



ORBITAL 2100 Second Edition, Zozer Games 2016
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1 THE SITUATION

"In spite of the opinions of certain narrow-minded people, who would shut up the human race upon this globe, as within some magic circle which it must never outstep, we shall one day travel to the moon, the planets, and the stars, with the same facility, rapidity, and certainty as we now make the voyage from Liverpool to New York."

Jules Verne, From the Earth to the Moon, 1865

Jules Verne was right. The human race made it out into space, to the Moon, to Mars and beyond to the outer planets. Not just to visit and measure, but to work and live and reproduce. Mankind stepped out of the cradle and out into the interplanetary nursery that is the solar system.

But. There is always a but; the misguided, almost blind, optimism that plagued many of the philosophers, cosmologists, scientists and space advocates throughout the 20th century disguised the darker truths of human nature. Perfect beings, angels, saints and Peace Prize winners were not the new colonists. Those wonderful 1970's paintings of vast space habitats, with lakes and gardens and forests and smiling happy Americans so beloved by Gerard O'Neill and his fans, proved unattainable, and when the reality of life in space hit home, human nature kicked in.

Orbital is a TL 9 setting for the Cepheus Engine and the 2D6-based science fiction game it is derived from. Although set in Earth's near future, it is neither a cyberpunk dystopia nor a trans-human melting pot, it is the future of space colonisation envisaged by planners of the 1980s, albeit with a healthy dose of realism.

Quotes from historical figures litter the book, they reveal the subtext, the real story of what is going on, how things are developing and what may be the inevitable end. Many of these figures commented on the first space race and the Cold War that kicked it off. Our future history is built on the foundations of a new cold war, fought between the Luna colonists and the people of Earth. Fear and national competitiveness spur on the exploration and settlement of the solar system, for without this political imperative, humans would be content to sit in their own nest and wait for that life-killing asteroid to strike.

"I'll believe in people settling Mars at about the same time I see people settling the Gobi Desert. The Gobi Desert is about a thousand times as hospitable as Mars and five hundred times cheaper and easier to reach. It's ugly, it's inhospitable and there's no way to make it pay. Mars is just the same, really. We just romanticize it because it's so hard to reach."

Bruce Sterling, SF author

The cold war setting of **Orbital** drives everything; exploration, settlement, technological development, it is the political will and the energy behind life in the solar system. A lot is happening and there are humans scattered all across the moons and planets. For the referee, the solar system resembles a typical subsector. Many of the adventures that could take place in a subsector can happen here too, just remember that travel times are longer, ships more fragile, communications a little easier, and a polarized political world complete with mistrust, espionage and puppet governments dominates the stage.



Other Uses for Orbital

The setting in **Orbital** is offered as a ready-made backdrop in which to set near future games. There is plenty more here than setting, though, from rules for rovers, vacc suits, rockets and activity in zero-G, to the write-ups of moons and planets and of course the spacecraft design system.

Several gaming possibilities spring immediately to mind:

The Game of the Movie - There are plenty of movies that could make decent scenarios, in fact there are plenty that would turn out *better* in the hands of a group of players! With **Orbital** you can run that movie, or its 'sequel', as a one shot. Try *2001: A Space Odyssey*, *Mission to Mars*, *Ghosts of Mars*, *Apollo 18*, *Red Planet* or *The Expanse*.

Back in the Day - Every setting has a TL 9 past somewhere along the way. It is possible to create a series of adventures in the past, to set a campaign there, or, as happened in numerous Star Trek episodes, for spacecraft from the past to come through a temporal rift to reach the current setting date, or vice versa!

Mixing Old with New - Of course many of the Classic 2D6-based SF scenarios, seeds, NPCs and encounters published over the decades still work in **Orbital**.

Why 2100 AD?

It is natural to ask the question, if, when you can run many already existing SF situations and adventures within the **Orbital** universe, why anyone should bother going back to TL 9 at all? Are we not just narrowing our options? Yes we are, and that's the point. Spaceflight is very much like it is today, it is hard and dangerous and not to be taken for granted. That adds an extra dimension to any scenario, and connects the sci-fi shenanigans with real world spaceflight, something I love. I waited with baited breath in March, 2011 to watch the ISS pass through the night sky, and was stunned to see two fast moving points of light where there should have been one. I realised at once that the space shuttle *Discovery* had undocked from the ISS for the last time and that I was looking at them both. **Orbital** is for those players like me, who always wanted to go into space and who want to pretend for a couple of hours that they really are about to land on an asteroid, dig for iridium on Mercury or try to fix an out-of-control satellite during an EVA. Maybe I just want my space travel to be a bit more difficult...

~ Paul Elliott 2016

2 THE COLD WAR

"Mankind's journey into space, like every great voyage of discovery, will become part of our unending journey of liberation. In the limitless reaches of space, we will find liberation from tyranny, from scarcity, from ignorance and from war. We will find the means to protect this Earth and to nurture every human life, and to explore the universe. . . . This is our mission, this is our destiny."

Ronald Reagan, speech at Houston, 1988

On July 20, 1989, the 20th anniversary of the Apollo 11 Moon landing, President George Bush announced plans for the Space Exploration Initiative (SEI). His speech detailed the construction of space station Freedom, it described returning to the Moon, this time 'to stay', and it ended with a proposed manned mission to Mars. Bush laid out, not a ten-year Apollo-style plan, but a long-range continuing commitment. Unfortunately, Congress shot the SEI down in flames due to the huge budget that it would have required. But consider an alternative where the SEI was passed, where the project thrived because of the international co-operation that the president was able to muster. With new partners on board, including Russia, Space station Freedom ends up looking much like the International Space Station we know so well. It even carries the same name. Why was the initiative passed? Mars beckoned. Besides the enigmatic Face, NASA had more concrete proof that some alien intelligence had (or still) existed on the red planet. This evidence was concealed from the public, yet the fact it existed drove the SEI forward with vigour.

What else differs in our alternate history? On August 20, 1998, a barrage of American cruise missiles struck terror camps in Afghanistan, and (unlike in our timeline, where he missed the attack by hours) Osama Bin Laden was killed. There was no 21st century War on Terror. The Space Exploration Initiative enjoyed the optimism and support of a new century unfettered by Middle East wars and on-going terror.

"Don't tell me that man doesn't belong out there. Man belongs wherever he wants to go - and he'll do plenty well when he gets there."

Wernher von Braun, 1958

A CENTURY OF RIVALRY

To the Moon and Mars

Americans returned to the Moon in 2001, twelve years after Bush gave his speech on the steps of the National Air and Space Museum. By 2006 there were up to eight astronauts living there semi-permanently. Within another six years they were producing their own oxygen, and crew numbers had doubled. This was a scientific base on the Sea of Tranquility.

In 2017 the first manned mission to Mars was successfully carried out. It was truly multi-national, with a great deal of technological support provided by Russia. Using similar technologies to that employed on the Moon, an international crew stayed for several weeks and left behind habitats for more permanent crews who followed on a year later. The modular design allowed nations to add



to the new colony, expanding its scope and population in fits and starts for the next four years. All of these SEI milestones were reached on time (if a little over budget).

China Reaches Orbit

As the Space Exploration Initiative was embraced and executed in the West, a rising star in the East began to make its own bid for space. China launched its first astronauts in 2003, and immediately planned further launches, the construction of a small space station and even a permanent Moon base. Success, coupled with a competitive spirit, spurred the Chinese government to back its space program to the hilt.

By 2010 the Chinese had landed men on the Moon and five years later they established a semi-permanent base. By 2020 the Chinese presence on Luna (as the Moon is being referred to) was almost self-sustaining and a future bridgehead for the planned construction of solar power stations. There were now two separate Lunar colonies, one chiefly American, the other Chinese.

The Power From Space Design Agreement 2015

China made its intentions clear on October 13, 2000, when its space timetable was reported by the Xinhua News Agency. It planned to mine Lunar resources and beam solar power from space to alleviate China's massive energy needs. In 2015, China and the US, as the operators of the only two Luna bases, came together to sign the Power From Space Design Agreement. Government investment would match private investment, and the aim was to start mining the Moon's surface in order to build these solar power ground-stations that would beam to Earth free, sustainable energy. The project involved setting up automated mining and processing facilities, as well as equatorial solar panel collectors microwave beaming stations. By 2028 the first beaming stations began to test their equipment, and a year later microwave beaming to the Earth's surface from the surface of the Moon was underway. From 2030 onwards, a new era in Earth's history had begun.

A decade of Earth-Lunar manufacturing followed, immigration of skilled labour from Earth began as a trickle, and ended as a steady flow. In 2032 a mass driver 'catapult' was constructed on the Moon's surface, this would launch unmanned loads of mineral ore out to various nearby orbital positions (the Lagrange points) where experimental spinning space stations were being constructed. These new stations required raw materials from the Moon, in return they would become centres of orbital manufacturing. By 2040 the L5 stations began to act as a space vehicle construction and preparation yard. It also served as the prime way station for future manned missions to Mars and a hub of the new space industries. While there were perhaps 6,000 people at the orbital stations by the year 2040, there were over 22,000 living and working on Luna.

"Experience has shown how deeply the seeds of war are planted by economic rivalry and social injustice."

Harry S. Truman

Them and Us – The Orbit War

It wasn't really a war at all, but the orbital fracas of 2044 certainly had dramatic repercussions that are still felt sixty-years later. It had begun in 2040 when the Lunar management requested increased investment to handle the growing labour force. Plans were on the table for a new colony, greatly enlarged and upgraded. Backers on Earth, both governments and shareholders, refused to further stretch the finances of the operation. A backlash movement began on the Moon; a hostile mood was sweeping the habitats of the colony. Earth held fast, pushing for its quota of microwave transmissions, but remained reluctant to step up the investment to unrealistic levels. The Lunar crisis lasted for more than a year, with the rising political movement threatening to halt all power transmission until the Lunar requests were reviewed.