

**FUTURE WARRIOR II: UNIVERSAL SOLDIERS**

by

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IAN HUDSON is back on Earth after the events of FUTURE WARRIOR. He recuperates from a heart transplant operation that left him near death.

While Hudson was getting a new heart, Earth and the Ursae were busy negotiating an armistice. What started as a war arising out of xenophobia ended with acceptance of the Ursae and their unique gifts. For one, the Ursae's ability to communicate with brainwave emissions is a valuable area of research. Its development would give humanity a huge advantage next time there is an interstellar war. Hopefully never, but you never know.

During peace negotiations, the Ursae reveal that they have received several probing advances from a third species. This unknown species doesn't need to use wormholes to travel; they are able to project their consciousness across an infinite distance by warping spacetime with matter-antimatter collisions. They must have powerful equipment, although their weaponry has not yet been seen.

These other beings, which the Ursae refer to as the Combine, seem to live in the fourth dimension and are invisible unless they choose to project a third dimensional form. The only reason the Ursae were able to detect the Combine was because the Ursae are telepathic and also have achieved mind uploading into their supercomputers.

The Ursae state that they would have preferred to continue fighting a war with Earth, but the advances by the Combine into Ursan territory along with the Combine's advanced technology made it clear that a truce with Earth was necessary. Essentially Earth and the Ursae have to ally against the Combine in order to avoid the incremental increase of the threat to both peoples, which is presently unknown.

This is all news to the people of Earth, who can barely understand the concept of multidimensional beings in the first place. After a demonstration in which the Ursae conceptualize the Combine into understandable visuals and terms, the leaders of Earth agree to the Ursae's terms. The Ursae will share their advanced technology with Earth in return for Earth's support against the Combine. Apparently the Combine are not yet aware of Earth, or they don't place much value on it.

Scientists are drafted into the Intergalactic Combat Force--ICF-- to study Ursan technology with a view to adapting it for human use. Mathematicians are valued for their advanced theoretical contributions to the laws of relativity, which

the Ursae lack. Engineers are valued because they can adapt and improve upon Ursan technology. Physicists bring Earth's advanced knowledge of particle collisions to the table.

Hudson has been promoted to Major since the events of FUTURE WARRIOR. He now commands his own troop of ten squads-- 240 soldiers. The troop is sent once again to the Alaskan tundra, this time for joint training with the Ursae.

It's an uncomfortable scene, especially because the operant conditioning and subliminal messaging used by ICF had to be altered to tell soldiers that the Ursae are no longer the enemy. And the conditioning couldn't really be changed to make shapeless fourth dimensional beings the enemy, so Earth lost that advantage for the time being.

Training with the Ursae ends up being really difficult because all of the patterns the soldiers learned in their years of training for the war have to be replaced or at least adjusted with the equivalent of cognitive behavioral therapy. Shrinks are not welcome in ICF, that's for sure, but this time the troops have no choice.

The Ursae have just shared their mind uploading technology with Earth. Some of the soldiers's minds are uploaded into the Ursan supercomputers as a demonstration of what happens. It's hectic to say the least.

First, mind uploading produces an exact copy of the mind in question. So the computer is self-aware and thinks it is a person. Only through careful conditioning and training does the mind accept the fact that it is inside a computer and is not human (or Ursan).

Second, unlike a human brain, the uploaded mind in a supercomputing grid has no safety valve; the mind can operate at speeds many times the processing power of the human brain, which increases its energy consumption and heat output. If the mind goes out of control, it will simply melt the equipment and destroy itself. Thus the importance of care in the care and feeding of an uploaded mind. Also, if you upload an ill mind such as a mind from someone who is bipolar, you suddenly have a huge problem with the mind destroying itself because there is no antipsychotic medication for a computer. Fortunately the Ursans mitigated some of this problem by developing a multivariate regression-based circuit breaking and fusing control system for their self-healing galaxy-wide communications network.

The uploaded minds are taught to fight each other in war games/training exercises. They do well considering that these are baby steps. Meanwhile the physical soldiers and Ursae conduct other training.

After a long period of training, ICF and the Ursae deploy to the Ursan frontier to await news of the Combine. As in FUTURE WARRIOR, they travel via an Einstein-Rosen bridge and arrive in the future.

The primary strategy, as agreed on by the military councils of Earth and the Ursae, is to try to find the Combine's home planet or base and attack it with Bracewell-Von Neumann probes plus a traditional assault. Then take over the Combine's communications network and destroy it with an artificially intelligent virus.

A Bracewell-Von Neumann probe is a self-replicating intelligent machine whose purpose is exploration and colonization of the cosmos with machine intelligence. The probes can also be weaponized and directed to convert all available matter into machines, turning the enemy into "gray goo."

By conducting a Bayesian probability search of all known wormholes and their nearby planets, eventually the Combine's home planet will be found. Although this may take centuries, the Ursae have invented suspended animation that permits a crew of uploaded minds to travel interstellar distances while the living payload subjectively ages very little. On reaching a destination, the souls on board can be revived and take over from the uploads.

Hudson's troop and their attached Ursae are chosen to lead the assault. Basically they will be frozen in suspended animation on an Ursan ship while the uploaded crew waits to get word from the probes on where the Combine lives. When the homeworld is found, the ship will make a final wormhole jump and assault the Combine. It's a one-way trip.

The troop and Ursae go into cryogenic sleep as they stand by for communications from the fleet of wormhole-jumping probes. An uploaded skeleton crew maintains the ship.

Centuries pass. The uploaded crew play video games against each other to pass the time. They get regular updates from Command.

One day, a signal!

It turns out that the Combine are from UDF 423, which is a bright spiral galaxy at least ten billion light years from Earth. There has never been a manned wormhole jump that far away, although the probes managed to make it there and back without being destroyed. The report is that the Combine live in the galaxy core where there is a supermassive black hole and unlimited energy from which to derive their dimension-warping abilities.

Hudson and the living crew of humans and Ursae are woken up. They acclimate to the ship and are briefed on the Combine's location.

The main force of Bracewell-Von Neumann probes carried on board the ship is activated. There are over a thousand probes, which upon attack will quickly convert all matter into more probes. This exponential feeding frenzy will only end when the Combine are disabled beyond repair.

The ship and crew are ready, so they make the jump to UDF 423. They are arriving close to the galaxy core, but just far enough from the Combine's homeworld to permit an attack.

When the ship exits the wormhole, it is 12,000 years in the future as indicated on the date display.

The crew deploys the probes and gives them a chance to attack the Combine. Status updates are given on the ship's computer system.

The shipborne lasers are powered up in preparation for a ground assault.

The Combine are taken by surprise because they did not expect a physical assault; they assumed that any attack would come by way of the same consciousness projections that the Combine use. They were wrong.

Hudson and his combined force of humans and Ursae land on the Combine homeworld and assault what looks like a machine city. By then the Bracewell-Von Neumann probes are halfway into eating the Combine planet and replicating themselves.

The Combine finally show their physical form as they counter the attack. They look like the Alien.

Many of Hudson's troop die in the battle, both humans and Ursae. Hudson himself dies. Hudson's uploaded self is left commanding the ship.

Uploaded Hudson orders deployment of the computer virus into the Combine's computing grid. The remaining soldiers take a purpose-built device from the ship into the Combine nerve center and toss it in. The device disintegrates into a million pieces-- tiny probes loaded with the virus.

There is a murmuring of voices within the Combine base. This murmuring reaches a crescendo when the virus propagates outside the computing grid into the Combine's communications network. Holograms or shades of the Combine are seen flitting in and out of the third dimension as their ability to project themselves remotely is destroyed.

The Combine are decimated in the attack, leaving the human and Ursa survivors standing around the Combine base wondering what else can go right.

The ICF troop mops up the remaining Combine and returns to its ship. As the Bracewell-Von Neumann probes continue to destroy the Combine homeworld, the troop congratulates itself on a job well done. They send a probe back through the wormhole immediately with the good news.

Hudson's uploaded self orders the ship to depart, and the survivors go into suspended animation once more. They hope to see Earth and Ursa again.

The ship jumps into the wormhole, returning to the Milky Way in another 10,000 years.

The probes colonize the Combine galaxy with uploaded minds brought in for this purpose.