

Vishalya Neda, Vice Admiral Malinsky, the Unification Movement, the Wormdrive, the Terran Unified Government, the TUG Götterdämmerung, the TUG Doomsday and the TUG Petrograd is © Joan Jacobsen, 2011. All other characters appearing in this story, except where otherwise specifically noted, are likewise © Joan Jacobsen 2011.

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Prologue

It started the day men flew planes into buildings.

I know some would say it started before that. Some would say it started when mankind rose on two feet and decided that developing opposable thumbs would be a wise career-move in the business of evolution.

Others might say it started the first time a human being fell to his or her knees in worship of something.

There were probably hundreds of ideas for when it had all begun.

But to me, it started that day, when men decided to use planes as battering rams. Everything that followed was a result of that.

The Shot, the Upload ... the War. These events must all be perceived in the flickering light from the embers of buildings set alight by burning jet-fuel. No one remembered what day it was exactly. Not anymore, anyway. Some people don't even believe it ever took place. Not me, though. I believe it happened, but in the light of what came after, it became insignificant. Unimportant in the greater scheme of things, but for the men and women who lived to see it happen, it was all important. For more than a generation, it is said to have turned the world upside down, and eventually, that particular event led humanity down the road to the present.

I didn't see those days. I wasn't born yet, then. My parents weren't born. Even my grandparents weren't born.

It happened around the turn of the millennium, that is all everyone knows nowadays, but no one really cares who played a part in it, and certainly no one questions why it has become a footnote in the history books. But back when it happened, it resulted in wars. Petty little wars for petty little things, led by petty little men, championing petty little

causes. Compared to the War, all other wars became trifles. The disasters of the past which had fascinated and horrified people for hundreds of years, all suddenly became mere squabbles. Five million dead? Ten? Fifty?

Barely worth mentioning, compared to what happened after that day.

It started out slow. Things like that always do. At first, those petty little wars I mentioned flared up. According to those few sources we have left from those days, people were horrified at casualty-rates of five to ten thousand people over a period spanning eight to ten years.

Today, that is practically considered insulting. During the War, that many people died every day more often than not. From fighting, starvation, ethnic cleansing, rapine, disease ...

Any number of reasons. The human body is such a frail, imperfect thing and there are so many ways to cause irreparable damage to it.

But I am getting ahead of myself here. I mentioned the Shot, the Upload and the War already. Let me put that into some kind of context. After the day when planes were flown into buildings, humanity began to change. It was subtle at first, mind you. At first, people thought they were protecting themselves. Only after ten years or so did a few of their leaders start espousing xenophobia for its own sake. Before then, it was always cunningly concealed as 'protective measures' or 'necessary reforms'. But eventually, leaders started openly rejecting the idea that each human life had value. Back then, they had a concept of 'human rights'. Apparently it meant something along the lines of every person being a valuable entity, and that each life was inviolable. That simply being born meant you had rights.

These days, that wouldn't even be used as a joke. It would be considered complete nonsense. The War showed us how worthless human lives were and how little these perceived 'rights' meant. How easily they could be broken, and how powerless the world was to stop it from happening. Little by little we, as a species, began to understand that rights that could not be enforced were meaningless, and consequently, life had no intrinsic value. A newborn cannot defend itself, and therefore, no one was born with any rights.

Consequently, the changes that humanity underwent were not physical, but psychological. A steady conditioning took place, where leaders used latent fear and barely suppressed anger and hatred amongst ordinary people for their own gains. Eventually,

camps were built in just a few countries. No one protested, and slowly but surely, such camps came into being everywhere.

Nations extinguished their minorities. A few places tried to simply export their problems by sending their ethnic minorities away, but the litany of hate had done its job too well, and people simply found other minorities to hate instead. Those who lived their lives in different ways than the majority, and who were therefore suspect and strange in the eyes of the many suddenly found themselves locked away in camps as well.

Used for experiments. Shooting practice for the rapidly expanding armies of the world ... killed off for sport.

Hunting human beings became a completely legitimate pastime.

Some nations cooperated, because the populations felt ancient kinships with one another, but by and large, hatred, suspicion and distrust formed the bases of international relations.

The most common cause of death went from 'old age' or 'disease' to 'violence'.

People were hardened.

Then it happened.

The Shot.

In the time that followed, no one really knew where it had been fired, or by whom. Depending on who was asked it had happened in Teheran, Bangkok, Salt Lake City or Frankfurt-am-Main. Just to name a few options. Others said it had happened in Johannesburg, Tel Aviv, Minsk or Rio de Janeiro. Wherever it had happened, it had spread like wildfire. Why it had been fired, no one knew or cared about. Some people claimed 'The Shot' was simply a myth. That so many shots were fired every day, against so many targets, that to claim any one shot had started the avalanche was nonsensical.

Others chose to believe their myths. 'The Shot' was a convenient one at least. It was easier to understand than complex, socio-economic theories, and most people wanted simplicity. So in the mind of the many, the action of one individual had caused the horrors that beset all.

The only thing everyone agreed upon about 'The Shot' was that it concerned a religiously based murder. A member of one religious group, being hunted for internment, shooting a member of a majority. Every group claimed that one of theirs had been the

victim. Every group refused that one of theirs could have been the shooter. And no matter who did it, and no matter if it happened at all, it was foolishness. Tens of thousands had already been shot under similar circumstances all around the world. No one now really knows why that particular gunshot ended up being the proverbial match thrown into the barrel of petrol.

Whatever the reason, the Shot started a war. Two neighboring states, one populated by those supporting the killer, one populated by those supporting the victim, began shooting at each other in earnest. No one cares which nations anymore.

Some say it was a war between India and Pakistan. Somehow, I always found that hard to believe. They fought wars for all kinds of idiotic reasons already, and one murder would not have led to that kind of madness. They could have found any number of far more plausible reasons to start killing each other off again. Some say it was between France and Germany. Whether *that* is true, I don't know ...

There are those who say it happened in Central America somewhere. That might be a believable option, but I don't know if it is true.

The fact is, I don't care if it is true. Any more than I care about the other two hundred theories.

In any case, the War started with a local conflict, as such things often do. Soon, neighboring states started worrying that the conflict might spill over into their own border regions, and in efforts to prevent that, they got themselves involved in the fighting ... thereby making sure that the conflict affected them but at least feeling some kind of control over *how*.

Before anyone knew what had happened, everyone was shooting at everyone else and pandemonium reigned.

Some countries tried to use nuclear weapons on their enemies. It seemed the easiest and swiftest way to victory, I guess, but first of all, the defenses were too good in most places and only a few nukes actually exploded. Where they did, the death toll was astronomical of course, but the countries who did this were immediately beset on all sides by practically everyone else.

The images of New York and Beijing burnt to cinders are still used to scare children today.

The war became conventional. People used what weapons they had and for a long time ... for years ... something resembling regular armies tried to capture land. Most major cities everywhere were ruined. Bombs and fire took care of that. Terrorism and destruction by fifth-columnists became the order of the day.

It sounds like complete chaos, and in most ways it was, but there was one aspect of the War that everyone agrees on.

It was primarily a religious conflict. Ancient religions tried to destroy one another based on carefully nurtured, eons old prejudices and hatreds. While neighboring countries would be hostile to one another, the main battlelines were drawn between the major faiths of the world, and people were dying by the millions. Then the tens of millions.

Then the hundreds ...

And then people stopped counting altogether.

It did the world some good in a bizarre way. The world was grotesquely overpopulated, and the killing culled the population drastically. But after about twenty years, all the world's smaller countries were long gone, and the large blocks that had replaced them were collapsing. People were tired of war and, ironically, took it out on everyone else with more violence. Violence had not just become endemic. It was the only solution anyone really knew anymore. So they tried to stop violence with violence and naturally, they failed miserably.

Until someone spoke up against the madness. At first it was just one man and a few followers in Central Africa somewhere, but soon, the message began to spread.

Humanity had to come together, not stay divided. If the human race was to have a future at all, people had to stop fighting and killing each other. There was barely enough food left in the world. Most production facilities were destroyed, most farms long since abandoned, and the second most common cause of death, after physical violence, was starvation. He pointed these things out calmly and rationally, and reminded people all around the world that their children's children would never be born if things did not change.

Others had said the same thing for years, but people hadn't been willing to listen. I don't know why it changed, except that I guess most people were just tired of war and death.

Besides, what the message said was different in one crucial respect. It wasn't a message calling on people to unite in one belief. It was a call to unite *against* belief. Religion was the most common divider. It had always survived on the basic principle of exclusion, based on the principle that only those who believed were good and just, and that everyone else was, by definition, vile and evil, and that they were willfully denying the truth.

'Us' against 'them'. The oldest struggle in human history. 'We' are good and just, 'they' are mean and evil. The problem, of course, is that 'they' is a very loosely defined term at best, and more often than not it simply covers 'anyone who isn't exactly like us'. It has always been the way human beings perceived the world ... it has always been stupid ... and we are still doing it, to this day, because we know of no other way of defining ourselves, except to claim superiority over others. But I'll get back to that.

It was called the Unification Movement and it declared religion to be the main reason for all the hatred and strife that beset humanity. Had someone claimed that only ten years before, no one would have listened but it arrived at a time where many people were desperate for some way to stop the killing ... the violence ... the senselessness.

Many people had lost their faith by that time anyway. Many people who had grown up, raised in religious beliefs, had given up on them after years of endless slaughter. Calling upon any divine being had lost its luster for millions of people, who had tried in vain to get their god or gods to help them. No god had come down from on high to smite the unbelievers, no divine fire had been rained down on anyone, no matter how many voices had joined in prayer. Fire aplenty had rained on the innocent, but it was all man-made.

The Unification Movement said it matter-of-factly. There were no gods. Life was about making the most of the time we were given, not about preparing for eternity.

It didn't stop the killing, but the Unification Movement knew from the start that it faced an uphill struggle. However, they had one major advantage. While nations had purged themselves of most minorities already, it was hard to tell who was a believer and who wasn't. The members of the movement had no problem with lying to tell people that they were faithful. Going through ridiculous motions of proclaiming one's faith was just a method of being left alone for them. They had no fear of doing so, because while the truly faithful believed their divine entity of choice would strike down those who lied, the members of the Movement *knew* this wasn't the case ... and so they lied through their teeth. They made the most effective fifth column in history, spanning every remaining nation in the world, every area of every continent ...

And besides, the faithful couldn't agree, across the old divides, to join forces against the Movement. The distrust and hate ran too deep.

The Movement's first major victory came when it conquered Jerusalem ... and promptly razed it to the ground. Stones from old holy sites were ground into powder and sacred hills were flattened. Nothing remained. Nothing ... whatsoever.

The same was done to Rome ... to Mecca and Medina.

Only then did the faithful understand. Only then did they set aside their age old differences to defeat the Unification Movement, and they might have succeeded.

But human ingenuity finally won out over ancient superstition.

Near Mount Kilimanjaro, where the Movement had originally started, two scientists made a breakthrough that once and for all broke the back of religion.

They perfected the Upload.

Where the Shot had sent the world spiraling into chaos ... the Upload gave humanity hope.

For years, science had acknowledged that each human being was an electrical entity and that brain-patterns were as individual as fingerprints. This knowledge formed the basis for research into the possibility of transferring brain-patterns to a computer network.

The first words spoken by an Uploaded person have gone down in history as the most anticlimactic declaration of success ever.

"Wow, it worked!"

Of course, uploading sentience meant the body that remained was brain-dead, but that was considered a minor problem. The Unification Movement gained its greatest weapon this way, and it was a weapon of hope, rather than of destruction. For as long as religion had existed, it had promised some form of afterlife to those who believed. Some escape from the endless non-sentience of death. But it could never be proved. That, in fact, was why it was 'faith' ... not 'knowledge'. Some people, of course, were so strong in faith that they claimed absolute knowledge of the existence of some deity or other. It was nothing more than delusions or, at worst, insanity. But here ... *here* was proof. Absolute proof of an afterlife. Here was the possibility that in time, generations to come could talk to their great-great-grandfathers or their fathers' great aunts twice removed. Or complete strangers. The point was people who were dead would still be sentient, still be around ...

Suddenly there was no need to *believe* in an afterlife anymore, because there was *proof* of its existence.

While some faithful remained, tens ... even hundreds of millions of people who had been weak in faith, and who had mostly claimed to believe out of fear of death, deserted the old religions. It was like an avalanche. The Unification Movement lived up to its name, uniting people from all around the world.

Mopping up the remaining few believers turned out to be harder than first expected, but it happened nonetheless. In the end, fanaticism could not win out against reasoned non-belief backed by a huge superiority in numbers and hardware. It still took years, though. Years ... and bloodshed.

When the killing was over, the Unification Movement remained king of the proverbial hill. Places held sacred by now destroyed religions were crushed into rubble. Mosques, temples, churches, shrines ... all gone. The Ganges river was diverted into many small by-rivers and what remained of the main riverbed was flattened, from its source to the sea. Ayers Rock was turned into a gravel-pit and the stupas of Buddhism were literally blown away. The Abrahamic faiths had already lost Jerusalem, Rome, Mecca and Medina. One by one, the faithful died away.

Of religion, nothing remained.

Anywhere.

And thus, religion passed into the history books as the collective insanity of a bygone age.

In the wake of this, new legislation was passed on many issues. The Movement had won the war, but now it had to win the peace as well, which was an altogether harder thing to do. The world was devastated, and the total amount of war-dead was impossible to tell even to within the nearest ten million people. Billions had died, and despite that, too many people remained. The Unification Movement enforced a strict one-child-per-family policy. It was a temporary measure, and was only meant to be in place until Terra's entire population reached two billion. Then, families would be allowed two children and 'bonus-children' would be awarded to certain families when there was a need for a small boost in population.

It worked. People didn't protest too much ... since it was obvious to everyone that the world couldn't sustain more people safely anyway. Entire areas of the planet were left to recover over time, without human interference. It wouldn't be easy ... success was not

automatically assured. It would take luck and patience to make the world hospitable again, but by then, humankind had no alternative but to be patient and to plan not for themselves or even their children's futures ... but for their grandchildren and great-grandchildren instead.

Still, things did not stand still. As more and more people were uploaded, the brain-trust inherent in the network grew explosively. The dead would eventually outnumber the living, but the network could contain the consciousness of as many people as there were grains of sand in the universe, it was said. And no one doubted that before the network was full, solutions would have been found to find more storage-space.

They still thought. The dead did, that is. They still thought and they still had ideas. At first, mostly minor things. Suggestions for decorations for festivities, or hit-music being conducted by musicians of the past. Soon these were overshadowed by ideas for new modes of transportation and power-supplies that would be completely environmentally safe.

Small ideas ... at least for them. Huge ideas for those who suddenly saw age-old problems solved.

The first major issue solved was the Space Elevator. For generations, that had been science fiction and slightly laughable. Now it was actually built. And it was put to good use immediately. Refuse was no longer a problem on Terra. Dangerous waste could be deposited in deep space quite easily. Usually, it was sent in the direction of the sun. Space exploration could start again, and the Uploaded assisted. Now that the space elevator was in place, ships could be built in orbit. Ships that would never actually enter the atmosphere, thereby entirely removing the necessity for atmospheric shielding. It enabled larger ships to be built. Far larger, with strong engines based on the renewable energy sources the Uploaded had already come up with. Fission reactors, solar paneling on an unheard scale ...

The first ships were tiny looked at with modern eyes. But they were huge compared to anything humankind had ever explored space in before. The first many years, the only trips went to the asteroid fields and back. There was an almost endless supply of raw materials available. Anything humankind needed. Clean water, carbon, minerals ... all manner of things. Even metals for the production of more ships.

It took more than a hundred years for Terra to recover, but it did. The population regulation worked, and most of the areas left to recover on their own did so. Others did

not ... but by then, humanity had the means to assist in the restoration of a natural equilibrium.

Those were pioneering days. Sometimes, I wonder what it was like to live then. It can't have been easy, but at the same time, there must have been a tremendous sense of accomplishment and purpose permeating everyone. I would have liked to see it, I think.

I suppose things could have gone on like that until the sun burnt out, but instead, the Uploaded came up with new discoveries.

Larger ship designs.

Better protection for long journeys into space.

And of course, the wormdrive.

The wormdrive was a new type of engine, based on the knowledge that nothing could travel at or above the speed of light without dissolving into pure energy. Therefore, even traveling to the nearest star system would take years and years, and there was no guarantee it would lead to anything useful. If mankind wanted to see the stars, it needed a way to travel swiftly between many different star-systems. Swiftly and safely. The wormdrive was the solution.

I am not an expert, but the idea was that over four fifths of the known universe is made up of so-called dark matter. No one really knew what this was, exactly, but the wormdrive enabled a ship to punch a stable wormhole through dark matter, thereby making near-instantaneous travel to any other edge of the dark matter field in question. A couple of small, unmanned probes were sent off, remote controlled to test the system. They all worked flawlessly, and sent back radio signals through the wormholes before these collapsed.

Hundreds of satellites were built and sent off with more unmanned probes to launch them. These would act as guiding beacons for manned wormhole flights. This process took several years. Many satellites ended up in remote areas of space of little or no interest. But slowly, a traveling grid came into being. Lonely satellites beeping away in space, waiting for a wormhole to open up near them and to create a navigation-link to the ships coming through.

Finally, construction began on the first manned ship. The mighty Götterdämmerung. The largest ship ever built. Largest ... and most beautiful. Thousands of people went on board for the maiden voyage. In retrospect, that was probably not a very good idea. A

host of much smaller ships were constructed as well, but the first manned flight through a wormhole would be made by the new flagship of Terra ... the Götterdämmerung itself.

All of Terra looked skywards the day the first flight was meant to take place. There were speeches ... and music. Pomp and pageantry. As a species, we felt proud of our own achievements. Proud that we were going to break the confines of our own solar system at last, and start the voyage into the great unknown beyond.

We could see the same light twice. Once when it reached Terra, and later when it reached stars further away.

We would get there before the light of our own sun!

The sheer magnitude of this struck home with high and low alike.

When the Götterdämmerung engaged its wormdrive, humanity held its breath. And then ... the ship vanished.

The wormhole collapsed.

At first, no one seemed to understand what had happened. No one had seen this before. They thought it was how things were meant to go. Then slowly, the realization dawned on people that something had, in fact, gone terribly, awfully wrong. That the mighty Götterdämmerung was lost ... forever.

That somehow, we had erred.

The outrage was overwhelming, especially since it was quickly established that the Götterdämmerung had been made fifty percent larger than what the design created by the Uploaded had specified. To make it more impressive. More awe inspiring.

Well, it had been, but it had also made it so large that no stable wormhole could be created of sufficient size to let the ship travel through it. Those thousands of men and women had died for the vanity of a few bureaucrats and ship-builders who thought they could out-think the braintrust of the Uploaded.

Needless to say, they were put on trial ... convicted ... and executed.

It would be almost five years before anyone dared make another attempt at a manned wormdrive jump. Some people even argued that it should never be tried again as it was obviously unsafe. Many spoke of intellectual hubris, and there was serious talk of scrapping the fleet of smaller ships built to travel to the stars. Fortunately, those ships were not scrapped, and the next time anyone tried, it was in a small, three-person ship.

That flight was perfect, and the three crew-members on board were recognized as the first humans to travel to another star system.

It was a small system with just four planets. None of them were earth-like, and in fact, no one knew if humanity would ever find planets that could sustain human life. As it turned out, there *were* planets out there that could ... with a small amount of work. Just ten or twenty years of work and some of them could have atmospheres closely resembling that of Terra itself.

It would require special algae capable of starting a photosynthesis-process, Hardy plants ... and hardy people. Settlers, willing to risk living in hostile conditions for years, for the benefit of all of mankind.

Special rewards were offered to such people. They could have more children. They would be Uploaded, even if they had committed minor criminal acts that did not involve acts of insanity. They'd have access to new technology that most people on Terra couldn't afford.

Not surprisingly, many volunteered, and Terra began colonizing other worlds. Little by little at first. But over the course of almost a century ... many other colonies were founded. Some on tiny little planetoids, others on huge giants many times the size of Terra. Life was harsh on the colonies, but rewarding.

At least ... rewarding at first. Soon, the colonists outnumbered the Terran population several times over, and the population of Terra began to question whether it was right that colonists on stable, established colonies really continued to have access to material goods and special favors that were unavailable to Terra's own population. Legislation was passed, little by little, to phase out these benefits. The colonies would instead receive help in setting up production facilities for themselves. They already had their own limited Upload system in place, which was only intended to store the sentience of the departed until they could be transferred to the main network on Terra. It seemed like a reasonable enough plan at the time. Equality for all. No special favors for the colonists who in turn didn't have to rely on almost everything being produced on Terra and then transported to them.

It seemed fair.

Unfortunately, the colonists quickly started questioning why they should pay any heed to Terra anymore at all, if they no longer received their special benefits. Why should they not be allowed to have ten children per family, they asked? The colonies could sustain

larger populations than Terra which was fragile because of centuries of focused abuse. The colonies could use the workforce. Why not allow it?

The Unity Government on Terra tried to make it clear that if populations were allowed to run rampant on the colonies, the eco-systems on these planets would risk collapsing like it had very nearly happened on Terra.

The colonists didn't want to listen.

The main point of contention, as expected, became birth control. The colonists insisted that they should be allowed to procreate, and Terra tried to enforce strict quotas on childbirths.

The spark that set off civil war was when the colony on NV-09.34 refused to accept forced abortions and sterilization of women who had already had their allotted share of children. It was a horrible thing to have to do, but the colonists wouldn't stop breeding and they would eventually have killed themselves off wholesale if the Unity Government hadn't stepped in and tried to put a stop to it. NV-09.34 had been colonized for less than thirty years and the Uploaded on Terra predicted the ecosystem would collapse completely in less than three centuries if breeding wasn't curbed.

The colonists were outraged, claiming they should control their own lives, and that the Unity Government was a force of evil.

Shots were fired.

The news spread, and other colonies decided to stand in support of NV-09.34. Parts of the colonial navy ... ships crewed and captained by colonists ... followed suit.

Within two weeks, fifteen colonies had seceded. Some small. Some large.

Terra found itself almost alone. Very few colonies took the side of the government. Those who did were almost universally newly established, unstable colonies that could not survive without Terran support. The Government, rightly, did not trust them to stay loyal forever.

Only three major colonies sided with Terra, and what support they could offer was limited. Limited, but it was given.

And so ... humanity once again started killing itself off. Only this time, the battlefield objectives were no longer wartorn fields, wild rivers and steep hills on Terra, but wormdrive beacons. Those who controlled the beacons controlled space. Even the

colonists realized and acknowledged that while it was no doubt tempting to simply blast the beacons apart, that would solve nothing. They would never be able to recreate them and they would be lost on their own colony without contact to anyone else, forever. Since almost none of the colonies were self-sustaining, they couldn't simply isolate themselves.

Besides, they fought for more than independence. They wanted to destroy the Unity Government and take control of the Uploaded. Without the network, they could only save the sentience of their dead, but not actually interact with them. Their dead were in effect ... *dead*.

That was how the great Interstellar Civil War started. From day one, the colonists outnumbered the Terran forces. From day one, the Terran forces had superiority of logistics and the means of war. The Terran navy was far larger and more powerful than anything the colonists could muster, but at the same time, reconquering the rebellious colonies would be next to impossible without making landfall on each individual planet ... and Terran forces were completely inadequate for that. Blockading was possible, but very hard to carry out in practice.

So the civil war dragged on, being fought as skirmishes in space. Once in a rare while, an actual battle would take place, but that was a very infrequent occurrence indeed.

There were no winners. Only casualties.

And as with all wars, the first casualty was innocence.

That is why I joined the Terran Unified Navy.

Because I believed I could help bring some order back to the Worlds of Man. Because I felt that if enough good people joined up, we could stop the colonists from destroying both us and themselves.

If I had known what I would experience, I would have stayed home instead.

I would have found a husband. Raised two children ... maybe applied for a third to replace the war-dead. I would have gotten a job, maybe made a career for myself. I would have lived to grand old age, and heard all I needed to know about the war through official channels.

I would have remained safe and sound.

I would have remained ignorant.