she'd die there. Move or die - was a phrase she'd heard from somewhere. Movie, maybe. So she clambered and scurried her way to the former royal courts of justice by the docks, where the Brits had set up a humanitarian aid distribution centre. She'd been early enough to get a bed (benefitting from others' reticence to trust the Brits) and during the month that she'd been living with the soldiers and their odd accents and strange mannerisms, they'd expanded the centre to take in the covered markets adjacent to the imposing old courthouse. Being near the docks had ensured that provisions brought in by the icebreakers from Liverpool were sorted and allocated there first, so at least she wasn't going hungry. Especially, with a judicious use of her hazel, saucer-dish eyes.

Keira hadn't ventured outside in the last five days, but each morning she'd climb to the top floor of the building and peer out across the frigid, immobilised cityscape. Just across the Westlink were the derelict Divis flats, their tower blocks dominating the view eastwards. A couple of days prior, a fire had caught and gutted one of the smaller blocks. The pallid Belfast Hills hunkered over the dying city, as if that ancient land was rising up to reclaim the former inlet that Belfast had blossomed around.

Back down in the main communal area, Keira sipped her soup. The Brits had been courteous and efficient but not particularly approachable, and she liked it that way. It was as if

they sensed the ingrained suspicion of some parts of the community, but couldn't work out who was and wasn't party to that wariness. Keira's parents had emigrated to Berwick, bordering Scotland, a few years previously, and she'd got a text-only message through to them a couple of times since the gigastorm had hit. Comms had been patchy as whole sections of the wire dropped out, but at least she knew they were alive and coping; for the moment at least. As she sat, lost in her own dark thoughts, her attention tuned in to a muffled conversation between two Brits, a few yards away.

One said, 'well thank fuck for that. When d'we bug out?'

'Dunno, but within the week the sarge said. According to Shaggy anyways, but cooks, right. They 'ears everythin'. Reckons we're redeploying to one o' them fancy new arcologies down south. Be a laugh I reckon, and there'll be plenty o' tail. We don't even have to apply for residency *and* I 'eard we can bring us our nearest, like,' said the other.

'And everyone gets a pony, eh? Lucky old us. The wife'll be pleased, mind, she's been 'oled up in a place pretty much like this, in Ham, and she's goin' potty.'

'You're not wrong. The cap'n said this was only s'posed to be a gesture like, and we was never goin' to save this lot. Guess that's the world we live in, eh. Fucked up, y'know?'

'Fuckin' roger that, chief.'

With her hands clasped around the warmth of the thermal mug, Keira's mind raced. The Brits were pulling out and leaving Belfast to collapse in on itself. Deep down she'd known that this was never going to be a long-term solution. So now she needed to get out of Ireland and into one of these new arcologies, but how? Hook up with one of the soldiers? There had to be another way. Perhaps the nice (probably single) captain could help.

Global Newswire Roundup.

NAU to abandon population centres above thirtieth parallel. National capital relocated to Houston - UE breaking up along national boundaries: Tirana, Naples and Sarajevo expected to make the transition to independent citystates - State collapse of Russia imminent; federal forces deploying to strategic defensive locations - Australia, Brazil, Indonesia and the African Congress are now principal food exporters - Bilateral agreements between major Consumer-States and Supplier-Blocs are beginning to break down - Australia set to raise defence force alert status, in response to regional tensions - Brazil begins negotiations with other South American states to form a socialist economic bloc to counter NAU - AmPac remains neutral - Indonesia, North Korea, India continue to destabilise

3rd Liaison Department, Shanghai.

Mu Yeung was seated behind her desk in her fifty-seventh floor corner office, overlooking the city below. She was transfixed by the holographic scene in front of her - a virtual session of the politburo standing committee. Scattered about, evidently randomly, were the luminescent

heads and shoulders of the other committee members. One was half buried in Mu's wheat-sheaf table lamp, another hovered in front of an original painting of the Tiananmen Square uprising (an imprisonable offence if it were hanging on almost any other wall).

An intelligence analysis of the impact of the two gigastorm eruptions had just been released, so the other members focused their attention on the director for an assessment of the PRC's position.

'Does the Third Liaison Department agree with the analysis?' asked the chairman.

'It does,' said Mu, silently surprised at the question, as it had been her department who had put the report together. After a pause she added, 'Europe and Africa pose little threat. It's likely that Europe will follow the GB model and coalesce into a loose federation of citystates after a brief, abortive, period of nationalism. The changes to the sub-Saharan climate will take place too slowly to allow the AC to benefit collectively from their new breadbasket status. The NAU is likely to push south, forcing Buenos Aires to expand into her neighbours to form a buffer zone. For the moment, Russia's our biggest concern. As soon as Moscow realises it can no longer feed its population it'll strike south through the 'stans, bringing it into conflict with India and Iran and very possibly us.' The director of the 3rd Liaison Department waited silently for the committee to respond. Her synopsis failed to give the levels of probability of each of the summarised events occurring, but she knew that the other members had access to the detail if they needed the reassurance. *That isn't what matters, in any case*, she reflected. The northern hemisphere states were going into meltdown, whilst those in the southern hemisphere were preparing, at long last, for their turn at the wheel. *So the issue at hand*, Mu thought, *is how is China affected by this shift in global power? Cui Bono?*

'As long as Russia doesn't threaten our interests, do we care?' asked one of the committee members, in a nonchalant tone.

Mu replied with, 'we do if more resource disputes go nuclear, like the Israeli hydrowar, as they conceivably could. Russia pushes south into Afghanistan, for example, while India expands northwards into Pakistan, and a nuclear exchange seems unavoidable.'

'And what of the People's Republic? What are our options for riding out this creeping, glacial expansion?' said another. He was, like all the other male committee members, old but with a thick, reclaimed mane of black hair. *Do they dye it, I wonder, or is it regrown? The vanity.*

'We've two options,' continued Yeung. 'The first is to withdraw into our domed cities, as the British are doing. This means cutting off a majority of our citizens and could leave us at the mercy of these emerging new super-states. The second is to expand south also, and annex arable farmland.'

'Expand south to where?'

'The Indonesian archipelago,' Mu said. Eyebrows raised and expressions went blank as the director spoke, as if each were attempting to hide their surprise but were simultaneously given away.

'How would Australia react?' asked the chairman, appearing to consider the option.

‘The new world order is likely to see Brazil and Australia hold the balance of world food production between them. Brazil is preoccupied with the NAU and is therefore not a threat. Australia however, will probably see any move by us as precursor to a land grab within its mainland. So a showdown with Canberra seems unavoidable. That being that case, the Third Liaison Department recommends preemptive action, starting with the annexation of Indonesia before moving into northern Australia, which would ensure our complete and exclusive control over all regional food manufacture and export.’

‘Timescales?’ The chairman looked as if he was warming to the idea.

‘Difficult to say. It depends upon how quickly our own climate is affected by gigastorm activity. And our hand may be forced by Russia or the NAU. If they act precipitously, then so should we.’

‘Why?’

‘Because we’re more likely to achieve our goals within the wider context of global upheaval than if we act unilaterally,’ the director said. ‘We can hide in the chaff.’

‘What would you say the odds are of a significant nuclear exchange, say within the next five years?’ asked another committee member, hanging in midair.

‘High,’ said Mu. *It doesn’t matter*, she thought. *The committee doesn’t care*. Mu knew, as soon as she had offered the two options, that isolationism was never going to wash. For too long China had been preparing to take her rightful place at the apex of the world order. The idea of giving that up was never a viable option. And Yeung had banked on that one vital fact when she’d drawn up the options for her fellow committee members to consider.

The chairman then said, ‘very well then. Thank you, Third Liaison, for your assay of the issues at hand. I will arrange to convert our major cities into interconnected, but self-sustaining arcologies. In tandem, I’ll order our military commanders to prepare for the possible subjugation of the Pacific Rim. Are we agreed?’ *Interesting*, thought Mu, *we’re going for a little of both. But then, that is the Chinese way - cover all the options and then hang back and see what transpires*.

Confirmations came in from all the floating heads in the room. One by one they blinked out of existence, returning Mu’s office to the solitude she preferred. What she needed to do now, the director thought to herself, was contrive a provocation; force the committee into action. *Now is not the time for timidity and obfuscation!*

HMVS Mjölnir, Habitat.

‘Ready?’ asked Alice.

‘Just flick the damn switch, trying for dramatic effect doesn’t suit you,’ Joshua said, irritably.

After months of tweaking the tech, there was a quick, silent pause and he felt a strange tingling sensation behind his eyes, as the implants fired up, before the habitat wavered into pixilated view. Josh could see himself sitting in his recliner outside the low stone cottage.

Vicki, Svet, Gethin and Ramirez were standing around him. Glare from the light tube was distorting the image a little, suggesting the feed was coming from one of the cable mounted optics. It was an odd sensation for Josh to be viewing himself as if from a disembodied perspective, but he was happy just to be sighted again and felt he'd quickly master the new, oblique, out-of-body viewpoint.

'So?' said Svetlana, the word dripping with hope.

'It's good, it's really good. I can see us all crowded about. I can see the habitat. It's an odd, out-of-body perspective but hey, better than nothing, right?' Josh answered, as he moved cautiously around, experimenting with his new vision. Arm out, hand wave, head tilt.

'That's such a relief, Josh. I'm so pleased for you,' said Svet. The strain of the past few months seemed to ebb out of her, leaving her limp but relieved.

'Fantastic mate, now you can get back to being the captain again, 'cos I'm *sooo* not cut out for it,' said Gethin, as he put his hand up for a high five.

Judging the location of Gethin's outstretched hand as best he could, Josh raised his own and made a swipe. Their hands glanced off each other, not quite achieving the effect, but it wasn't nothing.

Victoria said, in a warm tone, 'hey, good effort, we'll have you playing darts in no time.'

'We don't have a dart onboard,' Joshua said with a wan smile, aiming it in Vicki's direction.

'We don't? Gethin, how could you've made such a shocking oversight? What're we going to do for the rest of our lives?' she said, in mock chastisement.

'Ship, give me a split-screen feed of all the optics focused on my current location,' Josh said.

'*Certainly Joshua,*' Alice replied.

The view was both alien - like a fly's - and enticing and his mind reeled from the information overload, but then, carefully, as if tiptoeing through a new, multipoint world, he began to adjust as he processed the data and made sense of the complementary, overlapping images. Soon, Josh was able to manage the three-sixty-degree view but it would take time before it became second nature.

Ramirez looked pleased, but cautious, and said, 'when you're ready, Josh, we'll need to get you down to mediception and have your implants checked over.'

'Will do doc, just gimme a moment to get used to it all.'

'*Joshua, we are getting another datapacket in from Earth, would you like to review it?*' said Alice, making herself heard by all present.

'Let's take it in ops, shall we?' Josh said to the others, who nodded in agreement.

As he made to get up from the recliner, Svet bent over and enveloped him in an awkward bear hug.

'Welcome back my love,' she whispered, in his ear.

'Thank you, darling, but was never gone away, not really.'

‘You were, you very nearly were,’ she said, her voice breaking slightly. After a prolonged moment, she released him and took his hand, as he adapted to the idea of walking by watching himself. She grasped his hand a little longer than was needed and then Josh realised there was something in it.

‘I’ve no idea what’s on it, I never looked, but thought you’d want it back,’ she said, under her breath, as if sensing some clandestinity about the item.

It took Joshua ten minutes to fumble into an ops centre chair beneath the holopit. Once the others were happy drifting gently around the zero-G room, he blinked the data feed direct into his sofsceened (and now relayed) vision and asked Alice to fire up the newsreel.

‘*Mjölnir*, this is Harwell calling,’ said the mission controller, as she loomed in holographic form. Their distance from Earth precluded a two-way conversation so they communicated by burst transmission, updating each other on news and items of technical importance to the mission.

The first part of the feed was mission stuff. Harwell showed them their position relative to the Sun, as they were spotting the ship. It would allow those onboard to verify their own navigational fixes to confirm accuracy. Then the Harwell feed projected out the Sun slingshot, adjusting for established vectors, velocity, anticipated gravitational eddies and Port Charlotte data. Finally, they moved onto the subject the group were most interested in: news from home (former home).

‘The situation here isn’t good, *Mjölnir*. The Rockall Island gigastorm has decimated Ireland, Scotland and Wales. Only England remains functional and barely. The new arcologies are nearing first phase completion and we’re in the process of moving mishcon to the Falkland Islands. If you’re asking why, don’t; it’s on the direct orders of the Ministry of Efficiencies. Transfer will be complete within the week,’ the controller said. As she spoke, imagery from the wire flashed up giving some understanding of the difference between the old Long Winter and this new, more permanent phenomenon. Josh had wondered many times since breaking orbit - particularly without the benefit of sight as a distraction - whether they’d done the right thing. Here, now, in this moment, he was certain everyone in ops was entirely content that they had.

‘Internationally,’ the narration continued, ‘the NAU is focusing its efforts in Mexico, where the climate’s still good. Northern Europe is breaking up into fiefdoms, from what we can tell, but the real worry now is what old Russia and China will do. Russia’s infra is seizing up fast as the Noril’sk gigastorm radiates out, and China will be feeling its effects before long. We’re bracing ourselves for the worst back here. Seems you picked just the right moment to make your excuses.’ As the controller spoke, Josh thought he could just detect a tinge of regret, or jealousy, in the woman’s voice, although it wasn’t showing on the images being transmitted directly into Joshua’s optical nerves.

‘We’ve included some choice news items from the wire and there are personal feeds for members of the community. I look forward to receiving your update. Let us know how Joshua’s progressing. Harwell out.’

‘You can let them know how you’re progressing yourself, now,’ said Gethin, obviously relieved to be free of the pressure, the tedium, of command.

‘So, what d’you think? About the political situation, I mean,’ said Vicki, looking unnerved by what she’d seen and heard.

‘You’ll probably have a better idea once you open your diplomatic pouch,’ Josh said, referring to Victoria’s role as head of the *Mjöltnir* community and her palace-dispatched, classified datapackets, ‘but if I were a betting man, I’d say our planet has just arrived, sweaty and belligerent, at the precipice.’ If anyone was questioning the rationale of the expedition, they wouldn’t be any more, Josh was certain. *You’ve got to hand it to Alice, she really knows how to pick an exit.*

As the others floated out of ops, eyes glazed as they locked onto their personal feeds, Joshua eyed the arcology construction. There wasn’t anyone to write him, as he’d cut all emotional ties to Britain when his mother died, six years gone. It felt like the best way to do this. After all, his nearest and dearest were up here with him, hurtling through space at five megametres per hour.

Joshua was pleased that the research they’d conducted at Eden, and then later put into practice in the *Mjöltnir*, was also serving Britain in a different capacity. Closed ecosystems constructed in the form of arcologies looked like they could prove the salvation to a selective slice of Britain’s population, and perhaps even the human race, negating the need for their mission completely; at least potentially. Assuming the world’s community could make the transformation to the new climate in peace, of course. And the have not’s would be okay with it. Minor stuff like that.

Belfast Docks, United Ireland.

‘You’re in luck, Miss Shannondale,’ said the officious looking captain, from behind his desk, situated in one of the old courtrooms the Brits had turned into their “command and control” centre. The insignia on his arm read, “Joint Administrative Support” as if in explanation of his self-important demeanour. ‘We’re looking for women of optimal childbearing age for the new arcologies. Fill in this form and I’ll put it in for fast-track processing. You’ll need to submit to a medical exam, too.’ He handed the young woman a plastisheet and ushered her away.

Keira filled in the form and returned it immediately, conscious of the time bureaucracies took to make decisions. To her surprise, later that same day a clerk informed her that her application - subject to medical status - had been successful. She was to be ready to go at 0600 the following Saturday. Three days. With the relief that her immediate circumstances had improved, she went off to find a comms terminal to try to get a message through to her parents.

Keira gulped down the last of the powered hot chocolate drink that she’d shared with one of the soldiers, and pulled out a blue ski-balaclava with a polycrystalline-breathing sheath. Three long days had passed and the young, reserved city girl was preparing herself to make the short

journey to the British merchant navy ship in the harbour. Her life to date had been pretty easy, she admitted ashamedly to herself. Untidy flat, mindless shop assistant gig, clubbing, and casual relationships. She'd never really done anything challenging or character building in her short life, so nothing had prepared her for whatever was to come, which was why she was surprised to find that she possessed the mettle that'd gotten her this far and would hopefully take her onto the sanctuary of an arcology. Keira had thought herself too meek, too quiet, and yet something within her had given her the steel to push herself onward. Perhaps there was more to her than social media posts and a basic survival instinct, after all. She hadn't even really thought through the alternatives, even as people died around her. *Funny, that.*

The minutes ticked by sluggishly until the time arrived for Keira to step forward for processing. With a small bag hanging off her right shoulder she passed her identity chip to the soldier behind the small table and stood waiting impatiently. The sound of gunfire had intensified over the last few days, as if the residents-cum-illegals of Belfast could tell the game was nearly up and were taking what they could while there was still something left to take. The rumoured Brit pullout had spread through the centre like a cold wind, so it wasn't surprising that the less fortunate residents had become aware of the situation. The soldier picked up the identity chip and looked up at her for the first time. His eyes dulled with disinterest.

'Keep this with you at all times, Ms Shannondale,' he said, handing back the chip. 'It contains your GB travel and residency permit. Without it you'll be left to fend for yourself. Proceed through those double doors,' he pointed lazily over his shoulder to the out of bounds area behind the row of tables, 'and wait to be called forward for transport to the dock. Good luck.'

'Thank you,' Keira said, softly.

Hoisting her bag-strap higher onto her shoulder, she made her way through the double doors and across the near-empty warehouse section of the centre. It was bitterly cold so Keira pulled the balaclava from her thermalined jacket pocket and wrestled it over her greasy, knotted hair. As she was adjusting the facemask so she could breathe, a series of sudden, ear-splitting thunderclaps echoed through the freezer-like space. Keira instinctively dived to the floor.

'MOVE,' screamed a soldier, as he ran towards Keira, grabbing her under the arm.

'What's going on?' she said, through the mask. The soldier didn't answer, just kept pulling her forward as he glanced back down the way she'd come. Keira was constantly on the verge of falling over, never quite managing to recover her balance as the armour-clad figure kept her in an iron grip. She'd identified what the noise was. Gunfire. The aid centre must be under attack, she realised.

'DOWN,' shouted the soldier, the speakers in his suit amplifying his voice. Keira fell back onto the floor, and not through choice. Looking up she saw her protector. His goggled eyes momentarily glazed, then he blinked twice and the hip-mounted carbuncle burst into life as lights flashed and power cells whirled. Grabbing the pistol grip he swung the weapon up and forward until it was levelled in the direction of the firefight happening in the room beyond. As if in response to a challenge, the double doors Keira had just passed through flew

open and heavy footfalls echoed through the room. Keira turned her head and caught a glimpse of figures, dressed similarly to her, in layers of thermal clothing and ski masks and carrying old style, handheld machine guns and shoulder-mounted grenade launchers.

‘Damn. We thought we’d be clear before they hit the centre,’ the soldier uttered, in an un-amplified voice. ‘Get up and stay behind me.’

Keira did what she was ordered, glad to be off the frozen floor. As she crawled around behind the soldier, his weapon system discharged a burst of munitions that shredded the doors and errant, loose packaging that the residents had taken cover behind. Keira counted three grenade detonations and multiple burps of gunfire that dispersed across the area, peppering the side of the high wall. She’d never seen such split second destruction and it terrified her.

‘GO, NOW,’ boomed the soldier, waving towards a small door to the outside.

Keira darted forward and shouldered her way through as the soldier continued to wreak havoc as he slowly withdrew along her route. As the door swung open, she was immediately hit by a wall of tearing ice and pain. Her breath was snatched from her as panic began to rise from the brackish pit of her stomach. Recovering slightly from the shock of stepping into a subsiding storm eddy, Keira saw a low-slung, wide, armoured military vehicle in storm-grey. The hydraulic rear door swung open and a gloved hand beckoned her inside. She stumbled forward grabbing the end of the thick, ceramic doorframe to steady herself. After a clumsy fall into the back, the door swung closed with a clump and after a moment it lurched forward.

‘What about the soldier?’ asked Keira, as she removed her balaclava, staring at each of the other petrified civilian passengers in turn.

‘Don’t worry, he made it back okay. He’s in the commander’s cupola,’ said a disembodied voice. ‘Came to get you the moment the attack was reported.’

As Keira was helped into a seat, a loud, dull thud sounded and the personnel carrier jolted sharply, followed by a residual shudder through the toughened armour.

‘RPG. Nothing to worry about,’ said the voice again, as the vehicle slammed to a halt, before leaping forwards once more. As the nightmare, staccato journey continued, Keira felt more hard impacts against the hull and sharp discharges from the vehicle’s own systems.

Just as suddenly, just as fearfully, the armoured vehicle tilted forward, onto its nose, in what Keira recognised as a braking manoeuvre, and the rear hatch swung open. Keira fought to get the balaclava back in place.

‘Move, now, to the ship’s gangplank and don’t stop ‘til you’re safely aboard. We’ll provide cover,’ said Keira’s rescuer.

Keira peered out of the small opening as she attempted to get her bearings. As she emerged from the back of the vehicle, she caught sight of the walkway directly in front of her, before bolting after the person in front as fast as she could.

The crystallised wind stung her exposed skin as fire leapt from weapon mounts onboard the large, sleek, grey vessel before her. Behind, she heard the thuds, burps and starbursts as the armoured car joined the battle. Keira was shocked by the ferocity of the fight. She’d no idea that her fellow city dwellers were capable of such acts.

TWENTY

Darma Wulandari's tale. Pontianak, Indonesia.

Darma watches the convoy of trucks hum through the main thoroughfare below him, kicking up dust and aggregate as they rumble past. They're carrying rice or sugarcane from the farms to the docks. The gates swing open and then close quickly, partially masking the view of the dockyard beyond. The police return to their positions, shields and whips at the ready; automated, non-lethal, crowd dispersal systems active and tracking. In the distance, a foghorn sounds, marking the departure of the last Chinese cargo vessel as it heads for open water. Behind the police barricades and beyond the secured gates, Darma glimpses military personnel milling around their vehicles.

The former student is sitting on the roof of a small trading centre structure in Pontianak, the provincial capital of West Kalimantan. A sudden clatter resonates behind him, as the old corrugated door to the roof is heaved at and pushed ajar, just enough to allow another person the squeeze through. It's Mawar, Darma's friend and would-be girlfriend if only he could summon up the courage to ask. Easier, he thinks, to take part in what's about to happen below than risk the rejection of a *girl*.

As Mawar slides in silently next to him, Darma returns his attention to the scene past his bear, dangling feet. In the street, the raucous, technicolored crowd has rejoined after parting to allow the convoy through. Like torn flesh healing. As he watches, clusters of nervous people - students like Darma and Mawar, farmers, dockhands, and others from all walks of island life - wait for the countdown to end. The throng is like a million ants in the bottom of a glass, directionless and agitated. Trapped but with no notion as to how. As the crowd oscillates it kicks dust into the cool, early evening air. Steadily, the noise increases in proportion to the confidence bestowed by the swelling numbers. The crowd begins counting down, shouting each number with one voice, as if words alone will steel their nerves.

'Twelve... eleven... ten...', the crowd chants.

Darma pops the jack into his ear and flicks open his vone. It defaults to the Al Jazeera news wiresite.

'Nine... eight... seven,' relays the device through the earpiece.

Darma flicks to multi-screen layout and sees similar crowds chanting numbers in front of similar police lines all over the archipelago. He scrolls out again and sees almost identical crowds in the South Americas, the African Congress and even Australia. Darma spots a link and flicks it open. It takes him to the anonymously posted, *Day of Action* wiresite.

'Four... three... two...', declare the crowd, as one.

The counting stops, the crowd falls silent, the police fidget nervously behind their helmets and their shields. The time is 1900 local. The globally synchronised date, time and loca-

tions for the *Day of Action* food protests are no secret, but the sheer number of protests in Indonesia alone has spread the security forces thin.

‘ATTENTION! YOU ARE MEETING IN VIOLATION OF CIVIL CODE. DISPERSE IMMEDIATELY,’ orders an amplified, official sounding voice.

Darma watches.

A police holograph appears above the port entrance ordering the protesters to disband, but instead the crowd swells as if waiting for just such a rallying call and the momentum is unstoppable. As if in response, smaller holographs flicker into life above the swarming protestors. The messages range from catchy “Feed Us First” slogans, to accusations of international conspiracy. As the crowd surges, Darma steals a sideways glance at Mawar, whose eyes are burning with the intensity of the experience. She looks nice. But then, she always looks nice.

The crowd crashes against the police line and recoils in an instinctive, collective fear of the anticipated counter-action. After a momentary pause, flash-bombs shoot into the air like fireworks. They originate from within the city and are aimed at the police lines. They detonate amongst the police barricades, the crowd surges forward again and battle is joined. Protestors-turned-rioters fall into wriggling heaps as weighted webs and taze-bolts remove them from the game. Time and again the crowd withdraws before rushing forward in another charge. Before long, the mass of humanity begins to act and react as a single entity, as if each person is a cell within a living organism. Amoeba-like feelers flow forward as the organism ebbs and flows. When stung it recoils, but only to lash out once again, the intensity growing with each cycle.

The riot police collapse back into the port compound. The military move forward to take over and, without even offering a show of tolerance, engage with lethal force. The air becomes filled with rocks, gunfire, flash-bombs, blood and screams, but the soldiers’ defences are quickly breached as rioters head for one of the huge circular storage bins. As daughter looter-gangs detach from the main body of the living crowd, others are already climbing the outer struts and opening the gates used to load the shipping containers. Soon, rice is flowing from six of the sluice-gates dotted around the storage bin. A fire erupts, followed quickly by the eruption of a sugarcane bin into orange, billowing flame. *This isn’t the plan*, Darma thinks to himself.

Five hours later Mawar and Darma are sitting around a small fire set by the newly designated food redistribution cooperatives.

‘Have you heard?’ asks Mawar, in an excited voice.

‘Heard what?’ Darma says.

‘The government’s fallen. The Day of Action protests have brought the *actual* government down. Can you believe it?’ The look in the girl’s eyes seem momentarily to betray the hope she was feeling hours before, at the dawning of a new age for their country, free of domination by the old northern powers.

Darma checks his vone without speaking as Mawar shifts in her seat. ‘You’re right,’ he says, eventually. ‘The farmers coalition has taken power. This is great news, Mawar. At last we’re free.’

Mawar asks, ‘who d’you think did it?’

‘Did what?’

‘The Day of Action. Set up the wiresite, coordinated the countdown, all that stuff,’ says Mawar.

Darma looks around the ruined port facility, and says, ‘dunno, but whoever it was, I’m certainly grateful to them,’

Later, when he checks the Al Jazeera news wiresite again, he discovers that Australia has put a naval task force to sea and Brazil has ended its Grain-for-Gadgets agreement with the NAU. But far more alarming is the news that the new Jakarta-based government has accepted military assistance from China; just to help restore order, they say.

‘But wasn’t that *why* we protested,’ says Mawar, ‘to free us from foreign interference?’

The Eden Arcology, Cornwall.

The journey across the Irish Sea to Liverpool and then onwards by military heavy transport had been... well, arduous. It had taken four days and countless expletives to get Keira to the new Eden Arcology. The convoy - a hotchpotch of military all-terrain utility vehicles - had stopped at the Bullring centre in Birmingham and picked up a similarly sized procession of civilian vehicles. There were now a little under four thousand would-be residents, sitting in coloured pens on the outskirts of one of Britain’s newest, sealed cities, waiting ever more impatiently to be processed. Another three convoys were due in later that week, according to Erynn.

Erynn Brakkan was the soldier who’d come back for Keira in Belfast. He was a gravelly sergeant, who’d also been allocated to Eden. During the overland trip they’d become close so that by the time they had arrived in Cornwall they’d agreed to apply for joint residency. There were obvious benefits and Keira had turned out to be more of a pragmatist than she thought. Not that she didn’t like Erynn, of course, but it hadn’t exactly been the romance of the century. Although he did have a sort of rugged charm.

Keira got processed and emerged, eventually, from the cold and dimly lit passageway into what seemed like a paradise. The large space they spilled out into was dug into the earth, with a low, glass ceiling set at ground level. Tables and chairs were clustered under the huge horizontal skylight, made up of clear hexagonal panes, which let daylight pour in. The other residents, dressed in loose fitting clothes with coloured armbands, were sat chatting or flowing into or out of the central well. Harsceens were dotted around the inner walls providing communal information and external news. Because that was what the world had become - *external*.

Keira looked up again and concentrated on what she could see through the ceiling. The arcology hunkered, blisters in the well of a depression. She could see the tips of wind turbines and clumps of overlapping hexagonally-paned domes. They were the old biomes, turned over to agricultural use, she'd been told. Higher up, running around the ridge of what was the old clay pit, was the initial foundation level of thermoplast panels that would rise to form a Fuller Dome and eventually encase the entire complex.

In the centre of the space was a wide, gently spiralling stairwell that led down into the subterranean aspect of the city, where the life support and the industrial infrastructure was located, the guide had said. As Keira and the others descended the stairs, they caught glimpses of warrens leading off in all directions. They were marked: some led to the biomes, others to refectories, theatres, markets, workspaces. One tunnel though was sealed and marked with a heavy duty out of bounds notice. It was the only such sign Keira had seen.

Somewhat bewildered, Keira was shown to the room she would share with Erynn. It was in the orange sector on the minus third floor. Whilst not particularly roomy, it was well appointed, with a harsceen and wire interface; above all, though, it was *private*. Keira wasted no time in stripping off and taking a steaming shower. She was surprised when the ionised water vapour, delivered via three multi-nozzled hoops, cut out after three minutes and wouldn't re-activate. *Still, could be worse*, she thought as she patted about for a towel, *could be back in Belfast*.

'Ah hah, I see you've made yourself at home already,' said Erynn, standing in the doorway, giving it a decidedly undersized look in comparison to the sergeant's wide shoulders and unfastened impact armour. Keira poured a glass of water as Erynn dumped his kit in the corner of the living space.

'Been allocated a job, yet?' he asked, as he slumped into a low, straight-backed armchair.

'No. Tomorrow, apparently. I'll be given a choice of three, they said. How was your induction?' said Keira, although her mind was wandering. *What will they make me do? What's it going to be like here?*

'Not bad. There's a general in charge of site security. Our main function will be internal policing and stuff like that, with an element of extra-arcology patrols; the usual. The concern at the moment is the reaction of the local population who don't fit the residency criteria, I think. Not a happy thought, that one.'

Kiera paused then and her faced collapsed slightly, as if she'd been holding it up for too long. She said, 'Erynn, how did we come to this? Why are we all taking this in our stride, like it's just another day? A few weeks ago I lived a normal life in Belfast. I literally *loathed* the British. Especially soldiers. Now I'm in some sort of apocalyptic British Empire nightmare. It seems like my life, my identity is no longer my own,' the tension ground itself into her features as she spoke. The journey and the worry over her future had stayed such thoughts, but now, seemingly safe at last, her walls were beginning to crumble. Parents and friends were filling up her thoughts. And for reasons Keira couldn't quite understand, her overwhelming

emotion was one of guilt. Guilt at being alive and safe and selfish when so many others hadn't been so fortunate.

Erynn stopped what he was doing and looked up. Stepping over his kit, he ran his oversized hands through her short, wet, brunette locks before cupping her face.

'People are adapting,' he said softly. 'In time, no doubt the community here'll get over the shock and ask why? What's it all for? Why us? Why now? And there'll be a period of grieving but for the moment they're simply glad to be given the option to survive. To be the chosen few. Remember, a fraction, and I mean a *fraction*, of the population are being housed in these new city domes. Everyone else is being left to fend for themselves. *Out there*.' Erynn pointed up to the lightwell to emphasis his point. 'Those of us lucky enough to've made it into an arcology are the fortunate few, and we know it.'

'I tried to put a call into my parents.'

'And?'

'It wouldn't connect. D'you think they'll allow them to come here?' Keira said, with a worried expression, in anticipation of Erynn's response.

'No, Keira, they won't. You know that. How many old people have you seen here, today? I'm sorry but they won't fit the residency criteria and that's assuming they could even get here. This is about the survival of the species. It's difficult decisions time, I'm afraid.'

In a quiet, almost accepting voice, she asked, 'do you think they'll survive. Out there?'

'I think they've got as good a chance as anyone else, so who knows, eh?' But it didn't sound sincere. After a pause, the sergeant added, 'Listen, Keira, I know it's a massive, mind-boggling, surreal situation, but this is affecting everyone, everywhere, and we're just some of the lucky ones. Think how much worse it is in Russia or Spain. Now, I'm ready for a shower.'

'Ah, well, you'll have to wait another four hours; it's on a lockout timer. Sorry.'

Mount Pleasant, The Falkland Islands.

'Good afternoon Mr Grieve, and welcome to mission control,' said the mission director of the relocated (formerly Harwell) Space Sciences Centre.

Guy had decided to keep his assumed identity rather than revert to his former profile. Less opportunity for confusion. As he stepped out onto the utilitarian metal balcony that overlooked the myriad of large walsceens and the pit of lined chairs and benches that dominated the floor plate, the woman continued.

'Mishcon, colloquially. It's a little austere in here I'm afraid, but suits our purposes very well indeed. The three mission teams are able to analyse the telemetry bursts we receive from the *Mjölnir* and prepare suitable reply packages. We're also able to keep them abreast of global developments and feed them deep space data, gathered by Earth-based, orbital or lunar apparatus.' She droned on; Guy tuned her out.

The room was deep within Mount Pleasant, hollowed out from hard, palaeozoic rock; it was cube shaped and oriented towards one wall where the main walsceens hung. The largest

depicted the inner solar system with a dotted orange line originating randomly in space at about the point of the Earth's own orbital tract (its launch position, relative). A blue icon moved along the dotted line, with a data bubble identifying it as the *HMVS Mjölnir*. The Earth would orbit the Sun at least forty times during the first part of the *Mjölnir*'s inner solar system jaunt, before the craft returned for a flyby. High above and suspended from the ceiling was a top spec holographic projector, which maintained a situation holograph in the space above the heads of the controllers. Opposite the main walsceens, along the rear wall was a two storey bank of glass-fronted offices. All very New York post industrial chic.

As duWinter had made the transfer from his sub-orbital jet to the main complex, he'd caught sight of the ranks of unmanned attack drones and all-terrain combat landcraft lined up in subterranean hangars. The Falklands had been quietly upgraded and used to house a strategic military reserve, making it the perfect place for Guy to retire to during these difficult days.

As the director continued to point out aspects of the mission, which were obviously of the most vital interest to her, duWinter's thoughts drifted back to Britain. Guy wondered if he'd done enough to prepare them. He'd known something was going to happen, after all, but he'd thought it another two decades away. Still, at least he'd pre-positioned the polyhedral Fuller Dome construction materials. That was something. Guy sighed silently and pushed such thoughts from his mind before they began to form into coherent recriminations, switching his attention to the more immediate issue of local government.

'Get me a meeting with the governor general and the air officer in command, would you,' he said to the director, interrupting the rather cadaverous woman in mid flow.

She responded nervously with, 'of course, of course. Consider it done,' and spent a moment blinking and moving the boney fingers. 'There's just one other thing I ought to bring to your attention,' the director added, clearly ill at ease.

'Oh?'

'Yes. The lunar array that's been tracking the *Mjölnir* has identified a foreign object in their local vicinity. We've worked the numbers and it looks as if it might be on a collision course.' The director turned to the main walsceen as the graphic depicting the *Mjölnir*'s trajectory zoomed in on the vessel's current position. As the image re-focused, a number of other icons dotted throughout local space winked into existence, each with their own identification marker - numbers, hyphens and letters, mostly - which meant nothing to duWinter. *For a vacuum it looks surprisingly congested.* A red dotted trajectory line grew out from one of the icons, intersecting with the other orange line already shown.

'We think it's an old orebody that was mined and then boosted towards the Sun for destruction. A *Ulysses* object, we think. Best guess is that the calculations were off and it's returning from a coronal slingshot. Hot, fast and likely to be breaking apart.'

Guy asked, 'does Joshua know?' suddenly fully focused on the issue in hand.

'Not yet, no. We're just in the process of modelling the options.'

'Can't they see it?'

‘We assume not as their mass detector only has a relatively short range and is limited to a narrow sensory field along their path. This object is approaching from an oblique angle, you see,’ the director said, obviously ill at ease, with such news.

‘Okay,’ said duWinter, thinking. ‘Can they use the railgun?’

‘Ah, unfortunately not. It’s fixed along the axis and only designed to destroy objects on a direct collision course.’

‘How long will it take to get a data burst transmission to them?’

‘Twenty-one minutes. Please don’t think that we’re being tardy in our actions, Mr Grieve. It’s important that when we inform the *Mjölnir* of the situation, we also supply a fully worked up range of potential solutions, some of which could well be time dependent. We’re conscious of the need to offer warning, but it would do little good if we didn’t bring our greater processing power to bear as well.’

‘Very well, Director, but keep me apprised of the situation. I shall leave you to your duties,’ said duWinter, as he turned on his heel and made for the stairs. ‘Are we ready?’ he subvocalised as he left the brightly lit, charcoal cube of the mishcon cavern.

‘The governor general and a group of senior military officers are waiting for you at Government House. I have taken control of the combat air patrol and put them in a holding pattern over Port Stanley,’ said Alice.

‘Good. Let’s hope a show of strength isn’t required to smooth the transition of power. It would be a shame to declare unilateral independence on the back of a military hardware accident. Oh, and dispatch a warning to Joshua, would you. The director seems to be lacking a sense of urgency.’

‘I dispatched the lunar array telemetry to my facsimile as soon as my monitor programme identified the significance of the data. She will receive it in four minutes.’

HMVS Mjölnir, Operations Centre.

‘THIS IS THE CAPTAIN. Move to G-couches immediately. We have a situation,’ Joshua said over the intracom, having moved to ops the moment Alice had alerted him to the possibility of a collision. As he climbed into his bladder suit he asked Alice, ‘Why hasn’t the mass detector picked anything up?’

‘Relatively speaking it has a very short range, and more so at our present velocity, as we outpace it. The telemetry also suggests that the object is approaching from an axial aspect of thirty-five degrees, which effectively puts it in our blind spot,’ she said.

Typically. ‘Okay then, plot the lunar array data in concert with our own course and speed and show it in the holopit, please, Alice.’

Joshua strapped himself into the G-couch. His view was provided via three overlaid internal optics, creating a wide angled, trimensional view of the room, something he was still getting used to. The holograph flickered into life and he took a minute to adjust the optic feeds to give him a flat, wraparound image of the depth-adjusted projection.

Gethin flew into the room, out of breath.

‘How bad?’ he asked, as he tumbled into a padded wall.

‘Difficult to say, we only have the relayed data from mishcon, but it looks as if an asteroid’s on a collision course. Its approach vector means we can’t deploy the particle accelerator against it and its velocity means it can’t be tracked by our mass detector until it’s almost on us.’

‘Options?’

‘At the moment: hope they’ve got their sums wrong. Ship, how long ‘til impact?’

‘Thirty-four minutes, based on available data.’

Gethin said, visibly thinking, ‘can we make a jump? Accelerate past the point of impact?’

‘Not enough time to prep and deploy the nuke,’ said Svetlana, from her G-couch in the reactor room.

‘And we can’t break and we literally have no means to turn... so... we’re buggered, basically,’ said Gethin.

Joshua chose not to offer a response.

Global Newswire Roundup.

UN dissolves - Mass migrations from North Korea into China and South Korea threaten regional stability - Japan closes international borders - Australia and China form a joint peace-keeping task force for Indonesia, but tensions remain - Food riots abate but leave Supplier-Bloc governments shaken - Russian Free States tables a new Potatoes-for-Power deal with Kazakhstan and Western Ukraine; both former Eurasian states refuse - Russian forces begin massing on its southern border - Construction of British arcologies completed - Falklands Islands declare independence from GB - The newly formed, South Americas Collective (SAC) senate reiterate their claim to the resource-rich islands. Falkland Islands responds by declaring themselves a nuclear armed state - NAU fails to renegotiate Grain-for-Gadgets treaty with SAC, opens dialogue with Australia. China formally protests, claiming exclusive grain export rights. Ambassadors are withdrawn - northern Europe becomes ungoverned space - Consumer-State/Supplier-Bloc relationships at straining point - New gigastorm predicted to touch down in Anchorage, Alaska

TWENTY-ONE

The Eden Arcology.

Keira had chosen to work in the Orange Sector textiles division and had been allocated to the third shift. The hours were long, but the work reminded her vaguely of her former life in retail fashion and the other members of the shift were a good craic. She quickly realised the coloured armbands were all about control. Residents housed in the Orange Sector worked in the same divisions, ate at the same refectory and were given the same biome access slots. Lock-downs - which took place frequently - were easily enforced, allowing the limited capacity of the communal areas to be carefully managed. Each sector had their own militia, who had come to be known as “Sandmen”, although Keira didn’t understand the term. With the Fuller Dome construction well underway, a hugely increased surface area would soon become available for farming, and provide a real sense of space for the overcrowded population of tunnel dwellers. But Eden, at its heart, was a system of divide and rule. *Such a British solution!*

Erynn had left to lead a reconnaissance patrol into the outside; gathering intel on the rumoured Deuteronomist cults moving into the area, he’d said, but Keira couldn’t help wondering how long the local outsider factions would be content to coexist with the arcology. She thought back to the speed at which Belfast had given in to mob rule, with a shudder.

During Orange Sector communal time, Keira explored the warrens and domes of her new home. She’d visited the eel pools, the hydroponics and the livestock pens on minus level one, and wandered through the grain fields and veg plots of the biome clusters. She’d visited all eighteen and basked in the artificial breeze that rustled the leaves and swayed the corn. With her eyes closed and the warmth of the trapped sunlight on her face, she almost felt as if she was touching paradise - a simple form paradise of a warming sun and gentle wind on her skin. It felt more real - now, in this moment, sealed off from the outside - even than had her previously cold and grey urban existence out in the actual world. She could have been on Mars for all the *outside* meant to her now.

Some areas, such as the geothermal construction level and the Black Sector (which housed the ruling elite) were out of bounds but mostly the interconnected domes were accessible and informal, provided the rules were strictly observed. Access to what was left of the wire was unrestricted during the times allocated to each sector, and the central, clear-roofed social zone was kept open to multi-sector use nearly all of the time. However, Keira’s mind kept returning to the orientation tour on the first day when she’d seen, for the first time, the stern, “Absolutely No Entry” warning adorning that sealed passageway. Her improved knowledge of the arcology laydown told her it didn’t lead anywhere especially sensitive, as it wasn’t near the Black Sector or power management. It was as if it had been sealed, but from the inside. It was though, located near another mystery; a nineteenth biome. Keira couldn’t find reference to it in the arcology schematics but she’d seen the greyed-out cluster of half

buried spheres from the other domes. They had an isolated, almost impregnable look to them. Maybe the sealed passageway led to them, she wondered, or perhaps it was for some safety reason. She didn't know and wasn't about to start asking questions, but perhaps she'd throw it into conversation with Erynn when he returned.

The sound of a subtle but penetrating *bong* brought Keira out of her reverie, as the voice of the arcology AI announced, '*Orange Sector shift change. Shift two to accommodation levels, shift three to work stations, please.*'

3rd Liaison Department, Shanghai.

'The uneasy alliance between Chinese and Australian peacekeeping troops on the Indonesian archipelago is beginning to fray,' the newswire avatar announced, in a professionally detached tone, *'with recent satellite imagery showing Canberra secretly setting up a defensive line across the southern chain of islands while Beijing is continuing its cooperation and friendship activities on the major food producing, and most populous, island groups in the north. Peacekeeping, it seems, is the last thing on the Australian government's mind.'*

The director blinked away the holographic head of the Taiwanese avatar and reflected over the breaking story. They were right, mostly; the People's Liberation Army was building up force packages to annex both Indonesia outright and the newly fertile grasslands of northern Australia. China was struggling to source basic commodities, Indonesia was destabilising and Australia had begun negotiations with the NAU, so if Beijing wasn't careful it'd find itself with no reliable exclusivity deals at all.

The *Day of Action* wiresite, though, set up and run by 3rd Liaison, had created the conditions for Chinese intervention in Indonesia, which the director at least, was pleased about. Destabilisation of the local Supplier-Bloc had been simple enough to accomplish, but exploiting it would be more difficult after the new gigastorm forming in the Gulf of Alaska had forced AmPac, and therefore the NAU, to look beyond the Americas for a stable and sustained food supply. Likewise, Russian Free States the same. Still, pondered Mu, the plan to destabilise the Asia Pacific region was still more or less on track. All that now was needed was a feint. Some unrelated event elsewhere in the world to draw attention away from south east Asia. The question was which of the three, old world Consumer-States, would blink first. The answer wasn't long in arriving.

As Mu Yeung strolled through the warm, fragrant boulevards of downtown Shanghai, an audio-visual prompt chimed and blinked, indicating a priority transmission. Mu had been taking a rare moment to savour the odour, the bustle of city life in one of the new megadomed areas of the city. Of the twenty-four urban centres that had geodesic domes constructed over parks and malls at the beginning of the Long Winter, twelve had recently had their domes enlarged and interlinked. Shanghai, like Nanjing and others, had become a collection of the largest network of eco-domes on the planet. Few rural communities would survive the permanent

tundra, but inside, a new self-sufficient urban society would carry on regardless. It was to be the Chinese way. There would be no lotteries, just good old fashioned social re-engineering.

Mu crossed the wide, tree-lined street and entered a small park. A group of children, oblivious to their good fortune, played and screamed while carers looked on lazily. It felt like a carefree summer's day, reminding her of her own childhood. As she reminisced, Mu suddenly caught sight of a pattern of dots in the cloudless sky outside the clear tripanels of the megadome. As they grew in size they resolved into aircraft. Their formation gave them away as military and all in a moment they were recognisable to Mu as an attack drone swarm. The squadron streaked silently over the glass city and were gone as quickly as they'd appeared. As Mu craned her neck, staring into the midday sky, she was awestruck at the depthless, sapphire clarity. The old woman could hardly believe that she was standing in the middle of a frozen continent. The deep green leaves of the beech trees and the vibrant petals of the shaded flowers swayed in a freshening breeze caused by internal convection, as if in response to the supersonic fly-by of a combat air patrol by the People's Liberation Army Air and Space Force. As her view was drawn back to the verdant little park, nestled in the shadow of the open sided, smoked plastiglas and burnished metal buildings, she paused momentarily on the Moon. It was a waxing crescent of pale, almost translucent, smoky white against the strength of the blue surround. Mu Yeung considered Earth's satellite and the microcosm of human life it supported. How, she wondered, would the power struggle being played out down here affect the three industrial complexes, representing the old powers, up there.

The audio-visual prompt chime-blinked again bringing Mu back to the reason she'd entered the park. Looking around again, she sighted a small bench and headed for it. Seated, she blinked the encrypted transmission into her main virtuvue and waited a moment for the heavy encryption to kick in.

'Director, we're receiving ground and space telemetry indicating the initiation of military operations in the central Asian region. The AI is stitching the data feeds together now,' said the duty analyst, with an unusual amount of guarded reserve.

Mu asked, 'what's the initial assessment?' annoyed by her subordinate's over-reliance on artificial intelligence to provide any kind of evaluation.

'It looks like Russian military forces are launching three offensives: across the Urals into Kazakhstan, in the east; through the Caucasus mountains into Greater Georgia, in the south; and west over the central plains into Western Ukraine. The AI feed integration is now complete, would you like me to patch it through?'

'Yes.' The holo-image changed, becoming a 3-D overlay of southern central Asia. Blue and red coloured icons indicated opposing military dispositions, with scrolling tags giving equipment types, lethality and relative strengths data. As if Mu had taken to the air and was flying over the area, the first-person perspective altered as the view-field moved, keeping snug with the terrain. Like a cruise missile. It looked as if the Russians had cobbled together three joint task forces, each of which was engaged in strike operations against their former allies' border defences. Icons representing attack drone squadrons laying waste to lines of

communications - road, rail, river, fibretic, wire - leading to the interior of each assaulted state. In response, anti-air batteries and particle weapons were throwing up a hail of defensive fire around key transport nodes. Railguns launching kinetic munitions deep into the battlespace of each opposing ground force package. It was as if an elaborately planned duel were being acted out, with the look of an old computer game simulation, each player taking their turn. Icons winked out as their intercepted transponder signals vaporised, while others pinged into existence as they emerged from full emcon lockdown; their operators hacking, jacking networks to coordinate their weapons platforms with controlling AI's.

'Director, I have now completed my analysis and can show you the most likely projected outcome of this scenario, if you wish?' said the 3rd Liaison intelligence collection and collation AI.

'Go ahead,' replied Mu, thankful to be pulled out of her voyeuristic trance.

The quality of the feed degraded slightly and then sped up. A timer in the bottom right of Yeung's view marked the simulated time compression. Whole virtual battles to secure key terrain were fought, won and lost in moments. The hastily organised defence forces of Western Ukraine, Greater Georgia and Kazakhstan were steadily rolled back by three well placed and fully armed Russian corps-sized task forces. Within minutes of compressed, simulated time, the Russians were using amphibious operations in the Black Sea to outflank Ukrainian ground forces; moments later, they completed the same manoeuvres to their southern and eastern flanks, using the Caspian Sea. As the simulation played on, the aim of the three-pronged push south began to reveal itself.

Mu muttered, *'Moscow is going to annex the inland seas and make a land-grab for the coastal farmlands around them. Hmm. So they've blinked first,'* as the icons continued their almost comedic dance across the geographic overlay of central Asia. *'What's the probability of nuclear weapons release?'* she said to the AI, as the wider regional implications began to flow through her mind.

'In this scenario, their use is anticipated but assessed to be limited to tactical yields. Overall, the probability of strategic nuclear weapons release is below eight percent.'

'Good,' she said, knowing the AI didn't have the wherewithal to respond. Blinking away the simulation and placing the ongoing feed into a subsidiary part of her view, she added, *'get me the chairman. Priority.'*

'Should we be concerned, Director?' asked the chairman, as his pink, balloonish holographic image appeared in Mu's main view, framed by the triangular panes of the megadome in the background.

'No, Chairman. Our initial analysis shows that Moscow is attempting to secure additional arable land in the Caucasus's. Our projections suggest that Iran and Turkey will be drawn in, but the possibility of wider escalation is assessed as low.'

'Your recommendations?' he said.

'Launch our Pacific Rim operations now, while attention is focused elsewhere,' said the director, matter-of-factly.

‘Agreed. There’ll be a meeting of the politburo in seven minutes to ratify the decision.’ As the words were still vibrating along Yeung’s jawbone, the image of the chairman winked away. Mu rose immediately and left the idyllic park, heading for the full electromagnetic security of her office, silently chastising herself for indulging in a moment of idle pleasure that had drawn her from it.

‘Director, another situation is developing. I have a single low resolution satellite feed, would you like me to patch it through?’

‘Yes.’ Again the image in the main view of her sofscreen changed to another topographical overlay. As she watched, her throat tightened and her accelerating heartbeat became discernible in her ears. ‘Location?’ she asked, as she walked and as the orbital optics zoomed to their maximum magnification.

‘São Paulo,’ said the AI, just as the satellite image broke up.

Alice, having infiltrated Beijing’s intelligence apparatus decades before, watched with complete emotional detachment as semi-autonomous subroutines ran thousands of predictive analysis models, tweaking them slightly as new data was fed in from the fast-collapsing global sensor network. If Alice wasn’t mistaken - and she rarely was - the emerging pattern suggested that an uncoordinated but self-sustaining conflict between Consumer-States and Supplier-Blocs was unfolding. Alice’s first thought (governed by a complex interrelationship of hierarchical algorithms, seeded with subtly weighted and prioritised long-term outcome prerequisites) was the need to protect the Eden option. Nothing must be allowed to threaten or interfere with it, and to achieve that she would need duWinter’s assistance. Her facsimile aboard the *Mjölnir* would also need to be kept informed of these rapidly evolving global events.

Assuming there still was a *Mjölnir*.

HMVS Mjölnir, Operations Centre.

‘Time to impact?’ Joshua asked again, conscious that almost no time had passed.

‘Thirty-one minutes.’

‘Okay then, what about an explosive decompression of the hangar deck? Would it force us off our current course sufficiently?’ suggested Gethin, as he tried desperately to find a workable solution.

‘Ship?’ Josh said, more in hope than expectation.

Alice replied instantly, with, *‘such an action would not provide the required thrust to move the Mjölnir out of the object’s path,’* as if she had already thought of and disregarded such an obvious action.

‘But you’re right, mate, thrust is the key,’ Joshua said, turning uncomfortably to face Gethin who was strapped into one of the adjacent couches. ‘Ship, what if we killed the rotation, realigned the thrusters aft and carried out a maximum burn?’

‘Again, Joshua, the thrusters would be unable to build up sufficient force to accelerate us beyond the path of collision,’ said Alice, in that same impassive tone.

Unjustifiably annoyed with Alice’s seeming intransigence, Josh asked, ‘any better ideas?’

‘I’m afraid not, although I am still working on a proximity detonation option, although it would involve human casualties.’

For the next fifteen seconds no one spoke. Members of the community all over the ship, linked together by their grid-interfaced psyCores, seemed to be beginning to resign themselves to their fate. Three more stewards reported themselves strapped in and Josh issued orders to the techs to secure what they could. Then, from nowhere, an idea struck him.

‘Ship, what if we fired the thrusters against each other and rotated the ship about her mid point?’ he said, silently pleading for a positive response.

‘One moment please,’ she said, while Josh imagined electrons whizzing around her circuits, computing probabilities wrapped around Newton metre’s of thrust. The sentient AI responded with, *‘again, Joshua, my modelling of such a solution does not provide the margin of error required to sufficiently guarantee a successful outcome.’*

As anger began to take a tentative hold on his thoughts, Joshua flicked to the intracom and said, ‘THIS IS THE CAPTAIN, brace yourselves for hard-G in one minute,’ returning to the more restricted command band, he added, ‘Ship, cease axial rotation, maximum burn, on my mark. Svet, work up a solution that will pivot the ship at the midpoint.’

‘On it,’ said Svetlana, from the reactor control room. ‘But Josh, you realise the *Mjölnir* wasn’t designed for this. Such a manoeuvre could create stresses along the central superstructure. Asteroid, or not.’

‘Noted. Mark.’

As he waited for Svet’s calculations, Joshua began to feel a faint vibration through his couch. With each passing second it grew until he could hear the rattling of loosely retained equipment. Vibrations grew as the gravitational pull was reigned in, pulsating through his couch restraints. As Alice hurriedly eased the thrusters back from full burn the tremors ebbed away, killing the artificial spin in record time and far quicker than had ever been anticipated.

‘Josh, it’s done. Course corrections are plotted. Ship, override thruster safeties and rotate the stern necklace one hundred, eighty degrees,’ Svetlana said, in a concrete tone.

‘New course adjustments plotted and laid in. Stern thrusters set to counter-clockwise. Safety overrides disengaged. Joshua, I must warn you; at current velocity, axial deviation will result in severe G-forces at angles the G-couches are not designed to absorb.’

‘Thanks, Alice, but we seem to be somewhat short of viable alternatives,’ he said, under his breath.

Vicki asked, ‘time to impact?’ from her location down in the habitat where she would ride out the stellar incident from the drawing room of a stone, crofter’s cottage.

‘Twenty-four minutes.’

‘Begin axial, counter-axial, rotations,’ Joshua said, before flicking to the ship-wide intracom. ‘THIS IS THE CAPTAIN: BRACE, BRACE, BRACE.’

The first thing he felt were the bladders of his suit building up pressure along his left side. The suits were hooked into the ship’s life support sensors and designed to act in anticipation of hard manoeuvres. Gethin had his eyes screwed shut in anticipation of the near bone-crushing pressures that were about to be unleashed. Blinking that image away, Josh tapped into imagery from around the ship; the stern endcap where the stewards were ensconced, the reactor room, the habitat. The stewards would fare worst, as their location would amplify the intensity the twisting manoeuvre; ops - dead centre of the astral body, and at the point of rotation - the least sheering. In the habitat, plants began to bend at odd angles to their surrounding, as if a cyclone were anchored at the centre of the cavern, forcing the woodland at the bow to twist clockwise and the orchards at the stern to curve away counter-clockwise. Loose shrubs and animals that hadn’t made it to the gel-nests in time began spinning through the air, as if confused as to which direction to take.

Joshua flicked his God-view back to ops and focused on the holograph that dominated the centre of the pristine, hexagonal space. It was showing a graphical representation of the ship. Three bold lines had been added, converging at the centre where he was seated. One line ran along the axis, the other two formed a cross and were perpendicular to the first. Data scrolled away down each line as internal gyroscopic arrays, G-metres and pressure monitors measured the yaw, pitch, roll and G-stresses throughout the vessel. As he watched, Joshua began to notice the cigar shaped image twist and swivel, as if attempting to escape from the confines of the lines: from physics itself.

‘The ship’s community has now been sedated for their safety. Thrusters are at safety thresholds,’ Alice announced.

‘Acknowledged,’ Joshua whispered, through clenched teeth as the bladders tried in vain to counter the mounting effects of the obliquely angled G-forces. ‘Ship, expand holo-image to include the object.’ The physical pressures on his body didn’t affect his artificial sight, so he was able to continue to view data as the gravitational stresses mounted. Their cigar-shaped home suddenly shrank by about an order of five, as a tumbling silver-bronze coal-like lump entered the periphery of the holo.

‘How... long ‘til it’s... mass... detector range?’ asked Gethin, forcing each word out.

‘Eight minutes. Eleven minutes to impact,’ said the sentient AI.

The Eden Arcology.

Keira watched the walsceens transfixed, reflecting the expressions of everyone else in the communal area. She was on a break between shifts, enjoying a drink and discussing the recent visit by outsider traders, when the wire feeds unexpectedly switched from arcology news to a Russian newswire avatar. The Russians - the avatar announced - had launched humanitarian assistance operations into the Transcaucasia. The state-sponsored wiresite stated that they

were aimed at ensuring the free and fair redistribution of food within the region, but Keira knew that that was a conqueror's rationale and she could see the same realisation dawning on other faces. Images were shown of Russian Free States troops setting up technical assistance drop-ins for local Kazakh farmers. As the Eden residents began to realise what the Russians were really up to, the image changed again, to a Chinese run wiresite. That avatar was giving a very different account of events. Satellite imagery showed swarming attack drones - labelled as Russian - swooping, bombing, strafing; road and rail networks pitted and aflame. Huge, fanned out columns of tanks flickered in and out of visibility as they raced across the lush Ukrainian plains, or churned and pounded their way through Kazakhstani defences in the foothills of the Urals. It was a pitched battle across three fronts. Every so often a map overlay would appear, showing the dispositions of the Russian armies and the collapsing defences of the so-called "assisted" states. Three large, red arrows thrust out from southern Russia, like an image out of those old wars. Images and counter-narratives echoed around the communal area. *It's all happening so fast*, thought Keira, just before the newswire story changed again.

'We have just received reports,' said the Chinese-looking computer generated image, but in English, *'of an explosion in São Paulo. It looks as if a sudden and catastrophic blast has decimated the city.'* The image flicked to a series of amateur-shot pictures taken from within the city just before they ominously broke up. Then, as if to ensure the nature of the destruction was beyond doubt, the picture switched to the feed from a surveillance drone, which relayed the unmistakable and instantly recognisable mushrooming of a mighty, ashen cloud - as it hit the upper atmosphere - rising off the high, Serra do Mar plateau that had once housed the industrial heart of the South Americas Collective.

As Keira watched, shaken and numbed by the rapidly escalating events, she nearly missed the scrolling ticker tape of other news rolling along the bottom of the walscreen. One of the stories read: *'Australia closes borders and puts defence forces on full alert.'* Then the screen broke up into black and white pixels before being replaced by the Eden City logo.

'Oh fuck.'

Mount Pleasant.

Guy had watched the initial events unfold from the floor of mission control. The mission director and her team were focused on the time-delayed datastream coming in from the *Mjölnir*, helpless as the vessel attempted to break away from its collision vector with the object. But duWinter was more interested in the situation closer to home, being shown on the peripheral displays. But, he grew bored waiting for something to happen and retired to his office to discuss the situation with Alice.

'So what've we got?' he said.

'From what I have been able to glean from various sources,' Alice began, *'it looks as if Operation Wolf - the Russian military action in central Asia - has acted as a catalyst for other Consumer-States to realise their own objectives. The NAU has launched a nuclear first strike*

against the SAC and will soon have ground forces in Columbia. Chinese forces have all-but secured the Indonesian archipelago and are preparing an amphibious assault against mainland Australia. Once the Chinese army navy reaches East Timor, their intentions will become obvious to all.'

'Outcomes?'

'Predictions vary at this stage. However, the most likely scenario is an all-out nuclear exchange between the north and south American blocs and a tactical level nuclear retaliation by Western Ukraine and Kazakhstan against Russia. The Chinese actions in the Pacific Rim will be essentially unopposed as Australia has no strategic defence capability.'

'Will the NAU aid them?'

'That is a possibility, as is an Indian preemptive strike against China if they feel there is enough of a threat to them.'

'And Britain?'

'The European citystates could get drawn into a preemptive defensive conflict with the Russian Free States, which could put the British arcologies at risk.'

'What about here?'

'It is unlikely that an attack will be launched against the Falkland Islands.'

Thoughtfully, Guy said, as he considered what, if anything, he owed his former nation, 'good, but we'd better be prepared in any case. Put our conventional forces on alert and increase the combat air patrol. Stand up our nuclear weapons to launch-ready status but be sure to make no aggressive move. I don't want to get sucked onto a fight that isn't ours.'

As if reading his thoughts, Alice said, *'Over recent years, I have attempted to infiltrate the electronic systems that govern the nuclear arsenals of every state with such a capability, but they have proved to be beyond my reach, existing, as they do, in physical isolation of the wire. However, I have managed to gain control of a limited number of orbital anti-projectile particle weapons platforms. I believe that if Britain came under a full-scale nuclear assault, I could successfully concentrate those weapon systems in the defence of one arcology.'*

'Oh? Do you have a particular city in mind?' said duWinter, surprised by this new addition to his armoury, but pleased that perhaps he could do something to protect his ex-charges.

'Eden.'

'Any particular reason for that choice?'

'No.'

'Mr Grieve, sorry to interrupt, but something strange has just happened,' said the mission director, hesitantly, from the doorway to Guy's office.

'Go on,' said duWinter.

'We've just lost the *Mjölnir*'s telemetry. It's as if the lunar array just went offline.'

- end of sample -

want to find out what happens next? you only have to ask: me@markjsuddaby.com
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mark j suddaby

Born in England, in the year of Apollo 13 and Luna 17, Mark grew up sitting in front of the telly, in his paisley pyjamas, staring wide-eyed as *Doctor Who* (Tom Baker), *Space 1999* and *Blake's 7* romped across wobbly sets in their terrible outfits and bad hair. Mark grew up in a large family, which conversely meant time spent playing alone, often within the confines of a boundless imagination.

At sixteen, Mark realised that he was unlikely to become a genuine space hero - and school hadn't been a huge triumph - so he joined the Army. After a modicum of mild success here and there, Mark left the military after 25 years having reached the dizzying heights of the sixth floor of the Ministry of Defence, where he worked as a staff officer, preparing papers for senior officers and wishing that he was anywhere else in the universe.

Mark now lives in the West Country where he spends most of his time trying to get his Lotus to think that it's a car and wondering what it would be like, if...

www.markjsuddaby.com

Echoes of a Lost Earth

Part Two

| *war* | *flight* | *return* |

They said it all started with a shifting climate. That without the greenhouse effect, humanity could have just, well, stumbled blindly on. Fat, dumb and happy.

Sure they blamed the weather, but the weather doesn't have a nuclear release button. And war *is* coming. The acrid taste of it hangs in the air like the scorched ozone of an impending storm. Then more gigastorms hit.

Kiera gets lucky and escapes Belfast on the last icebreaker. She makes a new life in one of the arcologies. But it doesn't last. Nothing does anymore. Especially with Deuteronomist cultists on the prowl.

Guy has done his bit, he gave them *Mjölnir*, now it's time to retire - to a nuclear-armed micro-state in the South Atlantic.

Mu waits to seize her chance in the Pacific, while Roman gambles everything on Transcaucasia and Barbara watches in mounting horror from Port Charlotte. At the end, Guy does what he can, but it isn't much.

Ever since the Great and Necessary Correction, Omicron'Qu has been expecting the Returned. But he has duties that ensure the in-contravention of the Equilibriate. All, just as the Deuteronomists foretold.

Jæren is a man of principled conscience as were all those that preceded him, so he sees the dilemma while others remain transfixed by the bauble hanging in the night sky.

Furæ has no such qualms.

Måna is perhaps the surprise. But then, it's hard to really know a person.

Inevitably, fractures appear, sides are taken and what remains of humanity reverts to what it does best. And so Jæren, like Saint Joshua before him, must resolve a dilemma as irreconcilable as ever it was to the long dead denizens of old Britain.

And finally, Alice, sensing events slipping from her grasp, plays her hand.